



Università degli Studi di Firenze
Facoltà di Economia
Dipartimento di Scienze aziendali

Proceedings
of the

11th Toulon-Verona International Conference on Quality in Services

HIGHER EDUCATION, HEALTH CARE, LOCAL GOVERNMENT, TOURISM, BANKING

University of Florence, 4-5 September 2008



Proceedings e report

44

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Local Government, Tourism, Banking

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CONTENTS - THEMES

HIGHER EDUCATION

- Álvarez Suárez A., Martís Florez R., Alonso Álvarez J., López Cabana M.A.: Internal quality assurance systems of university education at the University of Oviedo; *page 1*
- Bardi L., Butelli P., Catellani L.: Exploring the Meaning of Quality for a Higher Education Institution: the case of Politecnico di Milano; *page 13*
- Bechis M., Biancone P.P., Bollani L.: A stakeholder satisfaction analysis in the Faculty of Economics of the University of Turin; *page 24*
- Bechis M., Biancone P.P., Bollani L.: The quality certification and accreditation experience in the Faculty of Economics of the University of Turin (1 and 2); *page 32, page 41*
- Castellani P.: Corporate university and company's competitiveness: the case of Lidl Italia; *page 47* Douglas J., McClelland R., Sudbury L., Davies J.: Comparing Critical Incident Technique and Survey Questionnaires as a means of collecting student feedback; *page 59*
- Junquera B.: Factors with Influence on University Research Quality: A Review of the Literature; *page 70*
- Kuzmanoska I., Piperkoski I.: The choice of scenario for the university – rethinking or hollowing out policy; *page 76*
- Marinkovic S., Paunovic N., Rubezic A.: Forecasting future trends in higher education at Faculty of Organizational Sciences in Belgrade; *page 85*
- Raanan Y: Risk Management in Higher Education – Do We Need it?; *page 91*
- Ruggieri A., Silvestri C.: Quality Management Systems in university education processes; *page 98*
- Trivellas P., Dargenidou D.: Organisational culture, job satisfaction and higher education service quality: The case of Technological Educational Institute of Larissa; *page 108*

HEALTH CARE

- Antunes G., Pires A., Machado V.: Process improvement measures in social area organizations: A study in Institutions for Elderly: Survey preliminary results; *page 125*
- Baldantoni E., Allegretti MG., Gobetti L., Gremes E., Orrico D.: Medication errors and computerized physician order entry; *page 138*
- Baldantoni E., Refatti F., Marzano A., Allegretti M.G.: Staff training on basic life support according to joint commission international standards; *page 141*

- Bertezene S., Martin J.: Mastering performance through quality and networking: the example of French social and medical establishments; *page 141*
- Bifulco F., Brognieri W.: Risk management and performance measurement: excellent experiences in Italian health care institutions; *page 156*
- Haron Y.: Achieving quality in a government hospital: Departmental responsibility; *page 167*
- Kiauta M., Simčič B.: Creative integration of different aspects on quality; *page 172*
- Mazzei A., Russo V., Crescentini A.: Perceived doctor-patient relation quality and reputation building in dental sector; *page 180*
- Ora-Hyytiäinen E., Backman R., Virtanen H.: Evaluation of effectiveness of two selected regional clinical pathways; *page 193*
- Russo V., Mazzei A., Olivero N., Castelli L.: The role of the customer satisfaction data for the improvement of health service quality and organisational reputation; *page 205*
- Ugolini M.: Quality Communication in Health Service: The Stroke Process Case; *page 214*

LOCAL GOVERNMENT

- Aiello G., Macchi M., Donvito R., Ranfagni S.: The role of Local Government in SMEs Technology Transfer; *page 226*
- Argiolas G., Dessì C., Floris M., Giudici E.: Public – Private Partnership: a new model of local governance?; *page 239*
- Armano B.: Quality in local public services and users' satisfaction: how can local governments keep control?; *page 251*
- Bettinelli C., Marino M.: Efficiency in the Italian Public Administration: evidence from Municipalities; *page 269*
- Brown A., Susomrith P.: Australian Local Government and Quality: Motivations and Challenges; *page 281*
- Cassia F., Magno F.: Linking citizens' ratings to services quality improvements: an empirical analysis and some potential solutions; *page 288*
- Esposito B., Scalesse F., Bruni R.: City Logistic: models, applications and trends; *page 300*
- Fortunato A.: The Local Government of Public Services; *page 312*
- Fuentes R.: Productivity at the SUMA tax offices; *page 323*
- Guglielmetti R., Musella F., Renzi M.F., Vicard P.: Evaluating citizens' satisfaction about public online services: The questionnaire reliability and validation; *page 334*
- Miglietta A., Pessione M., Zorgniotti A.: Urban blogs as a strategic instrument in the local development and in the governance of urban area; *page 345*

- Moura e Sa P., Sintra O.: Assessing service quality in a municipality: a study based on the perceptions of citizens and frontline employees; *page 356*
- Paci A., Becagli C.: Public policies and corporate strategies for successful models in waste management; *page 366*
- Renzi M.F., Cappelli L., Mattia G. and Merli R.: Evaluating citizen satisfaction with public online services: a methodological approach; *page 379*
- Romiti A., Cristina Santini C., Simoni C.: Local administrative services to reduce barriers to entrepreneurship and entrepreneurial activities: Understanding the reasons behind the differences in user satisfaction; *page 393*
- Starčević D., Simić D., Štavljanin V., Minović M., Milovanović M., Bogičević M.: Public E-Procurement service in Serbia; *page 411*
- Vaccari V., Valvassori A.: The strategic role of sustainability report for the municipal multi-services enterprises; *page 418*

TOURISM

- Baglieri D., Consoli R.: Learning from customers: running virtual communities in tourism; *page 430*
- Bassani S., Persico S.: Destination appeal and image: the US market perspective; *page 438*
- Ciappei C., Pellegrini M., Surchi M., Belardi M.: Experiential marketing in Tuscany thermal system; *page 450*
- Cobelli N., Simeoni F.: Information Quality and Data Collection Methodologies in Tourism Management; *page 469*
- Douglas A., Muir L., Davies J.: The Development of a Venue Evaluation Tool (VET) for Tourist Attractions; *page 480*
- Drummond S., Cano M., Kourouklis A.: Heritage Tourism: linking Quality of Experience to Training and Coaching; *page 490*
- Gallucci C., Marino V., Mainolfi G.: High quality in agrotourism services for sustainable competitive advantage; *page 505*
- Livi E.: Museums as Knowledge – Creating Systems: how new technologies can improve quality; *page 522*
- Mauri A.G.: product variety and brand portfolios strategies in the hotel business; *page 531*
- Minazzi R.: Customer satisfaction surveys in the hospitality industry: a comparison of international hotel chains questionnaires; *page 543*
- Radicchi E.: Major sports events and host economy qualitative development; *page 555*
- Santini C., Faraoni M., Zampi V.: Wine clubs as a marketing tool for segmenting customers, building winery loyalty and image: some empirical evidence; *page 575*

Perano M., Penafina F.: The museum system and local government for the development of the area; *page 593*

BANKING AND OTHER SERVICES

Bonfanti A.: Interior Design and Listening to Customers: The Experience of the Cooperative Credit Banks in the Veneto Region; *page 604*

Cavallone M.: Beyond retention in banking services; *page 615*

Khanfer A.M.: Impact of interrelationships between key stakeholders of organic farming on growth and development of organic food market – Case study of England; *page 629*

Modina M., Polese F.: The strategic role of local banks' networks for quality standards of corporate banking services for SMEs; *page 643*

Rosciano M., Starita M.G.: Banking services for “outside” customers; *page 659*

Testa F., Vigolo V.: Corporate dimension and quality performance: an empirical analysis from the gas distribution sector in Italy; *page 664*

THEORETICAL AND METHODOLOGICAL APPROACHES

Andronikidis A., Georgiou A.C., Gotzamani K., Kamvisi K.: The application of quality function deployment in service quality management; *page 675*

Biancone P.P., Marco Bechis M., Tomatis L.: The excellence in workplaces as competitive factor for business success; *page 686*

Bogojevic Arsic V.: Risk management with credit derivatives; *page 694*

Bresciani S., Cugno M.: The time-space dynamics of foreign trade: internationalization maps; *page 701*

Casadio C.: The total Quality approach in Italian PMI, Public Administration and Sanitary systems: literature, instruments and inquiries; *page 715*

Cocks G.: Building a high performance service organisation; *page 727*

Espinosa R., Gonzalez F.: Evolution from TQM to organizational competitiveness: the case of the 2008 Mexico Quality Award Model; *page 734*

Galetto F.: Supply chain and quality management; *page 745*

Levi-Jakšić M.: Managing sustainable business and technology development; *page 758*

Longbottom D., Hilton J.: Real Service Quality: examining the links between value adding and service quality, and the implications for service improvement; *page 770*

Manzoni A., Marino A.: Developing quality in new communication strategy: the 7C model; *page 782*

- Mavroidis V.: Developing an Integrated Business Excellence System and proposing its implementation as the Hellenic National Business Excellence Award; *page 789*
- Mavroidis V.: Application of Dynamic Systems Theory in the evaluation of an Integrated Business Excellence System; *page 802*
- Obradovic J., Marinkovic S., Bogavac M.: Applying idea generation method in service organization; *page 824*
- Renzi M.F., Vicard P., Guglielmetti R., Musella F.: A tool for managing information to improve services: probabilistic expert systems; *page 830*
- Ruggieri A., Cerica R., Silvestri C.: The relationship between customer satisfaction and customer loyalty: an empirical research; *page 842*
- Simeunović B., Tomašević I., Radović M.: Identification of processes – critical review of different approaches; *page 853*
- St-Pierre J., Louis Raymond L., Zouiten S., Menvielle W.: Performance of Industrial Service SMEs: A Conceptual Framework and Diagnostic System; *page 867*

INTERNAL QUALITY ASSURANCE SYSTEMS OF UNIVERSITY EDUCATION AT THE UNIVERSITY OF OVIEDO

Vicechancellorship of Teachers, Departments and Centres. University of Oviedo

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1. Premises and background

The Sorbone Declaration, 1998, and the Bologna Declaration, 1999, signed jointly by the European ministers of education, initiated a process aiming at the *promotion of European Convergence between national educational systems so as to create a European Space for Higher Education before 2010*, with the basic organizational principles of:

- Quality
- Mobility
- Diversity
- Competition

The basic convergence aims are: the establishment of a credit system, the adoption of a teaching system based mainly on two cycles, with degrees that provide qualification for insertion in the labour market, together with the setting up of a European Degree Supplement and **the assessment of quality levels** (Ferrer, 2006).

The eventual support for the integration of the Spanish University system in the European Space for Higher Education came with the passing of the decree (parliamentary act) 1125/2003, providing regulation for the European credit system and grading system for university degrees, complemented by the subsequent decrees 55/2005, 56/2005 and 1509/2005, which established a structure for university education by officially implementing Graduate and Postgraduate degrees.

The University Organic Law (LOU) 4/2007 determines the need for common quality assurance criteria so as to facilitate **the assessment, certification and accreditation of the educational programmes which lead to obtaining official degrees, valid throughout the national territory**. In accordance with article 37 of Law 4/2007, the decree 1393/2007 establishes the new regulation framework for the **organization, verification and accreditation** of official university programmes within Spain (Chacón, 2006), (Rauret, 2007.)

Currently existing mechanisms for quality assurance (Coba, 2007).

Regarding programme quality assessment, the University of Oviedo has taken important steps through its participation in Institutional Assessment plans and programmes as well as through the implementation of other teaching quality control procedures, by means of a General Teaching Survey (*Fernández Rico, 2006*). The chart below reflects the details of the participation of our university in different assessment programmes.

Academic Year	Official denomination	Promotional Organism
1996/97	Pilot scheme	Council of Spanish Universities
1999/00	Plan Nacional de la Calidad de las Universidades (PNECU) (National Plan for University Quality Assessment)	(Consejo de Universidades Españolas)
2001/02	Plan de la Calidad de las Universidades (PNECU) (Plan for University Quality Assessment)	University Coordination Council (CCU)
2002/03	Institutional Assessment Programme (PEI)	National Agency for University Quality (ANECA)
2003/04		
2004/05		
2005/06	<i>The Accreditation Pilot Programme was carried out during the 2003/04 academic year.</i>	
2006/07		

95% of the degrees of the University of Oviedo have been evaluated. This institution has also participated in other activities promoted by the ANECA, such as the Quality Certification of University Library Services and the Doctoral Programme Evaluation aiming at the achievement of a “Quality Award” (Mención de Calidad). The University of Oviedo has received “Quality Awards” for 19 of its Doctoral Programmes in the last few years.

Quality Technical Units (UTCal) work in the promotion of continuous improvement (*Ariño, Boullosa, 2007*). The Quality Technical Unit of the University of Oviedo obtained the certification for its Quality Management System by the ISO norm 9001:2000 on 21st July 2005, and its renewal on 9th July 2008.

One of the aims of this Unit is to provide support for the development of Quality Management and Quality Assurance systems, with the result that several of its units have obtained different kinds of quality recognition:

Unit	Recognition / Reference Norm	Institution
Higher Naval School	<i>Adaptation of the ISO norm 9000:1994 to the guidelines of norm UNE-EN ISO 9001:2000</i>	LLOYD'S ¹
Mechanical Engineering Area	<i>ISO 9001:2000 Certificación.</i>	AENOR ²
Masters degree in Orthodontics and Dentofacial Orthopedics	<i>ISO 9001:2000 Certificación.</i>	AENOR

¹ LLOYD'S – (LRQA) – Lloyd's Registrar Quality Assurance

² AENOR – Asociación Española de Normalización y Certificación

Slot machine Trial and Test Centre	<i>UNE-EN ISO/IEC 17025:2005 Accreditation.</i>	ENAC ³
Institute for Natural Resources and Territorial Regulation (INDUROT)	<i>ISO 9001:2000 e ISO 14001:2004 Certification.</i>	AENOR
University of Oviedo Foundation (FUO)	<i>ISO 9001:2000 Certification.</i>	AENOR

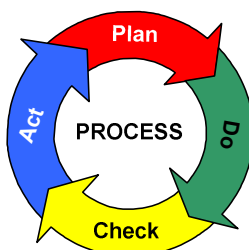
The Administration and Services Staff also receive training on quality while other University Services (such as the library) receive support for the setting up of Quality Management Systems based on procedural approach.

2. Methodology

AUDIT⁴ is a programme developed by ANECA, in cooperation with the agencies AQU⁵ and ACSUG applied to university institutions, which are considered as reference organizational environments.

The development of an Internal Quality Assurance System is based on the continuous improvement cycle of University Education (*Blaya, 2007*):

1. Establishing formative policies and processes.
2. Implementing learner-centred formative processes.
3. Formative process monitoring and measurement.
4. Decision making geared towards educational improvement on the basis of the results of the learning process, labour insertion and satisfaction levels.



Deming Continuous Improvement Cycle

Which is developed in the following stages:

- IQAS design by university learning centres supported by guidelines.
- Sanctioning of the design by the external guaranty agencies (though currently we are talking about evaluation rather than sanctioning).

³ ENAC – Entidad Nacional de Acreditación y Certificación

⁴ AQU - Agency for Quality Assurance in the Catalan University System / ACSUG - Agency for Quality Assurance in the Galician University System.

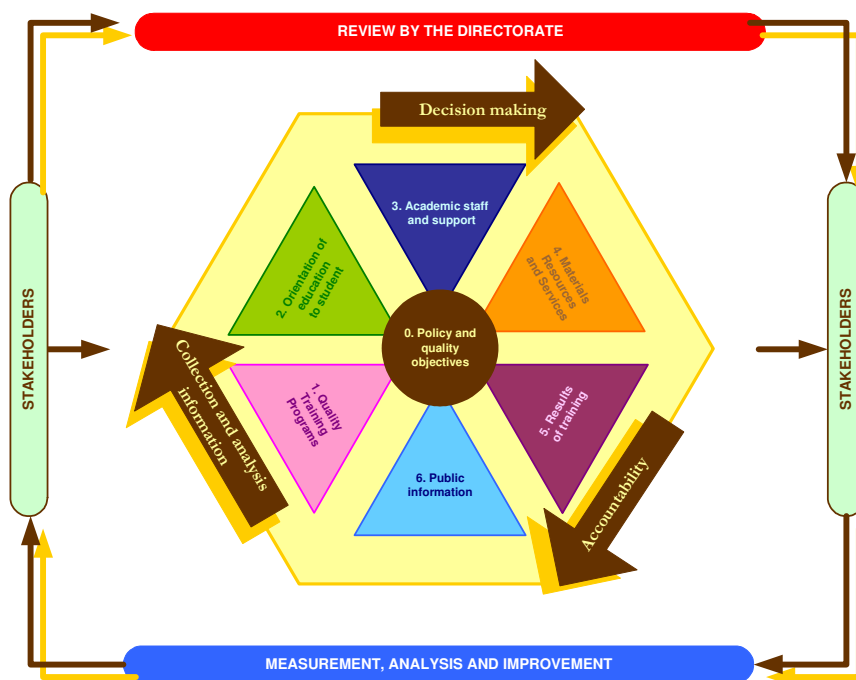
⁵ The term AUDIT chosen to define this program, comes from the Latin Word “audire” (listen) and it is frequently used in Europe in order to refer to Processes of Quality Assessment in University Institutions.

- Certification and implementation of IQAS by the certifying organizations.

The first national series of the AUDIT programme summoned 135 participant learning centres from 62 universities. 43 of the 62 participant universities – which amounts to 84% of the total number of universities in Spain – were public and 19 of them were private.

IQAS design in the University of Oviedo's learning centres.

Stage	Description
COMPROMISE	The compromise of the University of Oviedo towards the development of Internal Quality Assurance Systems (IQAS) of university education, by the Quality Technical Unit within the framework of the AUDIT programme, is registered in the agreement ⁶ established with ANECA, with the participation of three learning centres: the Faculty of Medicine, the Faculty of Philology and the Higher Polytechnic School of Engineering.
PLANNING	Allocation of quality technicians to each learning centre. Revision of deadlines established by ANECA. Design of a meeting calendar under specific guidelines. Informative meeting with the heads of each centre. Approval by the learning centres.
DIAGNOSIS	Revision of the degree of compliance with the different elements that a IQAS should include by means of a checklist, following the provision of documented evidence either by the learning centre or through its writing up by the Technical Unit.
DEFINITION AND DOCUMENTATION	Once the aims and scope of the IQAS have been determined, based on the accomplished diagnosis, the definition and documentation stage started with the result of the issuing of a IQAS manual for each centre (General Information about the University of Oviedo, General Information about the centre, Applicable Regulations and Norms, IQAS Organization, Responsibility of the Centre's Managing Board, Resource Management, Service Provided, Measurement, analysis and improvement and a History of versions of the IQAS manual). The process map on the next page, which is applicable to all the centres, graphically illustrates the main elements to bear in mind in the development of IQAS.



University of Oviedo IQAS process map

⁶ According to Appendix II of 2007 Announcement signed by the ANECA Director, the Vice-chancellor of the University of Oviedo, and the Deans / Headmasters of the centres taking part in the program.

Seven guidelines have been designed with their corresponding procedures and records:

Guideline 1.0 How the learning centre defines its Quality Policy and Aims.

- Quality Policy and Aims definition procedure. E.g. Record: Quality Political Minutes

Guideline 1.1 How the learning centre achieves Quality Assurance for its educational programmes.

- Educational programme quality assurance procedure. E.g. Record: Programme guidebook.

Guideline 1.2 How the centre achieves learner-centred orientation. (*García, 2007*).

- Profile definition process and student admission.
- Student orientation and learning development procedure.
- Student management and mobility procedure.
- Management and professional orientation procedure.
- Work-placement management procedure.
- Management procedure of incidents, complaints and suggestions. E.g. Record: 0-course planning and satisfaction.

Guideline 1.3 How the centre assures and improves academic staff quality levels.

- Procedure towards the definition of academic / administrative staff policies.

- Procedure towards the selection and recruitment of academic / administrative staff.
- Academic / administrative staff training procedure.
- Academic / administrative staff assessment, promotion and recognition procedure. E.g. Record: Training activity planning and development.

Guideline 1.4 How the centre manages and improves its material resources and services.

- Material resources management procedure.
- Service management procedure. E.g. Record: List of Approved Suppliers.

Guideline 1.5 How the centre analyses and applies results.

- Result analysis procedure. E.g. Record: The centre's Assessment Report.

Guideline 1.6 How the centre issues published information about its degrees.

- Degree Information Publishing procedure. E.g. Record: Communication Plan.

The design stage of the Internal Quality Assurance System was supervised by the head of the Quality Technical Unit, who held weekly meetings with the technical staff assigned to each of the three participant centres.

The Quality Technical Unit documented the AUDIT programme according to a process approach based on the requirements of the ISO norm 9001:2000 with a horizontal process line which presents the procedures, record formats and related indicators vertically.

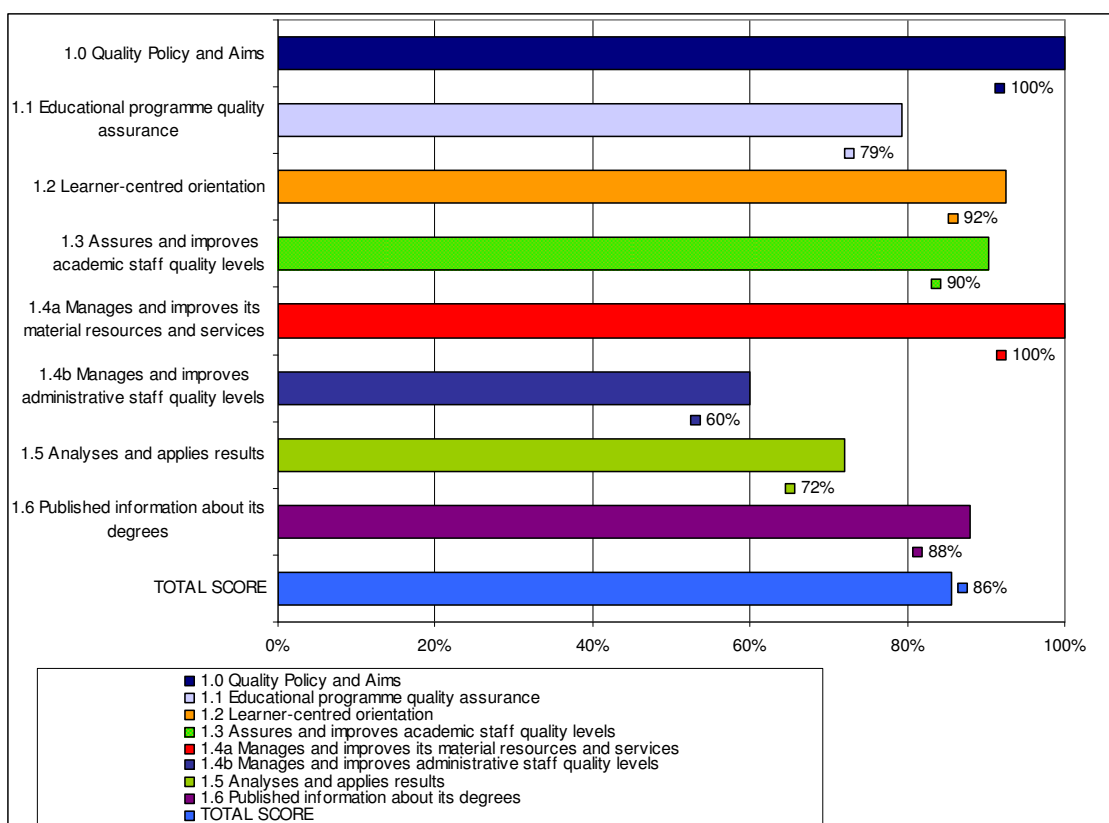
A "Road map" was designed to reflect the compliance with the different activities and a set of indicators was established to carry out the monitoring and measurement of the process.

- % A and B in the checklist (Centre Internal Quality Assurance System design assessment protocol).
- % Positive reports.

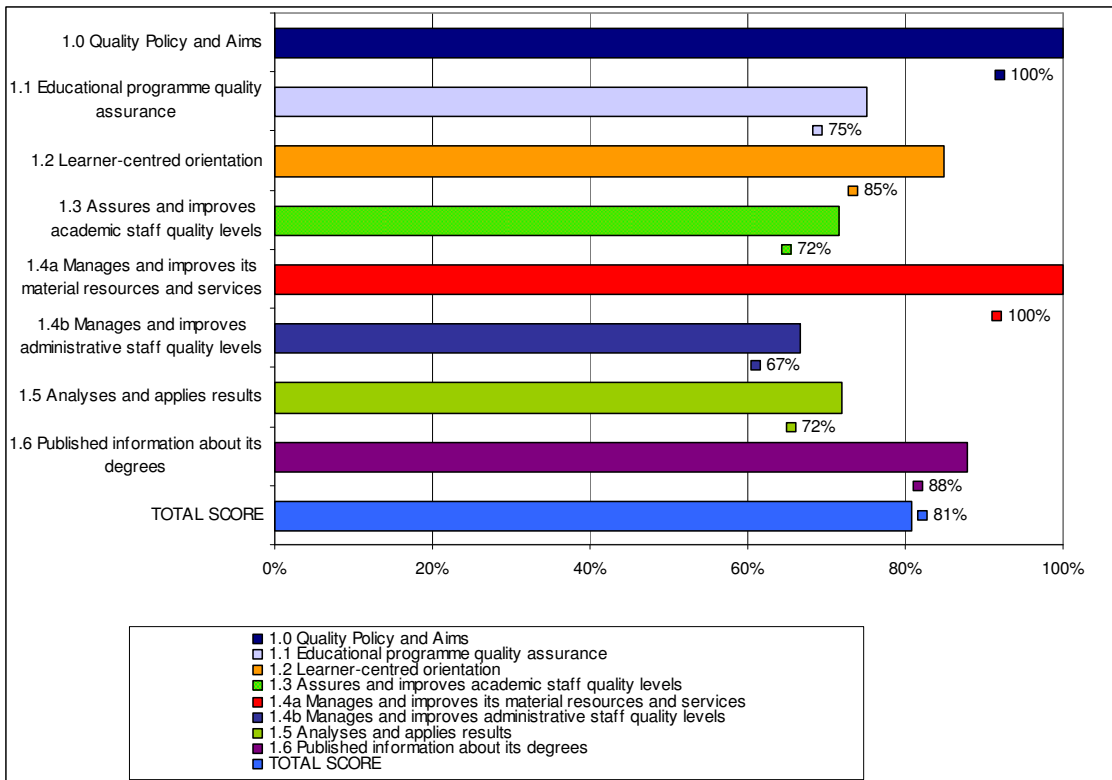
The chart below illustrates the results of the diagnosis stage in one of the learning centres, the Faculty of Medicine, by means of a checklist sample and a graph with the individual, as well as the total, results for each guideline:

<i>GUIDELINE</i>	Learner-centred degree orientation			
<i>Procedure</i>	<i>Definition of entry/graduation admission and enrolment student profiles.</i>			
<i>Elements</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Presence of regulating mechanisms which can guarantee the decision making process regarding the definition of entry/graduation profiles as well as the admission and enrolment criteria.		X		
Presence of information collection and analysis systems which allow insights and assessment of the needs	X			

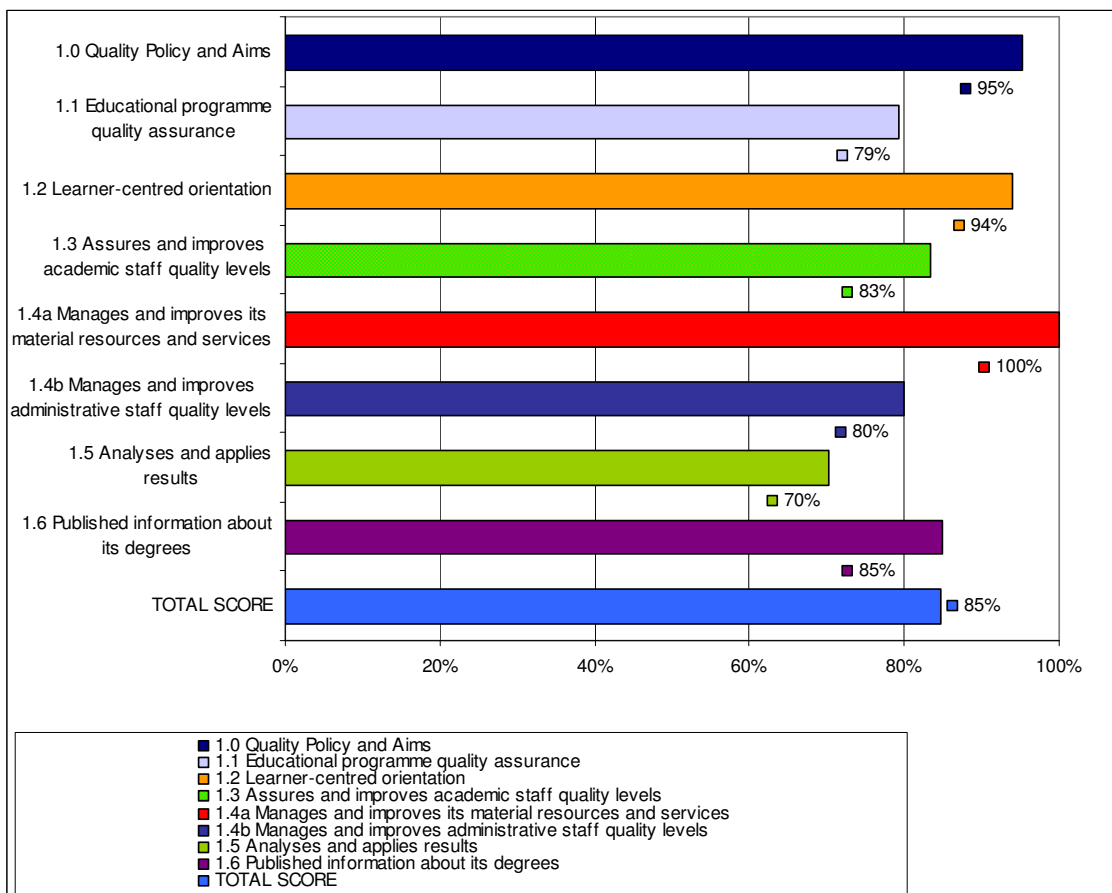
concerning entry/graduation profiles, and admission and enrolment criteria.				
Specification of the ways in which the interest groups are involved in the design and development of the definition of entry/graduation profiles, the admission and enrolment criteria.		X		
Existence of mechanisms which facilitate monitoring, revision and improvement in the definition of entry/graduation profiles, and admission and enrolment criteria.				X



Faculty of Medicine Self-assessment.



Faculty of Philology Self-assessment.



Gijón Higher Polytechnic School of Engineering Self-Assessment.

Faculty of Medicine Self-assessment	Faculty of Philology self-assessment	HPS of Engineering self-assessment
86 %	81 %	85 %

The meetings between the quality technicians and the managing boards of the learning centres took place without incident. The aim of the meetings was to approve of the changes in the guidelines and to revise the proposals for delayed guidelines.

Currently, after the documents have been sent to ANECA through the Web application, the first series of the programme is in the evaluation stage; which is very important since it assures the quality of the design of Internal Quality Assurance Systems of university education (IQAS) proposed by the learning centres. The evaluation commissions are responsible for the assessment of the IQAS design on the basis of the documentation collected and the subsequent compliance with an evaluation protocol.

3. Results

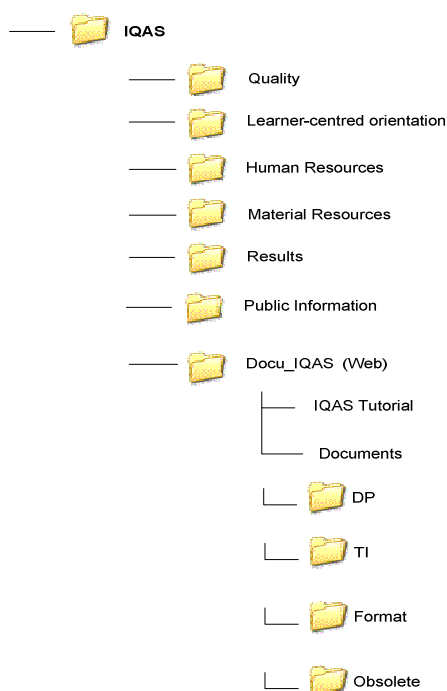
The Quality Technical Unit of the University of Oviedo, in cooperation with ANECA, has participated in the AUDIT programme by developing the Internal Quality Assurance Systems (IQAS) in the following learning centres:

- Faculty of Philology
- Faculty of Medicine
- Gijón Higher Polytechnic School of Engineering (GHPSE)

As a means of facilitating a more dynamic operation, an Innovative Management Tool was applied, which allowed the management of all the information during the process so that the participants from the centres could look up and operate on any working document.

	Joint	Medicine	Philology	GHPSE
Meetings	5 27/11-21/01	9 29/10-21/01	8 29/10-21/01	10 29/10-11/02
Procedures		17		
Reccords		29	25	27

The system's documentation is organized according to the following folder structure:



Folder structure for the IQAS documentation in the IT application.

In a third stage, the AUDIT programme will allow the conclusion of the **certification process of the IQAS enforced by the learning centres**. The procedure to carry out the certification process will be reflected in the IQAS certification guidebook.

All the issues considered throughout the AUDIT programme are part of the requirements established by the programme VERIFICA (Criterion 9 of the Degree Quality Assurance System), which will tend to the regulation requirements of authorization and register of Graduate and Masters Degrees. Thus, all the efforts will become aligned and participation of the universities in the sanctioning of the future degrees will be fostered.

4. Conclusions

Internal Quality Assurance Systems have become a key tool to verify the effective improvement of the new degrees as well as their adaptation to the requirements of the European Space for Higher Education.

Once the IQAS have been implemented, the diversity of the centres in structure and functions has become evident. Therefore, it is advisable to define a unique model for the university as a whole, where the competences assigned to the IQAS are clearly specified, by defining strategic guidelines, homogenous aims and procedures for all the degrees, in such a way that a quality standard is guaranteed which can, in the future, facilitate certification and accreditation.

IQAS development should not be merely focused on the formal compliance with protocols and documents established in the 1393/2007 decree, but should adapt to the learning centres so as to facilitate their actual implementation, so that an adequate response is given to all the needs and difficulties identified, minimising bureaucracy and unnecessary technical terms in the documents, and offering solutions for the requirements of the new degrees.

The final aim of any Internal Quality Assurance System is to provide answers to the current and future demands of the social and labour network.

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EXPLORING THE MEANING OF QUALITY FOR A HIGHER EDUCATION INSTITUTION: THE CASE OF POLITECNICO DI MILANO

L. Bardi, P. Butelli, L. Catellani

Introduction

Nowadays, Higher Education Institutions (HEI) are facing new competitive challenges. In fact, higher education competitiveness is becoming worldwide [1], since students and faculty mobility is less and less often narrowed within national limits.

In addition the context of Higher Education is characterised by:

- laws and regulations that aimed at specific measurements of performances and efforts devoted to quality;
- cooperation between universities for education and research reasons;
- approach to accreditation models;
- a growing international competition among institutions of Higher Education, also in terms of universities rankings;
- accountability and compliance.

Besides, College and University rankings are spreading [2], thus providing different tools to prospective students to compare university performances. In addition, recent reforms transformed the main structure of Higher Education Institutions in Europe, granting a different competition. As an effect of this competitive scenario, many universities are assigning a growing consideration to measure, control and improve their performances, with the aim of moving in the direction of “excellence”.

In this environment it is important to establish a governance structure able to adapt to the challenges that happen in this context and to be proactive to these. Governance of public universities is significantly influenced by government policy, with particular emphasis on ‘*effectiveness of management and governance arrangements*’ [3].

A way to accomplish this goal could be represented by the implementation of specific strategies devoted to quality, in addition to those provided by the law.

Quality implementation in Higher Education Institutions is a great challenge in all European countries, especially after Bologna Declaration (1999). Since this important step, the quality assurance has been a central part of every Higher Education Institution: this topic has been proposed in each document and declaration of the UE member states governments and their educational ministries [4].

Concerning this field, the activities of a university organization could be represented by three principal processes of (1) teaching, (2) research and (3) administrative management.

Given the complex nature of Universities, it is quite difficult to define the systems considering a specific criterion, because the quality models can be used to address the issue of quality of an HEI that could be applied to a wide variety of specific points, such as: the institution, a study programme, research activities, the whole university organization or a specific activity; this depending on the aim (accreditation or assessment), on the point of view (internal/external), on the specific stakeholder interested and on the push to the implementation (voluntary/required).

Making allowance for the terms stakeholders of an HEI, we want to make some observations. Freeman and Reed [5] state that “stakeholders” are “any identifiable group or individuals, who can affect the achievement of an organisation’s objectives, or who is affected by the achievement of an organisation’s objectives.” EFQM [6] defines as “stakeholder” “all those who have an interest in an organisation, its activities and its achievements”.

Quality referred to a HEI is, therefore, a complex conception and there is not a distinct suitable definition for that. Both from the perspective of its dimensions (input, process and output) and from the standpoint of the stakeholders, there are several views of quality.

The coexistence of many understandings is a reason for a multiplicity of quality models.

As a consequence, different models could be implemented which are partially well-matched, complete or compete with each other.

Considering a specific vision each country has established his own evaluation model for quality assurance in universities, usually inspired to international approaches, like ISO 9000, EFQM excellence model.

According to ISO: *'A management approach of an organization, centred on quality, based on the participation of all its members and aiming at long run success through customer satisfaction and benefits to all members of the organization and to society.'* [7].

This paper describes the strategy of a leading Italian HEI focusing mainly on the role and activities of the Central Administration in terms of quality system adopted, for teaching, research and administrative activities.

The real case

"Politecnico di Milano" is a science and technology University (established in 1863) producing engineers, architects and industrial designers through a variety of innovative specialising courses, with great attention being devoted to all sides of education. This University has always been based on quality and innovation in teaching and research, resulting in a close and prolific relationship with the economic and manufacturing worlds through experimental and applied research and through transfer of technology.

The Politecnico di Milano (Polimi) is an excellent European university in Engineering, Architecture and Industrial Design, and in many disciplines is considered as a principal research institution worldwide. Polimi is structured in 17 departments and a network of 9 Schools (Facoltà) of Engineering, Architecture and Industrial Design spread over 7 campuses over the Lombardy region with a central administration and management; 9 centres. The 9 schools are dedicated to education and the 17 departments are devoted to research. The educational approach of Politecnico di Milano consists in offering curricula adapted to the requirements of its territory, which is considered one of most developed industrial area in Europe. The total amount of students enrolled in all campuses is around 40,000, which makes the Politecnico di Milano the leading institution in Italy for Engineering, Architecture and Industrial Design.

The organization of the University is based on the distinction between:

- Political management, defining the objectives, the general planning, the audit to achieve results in comparison with the given addresses, and
- the financial, technical and administrative management with the connected responsibilities fall within the competence of the administrative management.

Political and administrative management, in the terms established by the current regulations and in respect of the respective roles, act synergistically in the public interest in order to realize institutional objectives.

The central bodies of government and the supporting structures for teaching methodology, the research and general organization interesting the entire Politecnico refer to the political Management. The Rector is in charge of the political management and can appoint delegates or persons who report on specific subjects.

The Administrative Director is in charge of the administrative management and gives a timely and correct realisation to resolutions approved by the Board of Directors and the Academic Senate as far as it falls within its competence.

On the theme of attention to quality, besides the projects and initiatives devoted to quality and continuous improvement, the formalization of procedures for quality has been obtained by means of the first Quality System that was realized based on the standard UNI EN ISO 9001:1994 to

reorganise the management and UNI CEI EN 45001 1990 to plan and manage the laboratory activities [8].

In the perspective of the continuous improvement in parallel with the prescriptive development at a European level, Polimi implemented a Management System for the Quality in conformity with the requirements of UNI CEI EN ISO/IEC 17025:2000 and UNI EN ISO 9001:2000 standards. In 2003, the Quality Management System was extended to the education/training activities.

At the present time, the Politecnico Quality System has been entirely adjusted in order to update it in relationship with the evolution of the overall university system and to try to make it a practical working tool supporting the Universities activities. The Quality Manual and the documentary system, joined to it, collect rules and criteria that Politecnico decided to adopt in order to ensure that the performed activities are managed in an homogeneous, organic and controlled way and with respect to the reference standard prescriptions in order to obtain the continual improvement of procedures, products and services offered to internal and external customers.

The Politecnico Quality System – SQP (System Quality Polimi) is centrally managed by the University Quality Service (SQuA), activated in 2007 after the closure of University Quality Centre that performed the same function until then.

In details, the field of application of Politecnico di Milano Quality Management System is related to:

- multidisciplinary experimental activities of research, test and calibration;
- calibration activities under SIT accreditation;
- educational activities and specific projects for the institutional teaching methodology;
- design and technological development activities;
- consultancy for the planning of quality systems and/or Quality/Environment integrated management systems.

The internal structures that voluntarily adopt the Quality Management System as an organization tool for their activities identify carefully the specific fields of application.

Politecnico has been accredited, starting from 1998, by SIT, as SIT¹ Centre n° 104, for the following quantities: Accelerometer, Acoustics, Low pressures, Heating Bodies, Forces, Electrical quantities, Microscopy length, Capacities, Ionizing radiations, Temperatures and Velocity.

Since 2000 the Quality Management System has the application field “multidisciplinary activities of research, calibration and consultancy” certificated from Italcert². Since 2003 the certification has been expanded also to “educational activities and special projects related to institutional didactics for Architecture and Engineering”.

Today the Quality Management System is implemented to:

- 9 departments (53%), among which 7 certified by Italcert for the education activities;
- 26 laboratories belonging to 10 Departments (59%) among which 2 certified by Italcert and 10 accredited by SIT, for research, testing and calibration activities;
- 2 centres (22%) certified by Italcert for education activities.

(1) Teaching and educational activities

From the side of teaching and education activities some initiatives have been implemented. In the following we mention the most important activities devoted to improvement of quality of didactics.

- Each of the 9 Schools defines the annual strategy of improvement of didactic activities in a public document. The aim is to make public the intention related to quality of teaching

¹ SIT is the calibration service in Italy.

² Italcert is an organization accredited by SINCERT.

and learning processes for being transparent and eventually make verifiable the obtained results respect to the expressed purposes.

- The questionnaire for student evaluation of teaching activities carried out at the end of each teaching period (e.g., semester, quarter, etc.) is in a improvement process: in addition to the fifteen questions requested by the Education Ministry (introduced by the law (n. 370/99 art.2) some supplementary information are required with the scope to collect more information for making in depth analysis of data.
Related to the same activity, i.e. the collection of opinions of students, some schools have adopted, in addition to the standard structured questionnaire, a free sheet in which the student can express her/his judgment about negative and positive aspects related to the specific course frequented, object of the evaluation, and some comments aimed at improving teaching and organization feature of the course. These data are then delivered to the teacher that provides to analyse them.
- For defining the graduate profile, according to the intention of the teachers of the program course, considering the learning outcomes, the Politecnico di Milano, has implemented a method to some study programmes, according to a specific study carried out from some European Research Universities, with the aim to describe the profile of graduate in terms of acquired competences. The overall intend is to be able to assess excellence in education for research universities in the technological domain. The central idea of this project is that research universities need standards and learning outcomes that go well beyond the Dublin Descriptors. This pilot project would allow analysing more in depth the curriculum designed in terms competences.
- For guarantying transparency and completeness of the information toward internal and external stakeholders, according to the recent principles indicated to the University Ministry (accomplishment of the Law 544/2007; 11/06/2008) and according to the Standard and Guidelines of ENQA [4], the Politecnico di Milano has adopted a new standard of the document that describes in details the content of a programme of study, aimed at giving all information about study programme.

Again, taking into account the administrative activities, Polimi was involved for educational activities in the past, with some programme courses to the CampusOne Project.

(2) Research

Being the laboratories a support for the research, we consider the attention devoted to quality for laboratories as an aspect of quality of research.

Beginning from the 14/12/2006, the SIT Centre of Polimi - N° 104 - has obtained the extension of the SIT accreditation for the quantity acceleration (flexible scope type 3), on the basis of the experimental comparison report and of the results of the audit for the assessment of the scope.

As stated in the EA-2/05 document, the expression of the accreditation scope for the both fixed and flexible accreditation varies from country to country and from sector to sector depending on the tradition in the respective sector and country and as well as on the requirements and needs of important customers of the laboratory. Referring to the SIT accreditation (SIT Doc-537), the flexible scopes type 3 of accreditation can allow a calibration laboratory or a research centre, as Polimi is, to undertake well specified experimental, testing and/or calibrations activities, and to report the results in accredited certificates.

In this framework the accreditation is concerning to type of activity related to the quantity (detailed scope). The SIT flexible scope accreditation concerns experimental research activity on equipment and materials with the variation of acceleration for the characterization of specific objects in the field of passive security in the transportation. Research and experimental activities related to the flexible scope are performed within the SIT Centre N°104 accelerometry calibration laboratory with flexible scope, located in the Transport Systems Safety Lab (LaST) of the Aerospace Department of the Politecnico di Milano.

In addition to that, in 2008, the research group radiochemical has started the application of Quality System of Polimi to research activities founded by VI and VII UE Framework Programmes. This implementation is going on and requires the development of some innovative tools together with and new format documents in addition to these already in use for didactic and management activities. This represents a pilot case and the future results could promote the future application of SQP to others research activities.

Recently, there is an increasing interest on quality items from many other research groups. In the first six months of 2008, the SQuA was asked to study the SQP applicability to photovoltaic, garden design, cultural goods and environmental sustainability field.

Never the less it must to underline that the experimental activities of the 26 laboratories applying SQP cover a wide range of scientific fields such as chemistry, mechanics, bio-engineering, physics, electronics, energy, environment; in the next December there will be the internal accreditation of Wind Tunnel too.

It is important to observe that being a laboratory under SQP means traceability metrological for all instrumental used both for research and for testing activities.

(3) Administrative management

In the public administration the assessment of outcomes is not easy and the ratio connecting input and output is difficult to define; for that reason measuring is complex because it is unclear what outputs or outcomes really are. Of the systems to establish achievement and good organization there are integral models developed on the basis of integral management of quality, statistical control of processes, re-engineering. These are different approaches with a common denominator obtained from Total Quality Management, the European EFQM excellence model [9]. The EFQM Excellence Model, a non-prescriptive framework based on nine criteria, can be used to assess an organisation's progress towards excellence. The arrows emphasise the dynamic nature of the Model. They show innovation and learning help to improve enablers which in turn lead to improved results [9].

The Common Assessment Framework (CAF) is a based on EFQM model. It is the result of the cooperation among the EU Ministers responsible for Public Administration. On request from the Directors General of this field, the new version of the CAF has been developed by the Innovative Public Service Group [10].

A pilot version of the CAF was presented in May 2000 during the First European Quality Conference for Public Administrations held in Lisbon.

By the end of 2003, the CAF model was applied widely in various countries. More than 500 organisations or organisation divisions in 19 countries had applied the model since it came into being in the period 1999-2000.

The CAF has been designed for use in all parts of the public sector, applicable to public organisations at the national/federal, regional and local level. It may also be used under a wide variety of circumstances e.g. as part of a systematic programme of reform or as a basis for targeting improvement efforts in public service organisations. In some cases, and in particular in very large organisations, a self-assessment may also be undertaken in a part of an organisation e.g. a certain section or department.

All the elements of the organization are translated into nine criteria (Figure 1) and further operationalised and given concrete form in 28 sub-criteria. On the basis of these sub-criteria, a self-assessment group from within the organisation evaluates that organisation.

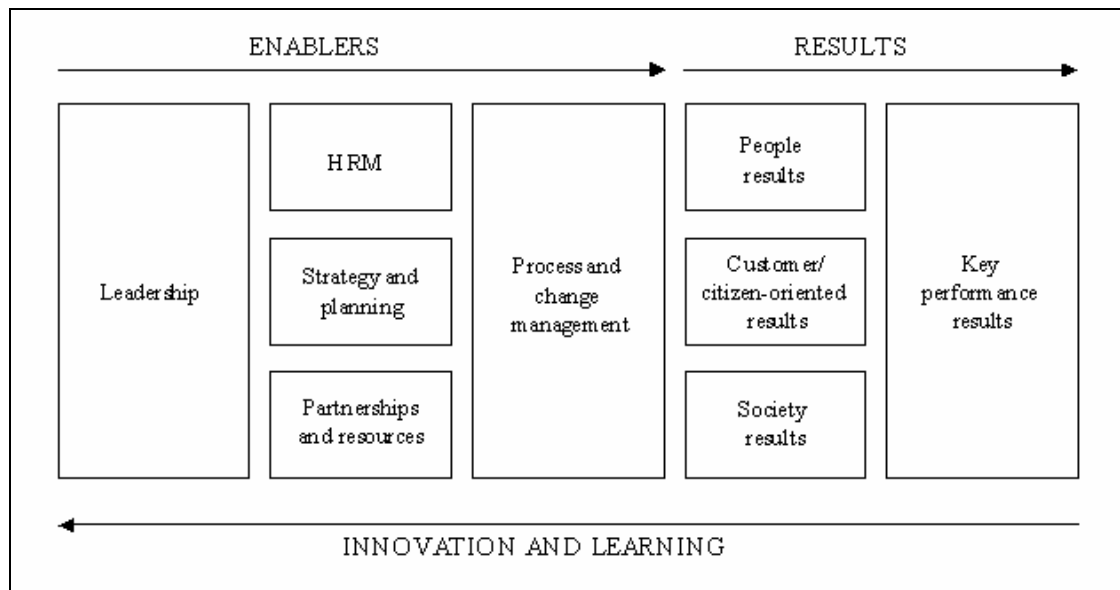


Figure 1 - The CAF Model

The self-assessment group recommends how to continue the quality work, either with another framework or applying for a quality award.

Finally, the CAF has four main intentions:

1. To capture the characteristic features of public sector organisations.
2. To provide a tool for public administrators who want to get better the performance of their organisation.
3. To operate as a "bridge" across the various methods adopted in quality management.
4. To make easy benchmarking between public sector organisations.

The CAF model is the base for a national competition, Quality Award for Public Administrations, which is run every two years by the governmental body "Dipartimento della Funzione Pubblica". The award can be considered the final act of the implementation of the Common Assessment Framework Model

In 2006 Polimi, following the Rector's strategy of attention for quality, submitted the participation to the Quality Award in the University category. The participation to the award was tightly and enthusiastically organized throughout the central administration: a support team (one representative person for each Area) collected the data and all instances and elaborated the application document.

A validation and self-evaluation group (five people) consolidated the document and evaluated the Application document, giving a score to each criteria and sub criteria (CAF evaluation grid), pointed out on the strength points and improvement areas.

The 15 participants that presented the application for the University category were shortlisted to 5 finalists (Politecnico di Milano was among them).

The self-evaluation process made on Application allows the Politecnico to identify five possible areas for improvement.

- Strengthening of organization of human resources;
- systematizing of monitor activities related to performance of Administrative Management;
- strengthening of development of tools for communication with customers;
- improvement of ways for internal communication;
- strengthening of management of resources.

In May 2008, after the auditing visit (April 2008) the Politecnico received the Award, as the winner of the application in the university category.

The conclusions contained in the application document will be used for defining the objectives for 2009 within the planning process.

The participation and the winnings at the CAF Award are considered as a proactive way to reflect on own performance; in addition, the participation gives an impulse to the systematic definition and use of them, with a point of view of improvement.

The self-evaluation document (published on intranet website of Politecnico di Milano) contains the description of all activities in terms of the criteria and sub-criteria of the model. As conclusions, some actions that would be needed for improvement are described, for each criterion, as engagement towards a continuous attention devoted to quality.

The participation at the Award was an opportunity to define (with the collaboration of all areas and services of Polimi) who are the stakeholders of the Polimi's administrative activities.

The result of that consultation represents the map of external stakeholders and internal ones (Figures 2-3).

The Figure 2 shows the national (green colour) and local (blue colour) stakeholders.

Related to internal stakeholders, the Figure 3, points out that the administrative management is in charge of all structures and bodies of Polimi.

Without entering in the specific role and importance of each stakeholder, we would underline that the variety and the number of them, push Polimi to give more and more attention to the customer's requests and to the impact of a correct communication with and among them.

Polimi has developed policies and strategies for collecting information and specific needs of the aforementioned stakeholders, by using different ways and "listening points" depending to the stakeholder.

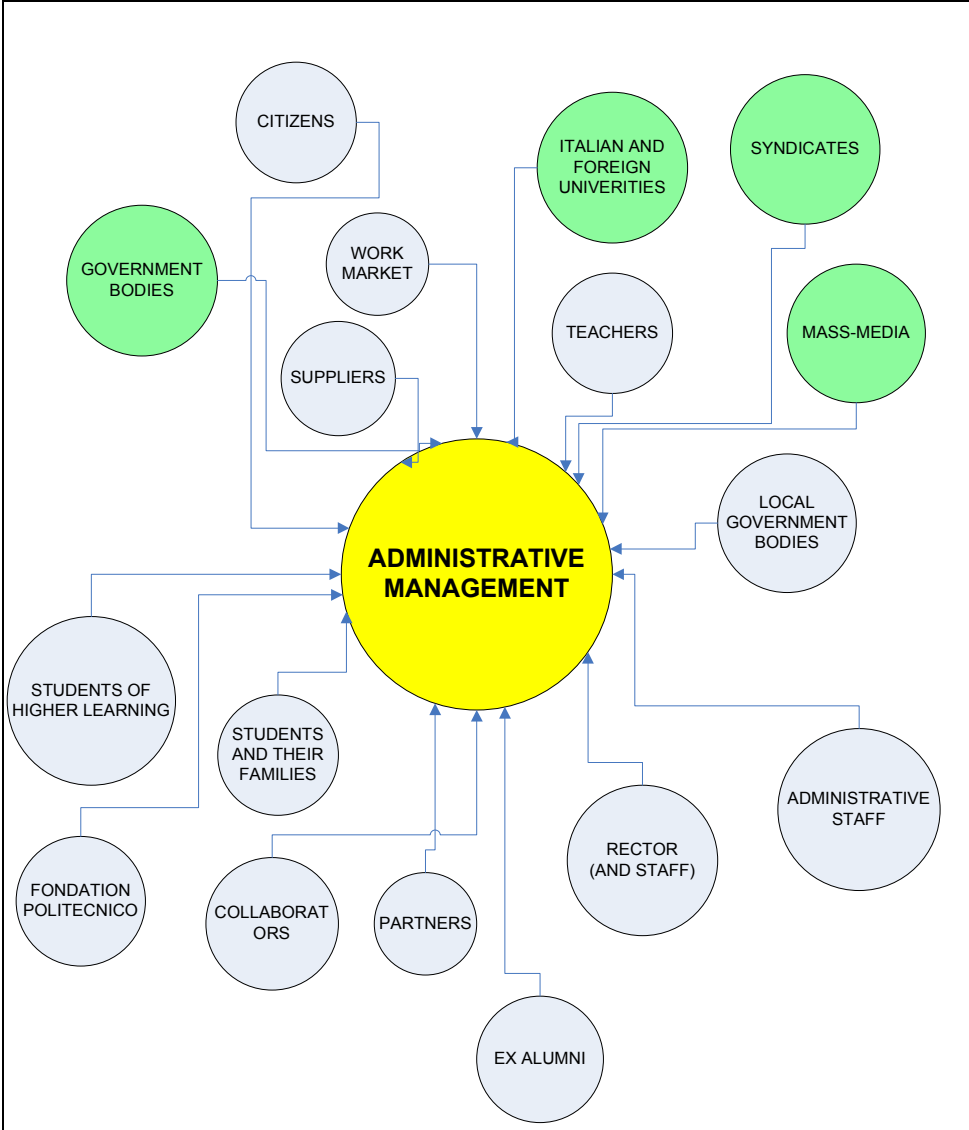


Figure 2 – National and local Stakeholders

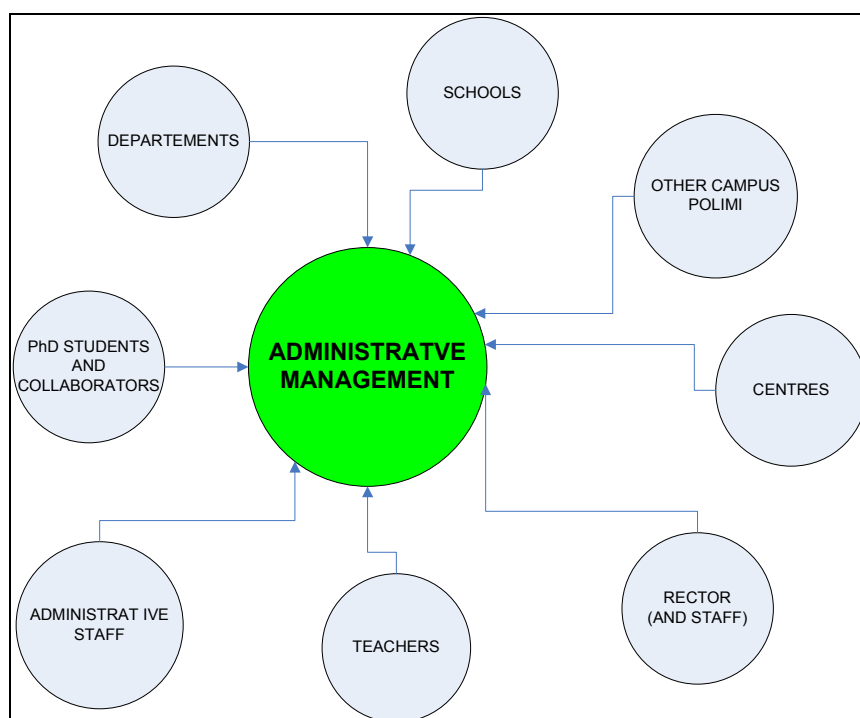


Figure 3 – Internal Customers

There are some other activities offered as support for the students that could be considered as transversal activities supporting the previously.

These services are supplied by the administrative management. Among these, we would give attention to the Library Service, which could be deemed as a support to teaching and learning processes, as well research.

Among the many actions enabled by the administration of the University, we want to present some of the principal of them.

- Services Charter³: the Charter's target are all the users of the service and its main purpose is to identify and communicate the:
 - basic principles of the service;
 - users, the functions and the aims of the service;
 - services offered to all kinds of users;
 - centralized services offered to tour operators, journalists and public institutions.
- Customer satisfaction users SBA (Servizio Bibliotecario Ateneo: University Library Services) – 2007: this project intended to establish a systematic activity of collection of opinion of users. The survey was carried out from 15th October to 19th November 2007, through an online questionnaire, open to all customers of SBA. The survey was aimed at evaluating the satisfaction of customers of the ten Libraries⁴ located on the Campuses of Polimi and of the online resources. The population was represented by all users (students, researchers, teachers, administrative staff) invited to participate to the study. The main scopes are the following, a part the overall satisfaction:
 - to identify reasons of use;
 - to collect information about importance for the specific services;

³ Other two services, (Career Services and Services to Research) have established and published their Service Charter, with the same aims of the Library Services.

⁴ There are other libraries belonging to the departments, but in this pilot survey the focus was only on Libraries managed by the Central Administration.

- to stimulate any initiative for improving, supported and justified by quantitative data;
- to provide data in support of planning and designing activities of services.

The survey results (published on the website of Politecnico di Milano) regard judgments about spaces, tools and services offered to the customers.

The participation to the survey was great (Table 1). A high number of users, more than 1.400, expressed their suggestions through open question, supplying important information for improvement.

User	Total users	Number of answers	Answer rate for user
Students	37.721	5.221	13,84
Post Degree Students	1.779	347	19,51
Teachers	2.502	372	14,87
Total	42.002	5.940	14,14

Table 1 – Number of answers and kind of user

Concerning the aggregate overall satisfaction the Table 2 shows the global results, in terms of number of answers and average for two questions (the evaluation scaling was 1-5).

	Number of answers	Average
Overall satisfaction for online services	4.468	3,39
Overall satisfaction for Libraries and other services	5.461	3,30

Table 2 – Results for the Overall Satisfaction

Although there are some positive inputs for improvement, the results remark a good overall satisfaction given evidence of the great SBA effort for understanding and focusing on the customers' requirements and needs.

Conclusions

The aim of this paper has been to explore the meaning of Quality for the Politecnico di Milano and for this reason we do not provide full coverage of all the Polimi quality related initiatives and projects.

The experiences focus on the Central Administration activities, with regard to quality features. The SQP represents not only a model for being in accordance with a procedure, but also a support tool for improving internal and external quality.

From its application SQP has become a reference body for quality fields at Polimi. A number of challenges, decisions and events have occurred which have contributed to encourage an interest on the part of all the structures towards the work of SQQA and the SQP; these were internalization of the service (characterized by a flexible and young nature); the win of the CAF award and the consequent external visibility; the training activities for Polimi staff and employees; the appointment of another Delegate of the Rector for quality (for didactics aspects in addition to the Delegate for SQP application, already present).

This resulted into an increasing and wider culture of quality and more attention devoted to quality problems; a growing number of structures are asking to apply the SQP (not only departments and research group and activities, but recently, the management and the administrative offices themselves are moving toward the application of SQP, for example: protocol service; didactics secretary office; financial services; qualification test office).

According to the Quality Policy expressed by the Rector:

[...] The choice of Politecnico to manage the quality system in internal and integrated way aims at intensifying the visibility and pervasiveness of the quality in activities of research, service and education both in the departments and in central administrative services. Furthermore the Quality Service can serve as a collector of exportable good practices in other Italian Universities exploiting the competence and internal resources and competences. It is once again clear how the personnel is definitely important for the Quality System that has to pay attention to its selection, analysis of potential and its development. The initial need to standardize procedures and services, followed during the years by a period of adjustment and higher attention to the customer, brought good results helped by a quality which is meant as instrument of self-evaluation, in order to understand the state of maturity and appropriateness to the activity requirements to offer to potential customers.

This is the way Polimi, through the SQUA support, is exploiting Quality to its full extent in order to improve the overall organizational response and standing in the national and international context.

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A STAKEHOLDER SATISFACTION ANALYSIS IN THE FACULTY OF ECONOMICS OF THE UNIVERSITY OF TURIN

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Introduction

The stakeholders satisfaction represents an essential quality and social responsibility objective that should be included in the policy of all the organizations seeking to improve their corporate management system.

In this paper it has been analysed the structure of the “system of questionnaires” applied in an organization - such as the Faculty of Economics in the University of Turin, whose Quality Management System (QMS) is conform to the ISO 9001:2000 Quality Management Systems standard 1 - in order to monitor the grade of satisfaction for a defined panel of stakeholders (customers-students; professors; tutors; technical-administrative personnel; other stakeholders, such as for instance companies and families).

The Faculty of Economics, the largest among the 13 others in the University of Turin, has more than 10.000 students (including more then 2.000 matriculated), 165 internal professors, 32 different degree courses and 8 masters.

The paper includes the results of the phase of elaboration and classification of the principal feedbacks deriving from the fulfilled questionnaires and focuses on the operative procedure to get corrective and/or preventive actions for the improvement of the Faculty-University management system.

A quality policy oriented to the stakeholders satisfaction

An important requirement of the ISO 9001:2000 standard concerns the “Management Commitment” and in particular the “Quality Policy” of the organization: this document has to be elaborated by the top management that “shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by (...) establishing the Quality Policy, ensuring that quality objectives are established” 2.

In particular the top management shall ensure that the Quality Policy “includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system, provides a framework for establishing and reviewing quality objectives” 3.

An other core requirement of the quality management standard deals with the “Customer focus” (“top management shall ensure that customer requirements are determined and fulfilled with the aim of enhancing customer satisfaction” 4).

An interesting application of the “Customer focus” could be the establishing of a “Customer representative”, i.e. - for instance - an additional typical mandatory role for certified automotive industries, whose top management shall “designate individual(s) to represent the needs of the customer to address quality requirements, such as selection of special characteristics, setting quality objectives and related training, corrective and preventive actions, product design and development” (ISO/TS 16949 standard 5).

Coherently to all the above-mentioned ISO-requirements the “Quality Policy” of the ISO 9001:2000-certified Faculty of Economics in the University of Turin includes a commitment not only to the customer (Student) but also to other stakeholders (i.e. mainly Professors, technical-administrative Personnel and Companies) as expressed in the Objectives 1, 2 and 5 (Table 1).

Table 1 - Objectives of the Quality Policy

1	Planning, realization and improvement of the quality of the educational service for the satisfaction of the principal involved stakeholders (Students, Professors, technical-administrative Personnel, Companies)
2	Attention to the social impact of the educative service through the consolidation of the relationships with Companies, the consultant activity to orientate and the support to the job placement
3	Increase of the activities to orientate, the promotion and the communication
4	Expansion of the international relationships
5	Attention to the motivation, to the sense of affiliation of the Professors and the technical-administrative Personnel of the Faculty and the satisfaction of the Other Parties interested in the educational service and in the activity to orientate
6	Stimulation to the research activity in order to enrich the content of the educational service

Source: Faculty of Economics in the University of Turin, Manual for Quality and Accreditation, Annex AL/12 - Quality Policy, Edition 00, Revision 00, 10 May 2007.

A system of questionnaires for the stakeholder satisfaction

With reference to the above-mentioned stakeholders (Students, Professors, technical-administrative Personnel, Companies/Organizations) the authors propose some examples of results deriving from the satisfaction questionnaires used inside the Faculty of Economics in the University of Turin 6.

The grade of students satisfaction

The elaboration from the Faculty monitoring presidium of the fulfilled “Students satisfaction questionnaires” 7 evidences the differences in terms of sample composition (male, female), type of course (Degree course, Master course), number of students, number of exams, and distribution of the results (average, standard deviation, mode).

In order to get more information on all the relevant aspects the Faculty Students Satisfaction Questionnaires are usually combined with an other module of the ISO 9001 certified Quality Management System concerning “Observations, complaints, appreciations and improvement proposals” (Scheme 1).

Scheme 1 - Observations, complaints, appreciations and improvement proposals

The present Module can be fulfilled in order to express: an observation; a complaint; an appreciation; an improvement proposal; other	Date: Role: (*) Eventual: Name: (**) E.mail: (**) Tel./Cell.: (**) Address: (**)
Description (observation, complaint, appreciation or improvement proposal):	

(*) For instance: student, professor, technical-administrative personnel, tutor, stagiaire, company referent, supplier,...

(**) Voluntary data requested in order to allow an eventual answer from the Faculty about the contents of the present Module (Observations, complaints, appreciations and improvement proposals), picked up and elaborated in conformity to the Italian Legislative Decree dated 30 June 2003, n. 196 concerning the protection of personal data 8.

As an example the authors evidence some results deriving from the fulfilled Questionnaires and Modules - during May 2007 - in four different contexts (two Degree Courses, an English version of a Degree Course and a Master).

The majority of the students evidenced an elevated level of satisfaction (between 5 and 6 points, in a 1 to 7 points scale) about courses, professors and technical-logistic aspects (instruments used for the didactics, classrooms and buildings).

The students individuated some requests about the courses: a better disposition of the exam dates; a more precise proportion among the number of credits per exam (note: each credit corresponds to an engagement for the student quantified in 25 hours of activity) and the difficulties concerning the exam itself; the opportunity of increasing the number of practical courses and having more thematic deepening.

Among the principal students complaints emerged: the noise in the classrooms; the too high level of taxation to attend the courses; a low attention towards the working students (in particular concerning to the possibility of having more evening receptions, specifically after 5 p.m.).

The students, in addition, expressed elements of satisfaction about the numerous initiatives (realized by the Faculty Job Placement Office) oriented to put them in relation with the labour market and about the English version of a curricular course (Business Administration); they also evidenced the opportunity of having more aggregation moments among them.

The students then individuated some requests for the professors - in general concerning the quality and the timely diffusion of the material used during the lessons - and expressed elements of appreciations towards the didactic capacity of some professors.

The grade of students satisfaction about the technical-logistic aspects - as extrapolated from a list of differentiated aspect - was in general high and without any particular shared opinion among the students themselves. The students of the Master evidence - as a complaint - the possibility of not having access to the University locals (classrooms and specific environments reserved for students) after 9.30 p.m..

Among the particular improvement proposals emerged the following requests (note: coherently with the fact that the Faculty Campus has more than 10.000 students): bigger desks for the students; an increased number of benches in the courtyard ("quadrangle"); more and differentiated beverage machines; a canteen internal to the structure.

The grade of technical-administrative personnel satisfaction

The following analysis synthesizes the main results deriving from the fulfilling of the “Technical-administrative personnel satisfaction questionnaire” 9 (scale from 1 to 10 points) and the Module for “Observations, complaints, appreciations and improvement proposals” e-mailed, on 24 May 2007, to all the technical-administrative resources, that were divided in two groups:

personnel administratively centralized the University (15 resources of “Supporting Services”, in particular: Student Secretariat, Health and Safety Service, Faculty Library, University Centre for European and Foreign Trade, Linguistic and Informatics Applied to Social Sciences Laboratories) (note: the University of Turin includes 13 different Faculties);

personnel administratively decentralized in the Faculty [26 resources, in particular: Didactic Secretariat (including Job Placement Office, Courses Secretariat, Informative Service and International Student Mobility Office, International Relations Office, Student career orientation Secretariat, Tutorial Secretariat), the Administrative Secretariat and the Technical and General Services Secretariat].

The fulfilled documents have been maintained anonymous (the answers were deposited in closed envelope at the porter’s lodge of the Faculty). According to the questions included in the Questionnaires, the results evidenced:

a general satisfaction for their job: it was very high and similar for the two groups of resources, in particular an average of 7,5 and 7,75 points, respectively for Faculty and University personnel; a similar grade of satisfaction in term of relations with their collaborators;

a higher grade of satisfaction for the Faculty personnel in term of relations with professors and students, general conditions of the job environment, in particular with reference to acoustics, visibility, cleaning and safety;

a higher grade of satisfaction for the University personnel in term of relations with colleagues and referents, self-realization and tools (for instance computers).

The analysis of the fulfilled Modules evidences the absence of shared complaints from the personnel and some typical aspects: the possibility of having more aggregation open-spaces for student, professors and personnel itself; the necessity of specified training/education for the new personnel; the respect of the equity principles in the distribution of the load of responsibilities; the request of a canteen internal to the Faculty; the high prices of the internal bar, too aligned to the external locals.

The grade of professors satisfaction

The professors’ rate of answer - in the period between 30 May and 7 June 2007 - to the module “Professors satisfaction questionnaire” 10, document included in the Quality Management System of the Faculty, was around 67%.

The elevated number of professor and courses (165 internal professors, 32 different degree courses and 8 masters) was surveyed in order to estimate the professors grade of satisfaction with reference to the following points:

students characteristics and functionality of the locals;

self-evaluation on the course and professor activity;

services of support and infrastructures (c).

Among the principal aspects evidenced (with reference to the above points):

an initial very low level in mathematics, statistics and general economical culture for the matriculated; problems of discipline in the classrooms with about 300 students; students interest for actual thematic and for business experts; (sometimes) problems with the acoustics

in the classrooms; satisfaction for the tools in the classrooms (personal computers, instruments,...);
 in average, a high “adequacy of the planning of the course” and “Functionality of the course to the labour market demands” and a medium “adequacy of the number of hours of lesson to disposition”; a medium grade of knowledge about regional accreditation, international certification of the Faculty according to the ISO 9001:2000 standard and about the professors’ responsibilities for occupational safety during the didactic activity;
 a request so that the technical staff is more present in the classrooms; an elevate grade of satisfaction (between high and very high) for the didactical, administrative and technical Secretariats, associated to a similar grade of satisfaction about the effectiveness of the internal communication process.

The grade of students satisfaction towards the companies/organizations (stage)

The analysis of the questionnaires fulfilled by the students-stagiaires evidences positive and negative aspects.

First of all the students recognize that the experience of stage allows to apply in the practice the theory learned in the University.

Among the negative aspects some students complain about the fact they have a tutor rarely present during the stage period and - sometimes - about the fact that the stage objectives don't become entirely reached and/or are not strictly inherent with their courses of study. Usually the more satisfied students, about their tutors, are those making the practice/stage in a professional office.

The grade of companies/organizations satisfaction towards the students (stage)

The results of the questionnaires fulfilled from the tutor in the companies/organizations evidence some negative aspects, that can be principally synthesized in the difficulty in reaching the educative objectives and in respecting the procedures. Some business tutors observe that the stagiaires have a low grade of autonomy, interest and motivation and should be more punctual.

The grade of students satisfaction towards the job placement service (stage)

The strength points underlined by the students in the questionnaires towards the activity of the Job Placement service concern the aspects of availability, punctuality and efficiency, personnel courtesy, respect of timetables and delivery of documentation. The service is fundamentally recognized as efficient; positive aspects are also found in the new Job Placement web site.

The critical elements - to be held in consideration for the improvement of the service - concern the simplification of the procedures and the Internet web (“it should be mostly used for the exchange of documentation and/or information”).

Other satisfaction questionnaires

At present time two other questionnaires are included in the Quality Management System of the Faculty of Economics (the “Students career orientation” and the “Tutors satisfaction questionnaire”) and an other stakeholders questionnaire is planned to be included (the “Families satisfaction questionnaire”).

The students career orientation satisfaction questionnaire

The “Students career orientation satisfaction questionnaire” 11 includes a series of questions with reference to the following aspects: student motivation, participation to analogous

meetings, Faculty in which the student is going to be matriculate, grade of satisfaction about the Faculty orientation meeting (in a scale from 1 to 10 points).

In particular the last aspect is deepened through specific questions dealing with: the correspondence to the expectations (for the meeting); the possibility of asking for explanations; how much the meeting can help to choose (or not to choose) the Faculty of Economics and a specific Degree course; the grade of satisfaction about the length and the site (of the meeting); if the student would advice an other student the participation to a similar meeting (Yes/No).

The tutors satisfaction questionnaire

The “Tutors satisfaction questionnaire” 12 (fulfilled from 49 tutors on 10 July 2007) allows to analyse the grade of satisfaction for the tutors activity in general terms and in term of self-realization, relations with others, relations with referents, relations with students and in terms of retribution received; it also allows to get information about the general job environment satisfaction and - in particular - in terms of acoustics, visibility, cleaning, safety and available tools (Table 2).

Table 2 - Statistical results for the tutors questionnaires

Satisfaction for the job in terms of:	Average	Stand. Deviat.	Satisfaction for the job environment in terms of:	Average	Stand. Deviat.
general conditions	7,49	5,66	general conditions	7,45	4,95
self-realization	6,57	6,36	acoustics	6,69	5,66
relations with others	7,88	6,36	visibility	6,94	4,95
relations with their referents	7,94	5,66	cleaning	7,61	4,95
relations with students	7,59	5,66	safety	7,88	4,95
retribution received	7,57	6,66	tools (pc,...)	6,94	4,24

The tutors show good levels of satisfaction, especially in the relationship with others (referents, students,...) and with reference to retributive aspects. They evidence an inferior grade of satisfaction generally in terms of self-realization, even if for this point the results of satisfaction for are variegated.

In the job environment a high grade of satisfaction - for cleaning and safety - is associated to a lower satisfaction grade for acoustics, visibility and available tools (for instance pc).

The families satisfaction questionnaire

The Quality and Accreditation Committee of the Faculty is planning to realize an ad hoc Questionnaire focused on the students’ families satisfaction: at present it can be observed - with reference to this aspect - that not a stakeholder “family” has fulfilled the voluntary module “Observations, complaints, appreciations and improvement proposals”, downloadable from the Faculty of Economics Internet site (<http://www.econ.unito.it>, link “Certifications”).

The managing of the stakeholders questionnaires and/or the modules for observations, complaints, appreciations and improvement proposals

The way the certified Faculty obtains, analyses and treats the results, in particular the complaints - coherently with the requirements expressed the ISO 9001:2000 standard - has been synthesized in some documented procedures (Management of documentation; Management of records; Review; Management of nonconformities; Management of

emergencies; Management of corrective actions; Management of preventive actions; Internal audits) 13, 14,15 16, 17, 18, 19, 20.

Among the Faculty Quality Management System documents, currently used to manage the results from the stakeholders - in addition to the above cited Questionnaires and the Module for observations, complaints, appreciations and improvement proposals - it is possible to list three different Registers (for complaint; for emergencies; for nonconformities, observations and improvement proposals) and some operative Modules for corrective and preventive actions.

In the Scheme 2 is indicated, as an example, a Module used in the Faculty of Economics of Turin for the treatment of such a nonconformity.

Scheme 2 - Module for the request of a corrective action

La Request has been activated in consequence of:		Request n.
Internal repetitive nonconformity; Complaint; Emergency; Internal audit;	Third part audit; Quality Management System (QMS) Review; Other	
Description of the nonconformity:		
Date:	Applicant:	
Causes analysis:		
Description of the proposed corrective action:		
(Expected) date of realization for the corrective action:		Responsible:
Control of effectiveness/efficiency for the corrective action: Yes; No		
Date:	QMS Responsible:	

Conclusion

The system of questionnaires is the fundamental and necessary tool, useful to reveal - in order to improve - the grade of stakeholders satisfaction in an ISO 9001:2000 certified structure of the University of Turin such as the Faculty of Economics.

The analysis of the stakeholders exigencies emerged from the results of the different fulfilled satisfaction questionnaires (students, technical-administrative personnel, professors, students towards companies/organizations and vice versa, students towards job placement service, students career orientation, tutors and - eventually - families) evidences the effort of the Faculty in creating a sort of monitoring internal structure, coherently with the requirements for the macro process "Measurements, analysis and improvement" delineated in the international standard for the certification.

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THE QUALITY CERTIFICATION AND ACCREDITATION EXPERIENCE IN THE FACULTY OF ECONOMICS OF THE UNIVERSITY OF TURIN (Note 1)

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Introduction

The Faculty of Economics, with more than 10.000 students and the largest in the University of Turin, is going to double its surface from 15.000 to 33.000 m² in order to be transformed in a real urban campus, inclusive of all the Departments and technical-administrative structures, located close to the “XX Olympic Winter Games Torino 2006” area.

In 2007 the Faculty was the first in Italy to obtain both two accreditations from a regional Institution (Regione Piemonte) - respectively for “instruction and orientation activities” - and to be ISO 9001:2000 certified. The international certification is valid for the scope “planning and providing services for student career orientation, university education and job placement”.

The first part of the work (Note 1) compares the characteristics of the two (regional and international) different models, in order to supply an operative integration to be experienced in similarly structured high educational entities.

The second part of the work (Note 2) summarizes the principal elements deriving from the internal and external auditing activity - both for ISO 9001 certification and regional accreditation - in the Faculty of Economics, in order to give some useful elements to be considered during the realization of such an integrated regional-international model.

The accreditation and certification models

The Faculty of Economics in the University of Turin has realized a particular integrated Quality Management System (QMS), accordingly both to international requirements (i.e. the ISO 9001 standard 1) and to regional requirements (Regione Piemonte) for the accreditation of structures with “instruction and orientation activities”.

Consequently the integrated QMS of the Faculty has obtained in 2007 - first case for a structure in an Italian University - both the ISO 9001:2000 certification from the Certification Body Det Norske Veritas (DNV) (in the EA a sectors 37 “Education” and 38 “Health and social work” and for the scope “planning and providing services for student career orientation, university education and job placement”) 2 and two regional accreditations (for “instruction” and “orientation activities”) 3. It can be added that the international certified organization

^a European co-operation for Accreditation.

DNV is accredited by the national Italian Accreditation Body SINCERT (QMS Registration N. 003A), signatory of EA and IAF b Mutual Recognition Agreements.

The process of integration among different documents (in particular the regional “Operative Synoptic Manuals” 4, 5 and the international ISO 9001 standard) - deriving from a personal elaboration of the authors - is synthesized in Tables 1 and 2.

Table 1 - Correspondence between the regional “Operative Synoptic Manual” (OSM) for the accreditation of structures with education-instruction activities and the ISO 9001:2000 standard (case: Faculty of Economics, University of Turin)

OSM PARAMETERS	OSM EVIDENCES	NOTE	ISO 9001:2000
Criterium A.1. MANAGERIAL ABILITIES - A.1.1. Organization of activities and management of financial resources - Indicator A.1.1.a Promotion, direction and coordination of activities			-
1 - Responsibilities, authorities and objectives	1.1-4		5.5.1 - Responsibility and authority
			5.5.2 - Management representative
			5.5.3 - Internal communication
			5.3 - Quality policy
			5.4.1 - Quality objectives
			4.2.3 - Control of documents
			4.2.4 - Control of records
			8.2.2 - Internal audit
2 - Site responsible	2.1		5.5.1 - Responsibility and authority
	2.2-3		
3 - Top management review	3.1		5.6.1 - General
			5.6.2 - Review input
			5.6.3 - Review output
4 - Internal communication	4.1-3		5.5.3 - Internal communication
			7.2.3 - Customer communication
			5.5.3 - Internal communication
5 - Planning of (human, physical, economical) resources in function of the applied projects	5.1		6.2.1 - General
			6.2.2 - Competence, awareness and training
			6.3 - Infrastructure
Criterium A.1. MANAGERIAL ABILITIES - A.1.1. Organization of activities and management of financial resources - Indicator A.1.1.b Administration			-
6 - Effectiveness of communication to the Region and to the Provinces	6.1		7.2.3 - Customer communication
7 - Monitoring of the economic aspects	7.1		(ISO 9004, 6.8 - Economic-financial resources)
Criterium A.1. MANAGERIAL ABILITIES - Indicator A.1.2. Realization of the activities			-
8 - Competence of the function responsible	8.1		6.2.2 - Competence, awareness and training

^b International Accreditation Forum.

	8.2-3		6.2.2 - Competence, awareness and training 7.4.1 - Purchasing process 7.4.2 - Purchasing information
	8.4-5		6.2.2 - Competence, awareness and training
9.1 - Information, awakening and education	9.1.1		5.1 - Management commitment 5.3 - Quality policy 5.5.3 - Internal communication 6.2.2 - Competence, awareness and training
	9.1.2		
	9.1.3-4		6.2.2 - Competence, awareness and training
9.2 - Self-education and education oriented to flexibility	9.2.1-3	NA (VP, FP)	
Criterium A.1. MANAGERIAL ABILITIES - A.1.2. Realization of the activities - Indicator A.1.2.a Definition of needs			-
10.1 - Analysis of business needs	10.1.1-4		7.2.1 - Determination of requirements related to the product 7.3.2 - Design and development inputs
	10.1.5	MC	
10.2 - Analysis of educational availability (and needs) for potential customers	10.2.1		7.3.2 - Design and development inputs
Criterium A.1. MANAGERIAL ABILITIES - A.1.2. Realization of the activities - Indicator A.1.2.b Design of the activities			-
11 - Basic design for the course (macro design)	11.1-2		7.1 - Planning of product realization 7.3.1 - Design and development planning 7.3.2 - Design and development inputs 7.3.3 - Design and development outputs 7.3.4 - Design and development review 7.3.5 - Design and development verification 7.3.6 - Design and development validation 7.3.7 - Control of design and development changes
12 - Initial selection of the students	12.1		7.6 - Control of monitoring and measuring devices
	12.2-3		
	12.4	VP	

13 - Budget definition for the course	13.1-2		7.3.2 - Design and development inputs (ISO 9004, 6.8 - Economic-financial resources)
14 - Didactic methodologies adequate to different customers	14.1-2	NA (VP)	
15 - Presence of adequate design for “not in presence courses” and relative didactic materials	15.1-2	NA	
16 - Support to the customers	16.1-2	NA (TD-H)	
Criterium A.1. MANAGERIAL ABILITIES - A.1.2. Realization of the activities - Indicator A.1.2.c - Realization of the activities			
17 - Planning/Calendar of the activities	17.1		7.1 - Planning of product realization
18 - Teaching personnel assignment on the basis of the competence	18.1		6.2.1 - General
	18.2-5		6.2.2 - Competence, awareness and training
19 - Not teaching personnel assignment on the basis of the competence	19.1		6.2.1 - General 6.2.2 - Competence, awareness and training 7.4.1 - Purchasing process
	19.2		6.2.2 - Competence, awareness and training
	19.3	NA	
	19.4		
20 - Executive design (micro design) for the course and the eventual stage	20.1	VP	7.3.1 - Design and development planning 7.3.2 - Design and development inputs 7.3.3 - Design and development outputs 7.3.4 - Design and development review 7.3.5 - Design and development verification 7.3.6 - Design and development validation 7.3.7 - Control of design and development changes
	20.2-4	VP	
21 - Work in équipe	21.1	NA (VP)	
22 - Courses advertising	22.1		7.2.3 - Customer communication
	22.2-3	VP	
	22.4		7.2.3 - Customer communication
23 - Didactic secretariat	23.1		
	23.2	VP	

24 - Educational “contract” for different customers	24.1		7.2.3 - Customer communication	
	24.2	NA (MC, BC)		
	25 - Educational “agreement” for different customers	25.1	NA (VP)	
	26 - Students reception service	26.1	NA (VP)	
	27 - Verification of correspondence between course programs and customers initial level	27.1	NA (VP)	
	28 - Tutoring	28.1	NA (VP)	
29 - Realization of didactic activities and in progress monitoring	29.1-3		7.5.1 - Control of production and service provision 8.2.3 - Monitoring and measurement of processes	
30 - Stage and tutoring contract	30.1			
	30.2	VP		
	30.3			
31.1 - Stage	31.1.1			
	31.1.2		8.2.1 - Customer satisfaction 8.2.4 - Monitoring and measurement of product	
	31.1.3		8.2.4 - Monitoring and measurement of product	
31.2 - Stage micro-objectives	31.2.1	VP		
32.1 - Students personal curricula - educational booklet	32.1.1	VP (FP)		
32.2 - Educational credits	32.2.1	VP (FP)		
Criterium A.1. MANAGERIAL ABILITIES - A.1.3. Monitoring and evaluation - Indicator A.1.3.a Monitoring of the activities and evaluation of the results			-	
33 - Evaluation of didactic activities	33.1		5.6.2 - Review input 8.2.4 - Monitoring and measurement of product	
	33.2		8.2.4 - Monitoring and measurement of product	
	33.3		8.5.1 - Continual improvement	
	33.4		8.2.1 - Customer satisfaction	
	33.5		8.2.4 - Monitoring and measurement of product	
34 - Effective management of emergencies and inefficiencies	34.1-2		8.3 - Control of nonconforming product	
35 - Analysis of data and improvement	35.1		8.4 - Analysis of data 8.5.1 - Continual improvement	

	35.2		5.6.3 - Review output 8.5.1 - Continual improvement
Criterium A.2. LOGISTIC ABILITIES - Indicator A.2.1. Structural resources			-
36 - Logistic resources (structure)	36.1		6.1 - Provision of resources
	36.2		6.3 - Infrastructure
	36.3		6.1 - Provision of resources 6.4 - Work environment
Criterium A.2. LOGISTIC ABILITIES - Indicator A.2.2. Infrastructures			-
37 - Equipments and didactic instruments	37.1		6.3 - Infrastructure 7.4.1 - Purchasing process 7.4.2 - Purchasing information 7.4.3 - Verification of purchased products
	37.2-5		6.3 - Infrastructure
	37.6		
	37.7	VP (FP)	
38 - Consumption materials	38.1		7.4.1 - Purchasing process 7.4.2 - Purchasing information
	38.2-3		7.4.3 - Verification of purchased products
39 - Presence of secretariat service	39.1-2		7.2.3 - Customer communication
Criterium B - ECONOMIC SITUATION			
40 - Economic-financial reliability	40.1-3		5.1 - Management commitment (ISO 9004, 6.8 - Economic-financial resources)
	40.4	NA (BC)	
Criterium C - PROFESSIONAL COMPETENCES			-
The minimal national standards to certificate the competences have to be defined. Many functions are under control in the criterium A.1. Managerial abilities, in particular in the parameters 2 and 8.			-
Criterium D - EFFECTIVENESS AND EFFICIENCY FOR THE PREVIOUS REALIZED ACTIVITIES			-
While waiting for a statistical comparison among different regional performances, are valid the minimal national standards directly obtained from the regional informative system.			-
Criterium E - Consolidated relations with the territory			-
41 - Relations with the productive system	41.1		7.2.1 - Determination of requirements related to the product
	41.2	TAP	7.2.3 - Customer communication
42 - Relations with the territorial partners	42.1		7.2.1 - Determination of requirements related to the product

	42.2		7.2.1 - Determination of requirements related to the product 7.2.3 - Customer communication
43 - Relations with the families	43.1	NA (MA)	
44 - Assistance to job placement	44.1	VP	

Note: OSM= Operative Synoptic Manual; NA=Not applied; VP=Voluntary evidence/parameter; FP=Future evidence/parameter; MA="A" Macro typology - Mandatory education; MC="C" Macro typology - Continuous education; TAP=Apprenticeship typology; TD-H=Disadvantage and Handicap typologies; BC=Business Consortia.

The additional elements for the accreditation of structures, with "orientation activities", that have already applied both the regional OSM parameters for education-instruction activities and the ISO 9001 standard (ref. Table 1) have been elaborated from the authors and reported in Table 2.

With reference to the Table 2 it can be observed that:

the principal differences have been in bold and italics evidenced;

the formal numbers of the parameters are not always corresponding to the similar parameters listed in Table 1, but they correspond to the two Operative Synoptic Manuals (OSM) analysed.

Table 2 - Additional elements for the accreditation of structures with orientation activities (case: Faculty of Economics, University of Turin)

OSM PARAMETERS	NOTE
Criterion A.1. MANAGERIAL ABILITIES - A.1.1. Organization of activities and management of financial resources - Indicator A.1.1.a Promotion, direction and coordination of activities	
9.2 - Self-education and education oriented to research and experimentation	NA (VP, FP)
Criterion A.1. MANAGERIAL ABILITIES - A.1.2. Realization of the activities - Indicator A.1.2.a Definition of needs	
10.1 - Diagnosis/Analysis of business needs and educational and professional opportunities on the territory	
10.2 - Analysis of availability and diagnosis of orientation needs for potential customers	
11 - Promotion of the orientation services	VP
Criterion A.1. MANAGERIAL ABILITIES - A.1.2. Realization of the activities - Indicator A.1.2.b Design of the activities	
12.1 - Orientation instruments, methodologies and materials adequate to different customers	
12.2 - Basic design for the orientation activity (macro design)	
13 - Reception, filtering or screening	VP (13.6)
14 - Budget definition for the orientation activity	
15 - Research projects realization and production/adaptation of innovative materials, also with use of New Educational Technologies (NET)	VP
Criterion A.1. MANAGERIAL ABILITIES - A.1.2. Realization of the activities - Indicator A.1.2.c Realization of the activities	
18 - Orientation personnel assignment on the basis of the competence	
19 - Not orientation personnel assignment on the basis of the competence	
20 - Executive design (micro design) for the orientation activities	

21 - Integration among functions/processes	
22 - Promotion and advertising for the orientation activities	VP (FP) (22.2-3)
23 - Orientation secretariat	VP (23.2)
24 - Orientation “contract” for different customers and activities	
25 - Verification of correspondence between activities and customers initial level	
27 - Realization of orientation activities and in progress monitoring	
30 - Final report for the orientation activity	
31 - Competences certification system	VP (FP)
Criterium A.1. MANAGERIAL ABILITIES - A.1.3. Monitoring and evaluation - Indicator A.1.3.a Monitoring of the activities and evaluation of the results	
32 - Evaluation of the orientation activities	
Criterium A.2. LOGISTIC ABILITIES - Indicator A.2.2. Infrastructures	
37 - Equipments and instruments for orientation activities	VP (FP)

Note: OSM= Operative Synoptic Manual; NA=Not applied; VP=Voluntary evidence/parameter; FP=Future evidence/parameter; TD-H=Disadvantage and Handicap typologies.

Conclusions

The illustrated methodology of punctual comparison among the characteristics of two (regional and international) different models allowed to create an operative integrated tool, that could be experienced in similarly structured high educational entities.

The case implemented in the Faculty of Economics of the University of Turin was deeply analysed from the internal advisory “Quality and Accreditation Committee”, during the top management reviews and during the internal-third part audits (according to the ISO 9001 requirements and the regional accreditation parameters).

The principal results of the complete auditing activity on such an integrated Quality Management System (i.e. international-regional, including both education-instruction and orientation activities) is object of the second part of the work (Note 2) 6.

It can be finally evidenced that, in order to further improve such a simple integrated system, some other exigencies (with particular attention to other Faculty stakeholders satisfaction and social responsibility aspects) have been kept in account 7, 8.

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THE QUALITY CERTIFICATION AND ACCREDITATION EXPERIENCE IN THE FACULTY OF ECONOMICS OF THE UNIVERSITY OF TURIN (Note 2)

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Introduction

As evidenced in Note 1, in 2007 the Faculty of Economics of the University of Turin, firstly in Italy, obtained both two accreditations from a regional Institution (Regione Piemonte) - respectively for “instruction and orientation activities” - and the ISO 9001:2000 certification, for the scope “planning and providing services for student career orientation, university education and job placement”.

The first part of the work (Note 1) has analysed the characteristics of the two (regional and international) different models, in order to supply an operative integration to be experienced in similarly structured high educational entities.

This second part of the work (Note 2) summarizes the principal methodological aspects and results (for instance observations, complaints, appreciations and improvement proposals) deriving from the internal and external auditing activity - both for ISO 9001 certification and regional accreditation - in the Faculty, in order to give some useful elements to be considered during the implementation and the surveillance-maintenance of such an integrated regional-international model.

The auditing process for an integrated Faculty Quality Management System

The particular integrated Quality Management System (QMS), implemented in Faculty of Economics in the University of Turin - actually in a phase of surveillance-maintenance and improvement - has been realized accordingly both to international requirements (i.e. the ISO 9001 standard 1) and to regional requirements for the accreditation of structures with “instruction and orientation activities” [i.e. the “Operative Synoptic Manuals (OSM)” of the Regione Piemonte 2, 3].

The process of integration among different documents (ISO 9001 standard, regional OSM for structures with “education-instruction” activities and additional elements for the accreditation of structures with “orientation activities”) - deriving from a personal elaboration of the authors - has been synthesized in the Note 1 4 .

The “certified-accredited” integrated QMS of the Faculty of Economics in the University of Turin can be schematised in a three levels (strategic-operative-recording) documental structure, as indicated in Scheme 1. The QMS structure includes:

a “Quality Policy”, useful to formalise and communicate the Faculty strategies and objectives 5;

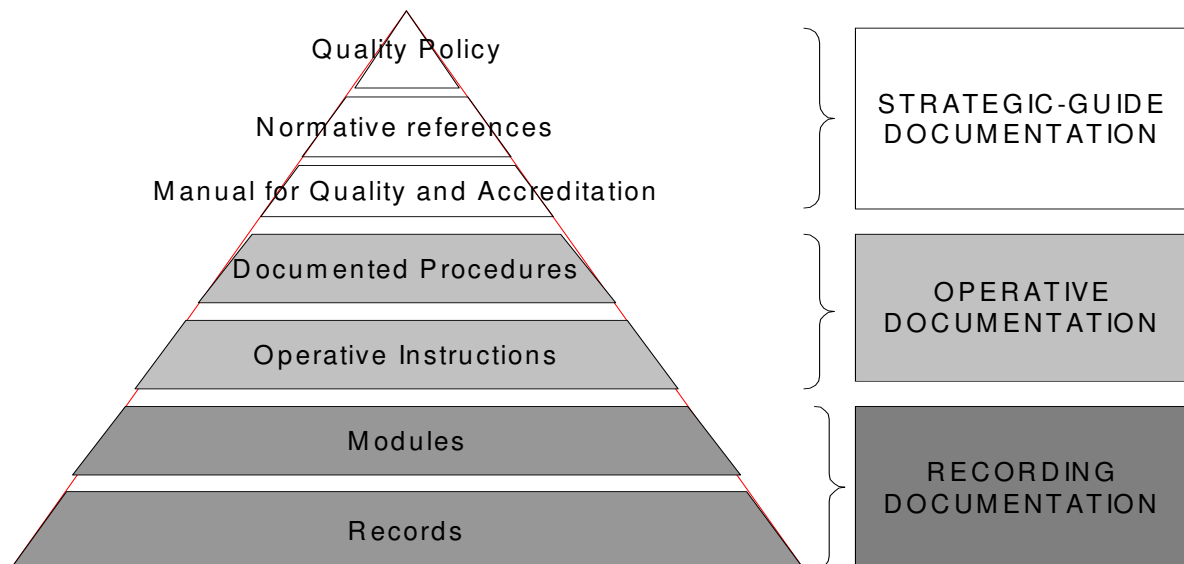
documented “Procedures”, illustrating both the operative modalities and the responsibilities, in order to realize the process(es) control 6;

“Operative Instructions”, evidencing some detailed/more operative modalities 7;

“Modules” 8, useful to realize the correspondent Records;

“Records” 9, necessary to give an evidence of conformity to the international/regional normative requirements and to measure the effectiveness of the QMS.

Scheme 1 - Three levels documental structure of the Faculty Quality Management System (QMS)



Source: Faculty of Economics in the University of Turin, Manual for Quality and Accreditation, Edition 01, Revision 00, 14 May 2008, Section 4.2. - Documentation requirements.

In order to improve the effectiveness of the outputs deriving from the Faculty internal decisional-advisory-operative Committees (“Faculty Council” a, “Quality Group” b and “Quality and Accreditation Committee” c) activities, from the top management (Faculty Dean) reviews and from the internal-third part audits (according to the ISO 9001 requirements and the regional accreditation parameters), the following Procedures have been formalized in the QMS: Review 10; Internal audits 11; Management of nonconformities 12; Management of emergencies 13; Management of corrective actions 14; Management of preventive actions 15.

During the above decisional-advisory-operative, review and auditing activities many elements emerged, useful to improve the QMS of the Faculty of Economics. The resulting elements have been classified - according to the above Procedures - for different stakeholder (student; professor; technical-administrative personnel; tutor; stagiaire; company referent; supplier; family;...) and in four different categories (observations; complaints; appreciations; improvement proposals).

A similar stakeholders satisfaction analysis, deriving from the different fulfilled “Stakeholders Questionnaires” of the Faculty QMS, has been reported in an other work 16.

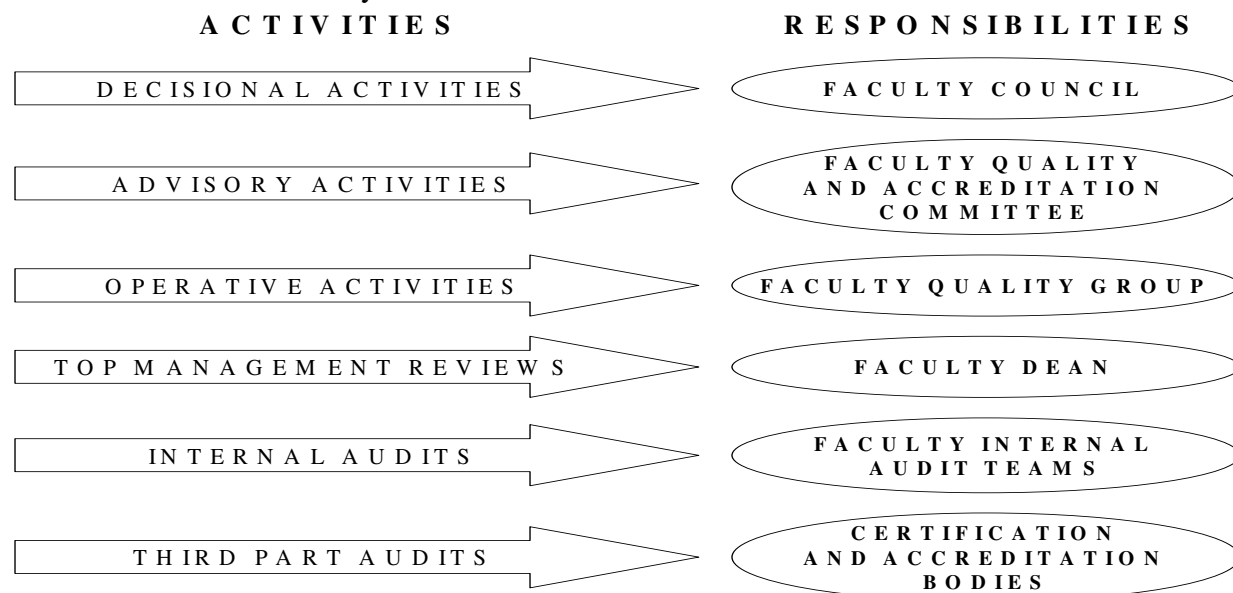
^a Decisional Committee, with the Faculty Dean as a chairman, whose composition includes Faculty Professors, Researchers representatives and Students representatives.

^b Advisory Committee, whose composition includes five Faculty experts (3 Professors, 1 Assistant Professor and 1 Researcher) and the Faculty Quality and Accreditation responsible.

^c Operative Committee, with the Faculty Dean as a chairman, whose composition includes all the Faculty interested resources: Professors, Researchers, Students representatives and technical-administrative Personnel.

In the following part of this Paper the authors aim to evidence the results of the Faculty of Economics decisional-advisory-operative, review and auditing activities (Scheme 2), in order to give some useful elements to be considered during the implementation and the surveillance-maintenance of such an integrated regional-international model in similarly structured high educational entities.

Scheme 2 - Decisional-advisory-operative, review and auditing activities in the Faculty of Economics in the University of Turin



Decisional-advisory-operative, review and internal auditing activities

The decisional-advisory-operative activities have been synthesized in the minutes of the respective Committees meetings.

The decisional moments in the Faculty Council, for the accreditation and/or the certification of the structure, were always characterized by a very elevated grade of consensus (100%) among all the participants.

Among the results of the advisory meetings (“Quality Group”) an elevated number of micro-proposals to improve the documentation of the Faculty QMS, in particular with reference to: Faculty description; Organization Charts and Subdivision of Functions; Matrix of responsibilities and (macro)processes; Quality Policy; Social responsibility Code; Stakeholder satisfaction Questionnaires; Manual for Quality and Accreditation; some documented Procedures, Operative Instructions and Modules.

Among the results of the operative meetings (“Quality and Accreditation Committee”): a classification with “grade of priority” (through the “consensus”, measured with the number of participants) for new improvement proposals; a consolidated appreciation for the utility of the Faculty accreditation/certification process; an appreciation for the already accredited Degree courses; some critical observations about the risk of bureaucratisation of the Faculty procedures; an appreciation for the good results deriving from the systematic stakeholder Questionnaires; a proposal for increasing the number of meetings, because the constitute a valid tool to improve the quality of the didactics.

The minutes of the “Faculty Dean Reviews”, according to the relative documented Procedure, were structured in the following points: introduction; actions consequent to previous reviews; analysis of previous improvements plans; internal audits; not conformities, corrective and preventive actions; information from students and/or other stakeholders; process(es)

performance(s) and conformity of services; decisions and Review conclusions; education plan for the personnel; any other business; enclosed.

The Reviews minutes evidenced some indications to improve the Faculty QMS and the importance of monitoring the (macro)processes with a “system of indicators”: the grade of attainment for the objectives was included in the improvement plan of the Faculty. An improvement proposal, as a conclusion of the Dean Review process, refers to an increasing level of integration between the Faculty QMS and the policies/strategies of the “Evaluation Group” in the University of Turin, in particular with reference to the theme of “Faculty indicators”.

The internal audits were conducted using an internally elaborated check-list : the outputs of the audits were many observations, improvements proposals and two not conformities [in particular with reference to: a) necessity of educational actions for all the technical-administrative personnel (ISO 9001, regional accreditation, occupational safety); b) realization of a quantitative “evaluation scheme” for all the Faculty suppliers].

External auditing activities

The Faculty QMS has been object of two different third part audits:

regional accreditation and surveillance-maintenance audits (accreditation body: Regione Piemonte);

ISO 9001 certification and surveillance-maintenance audits (certification body: Det Norske Veritas).

The regional accreditation and surveillance-maintenance audits (2007-08) evidenced: “a complete, well structured and widely applied quality and accreditation system”; that during the auditing process “did not emerged not conformities or lacking areas, but was very appreciate the particular involvement of the resources finalized to the accreditation process(es) management”; that “the integrated system - first example in the University of Turin - allows a light/fast management of the documentation”; that this significant project “interfaces with all the Faculty stakeholders” and “offers worthwhile solutions for the customers/stakeholders satisfaction measurement, the data treatment, the planning and development of the educational service, the resources management and the keeping under control of the records”.

During the ISO 9001 certification and surveillance-maintenance audits (2007-08) didn't emerged “not conformities”, but were evidenced: “the commitment of the Faculty Dean”; “the involvement/sharing of the professors”, “the excellent management of the quality system aspects”, the “planning management well under control”, the “analyticity of the quality indicators”.

Among the principal observations: the necessity of specific actions to increase the use of the Faculty informative system (KLIPS), for the professors; a better integration with the Faculty QMS, for the courses “not in presence” (Nettuno); an improvement in the documental Faculty Safety Management System, in particular in connection with the external sites of the Faculty (Asti, Biella, Cuneo and Pinerolo); the necessity of definition of a single “owner”, responsible for each preventive/corrective action.

Among the principal improvement proposals it can be evidenced the opportunity of a better definition of the students initial orientation indicators, to be enriched with other elements useful to evaluate the effectiveness of the orientation process (for instance in order to effectuate a monitoring for the “low potential students” that however matriculated).

Conclusion

As a consequential evolution of the described (Notes 1 and 2) Quality Management System, implemented in the Faculty of Economics (University of Studies of Turin), it could be analysed the possibility of verifying the applicability - for the Universities - of single Management Systems for Quality, Safety, Ethics and Environment and, then, studying their evolution towards a possible “Integrated Management System” model, deriving from a synergic interaction among the aspects of quality and social responsibility (safety, ethics, environment).

A last but not least observation is concerning the complexity of such an integrated QMS and the consequent difficulties/criticalities in keeping it active: in order to maintain a good QMS in a University structure - and in general in all types of organizations - it should be necessary to formalize an effective operative staff/secretariat that systematically and timely supplies the “management representative” (i.e. normally the so-called “QMS responsible” or - as in the above analysed structure - the “Faculty Quality and Accreditation responsible”) with all the useful information to manage the Faculty/University (macro)process(es).

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CORPORATE UNIVERSITY AND COMPANY'S COMPETITIVENESS: THE CASE OF LIDL ITALIA

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1. Corporate Universities: a definition

In recent years the world of economics and enterprises has undergone deep changes.

Organizations tend to focus on core business, they develop through innovative forms, their boundaries appear more and more undefined, and they feel the need to be flexible in order to create a widespread knowledge, not limited to specific and independent areas of activity, to socialize knowledge, to manage the communication of the know-how at every level of the company.

Rather than as producers of goods and services, companies tend to configure themselves as producers of knowledge, which generates enduring value and profit¹. Active protagonists in this process are the human resources, who become the main source of competitive advantage². However, as their historical background of knowledge is undermined by an increasing rate of obsolescence, a constant updating process is necessary. In this field, the understanding and development of strategic competences become significant. In the evolution of the psychological contract between the employee and the company, constant training tends therefore to be worth more than the safety guaranteed by the collective labour agreement. The individual employee is asked major responsibilities in sustaining the quality of his/her place on the work market, but the training process must fundamentally be supported by the company and/or the institutions³.

One of the most interesting experiences to this regard is the Corporate University (CU), defined by the American training expert Jeanne Meister as "the strategic umbrella for developing and educating employees, customers, and suppliers in order to meet an organizations' business strategies"⁴. The definition expresses the double aim of providing specific training for the company's personnel and to promote a common view of the company.

The first example of Corporate University traces back to the School of Crotonville (located in Ossining, New York), currently considered *the world's first major corporate business school*, created in 1956 by General Electric with the aim of accompanying the society's decentralization process with a training action that facilitates the vocational guidance of the managers in the new context⁵.

¹ For a further analysis of the concept of learning organization see Peter Senge, 1990.

² See Jeffrey Pfeffer, 1998.

³ See Daniele Boldizzoni, Giorgio Ghezzi, 2000.

⁴ See Jeanne Meister, 1998.

⁵ General Electric (GE) has long been known for developing some of the best leaders in business and some of the most widely practiced business techniques. Worldwide GE invests about \$1 billion annually on training and education programs - from assembly lines to corporate classrooms to boardrooms. Although the scope of GE's

A few years later, in 1961, Fred Turner, McDonald's former senior chairman and Ray Kroc's first grillman, founded the Hamburger University with its main office in McDonald's restaurant in Elk Grove Village (Illinois), which was aimed at training managers and creating franchising opportunities in the field of fast food restaurants. Thus, McDonald's has supported its international expansion, taking care to transfer to all of its collaborators, employees and external collaborators, as well as the company's values and management abilities, in the common spirit of unity⁶.

The phenomenon of Corporate Universities has developed widely with over 2000 CU in the world (most of which in the US) as documented in the website www.corpu.com. They are connected mainly to large international companies which are experimenting new approaches for individual and collective learning during the work activity, searching for opportunities which allow the introduction of a new way of thinking within the organization. At the same time they try to guarantee that all the activities of the company contribute to ensure a shared knowledge⁷.

Therefore, there is "a processual conception of training, in which the relationship between individual and organization is continuously redefined in a partnership logic in order to activate learning opportunities and processes which can create value" for both sides⁸.

The European companies have started this process later than the American ones; the process is currently increasing and as far as Italy is concerned, strongly characterised by small- and medium-sized businesses, there are large groups such as Fiat (the first in Italy with Isvor, created in 1972)⁹, Telecom, Enel, Eni¹⁰, Barilla, Unicredit, Generali, which developed

activities is global, the epicenter of its commitment to excellence in organizational development, leadership, innovation and change is Crotonville, the world's first major corporate business school. It is a key center of debate and refinement of the waves of strategic change that have made GE one of the world's most competitive and successful companies. It is both the source of refinement of the gospel and the place where it is debated and driven home across the GE management structure. Through Crotonville programs, GE people are tackling new business problems from around the world and sharing knowledge with customers, suppliers and business colleagues. Crotonville plays a crucial role as an agent of cultural change at GE.

See <http://www.ge.com>

⁶ McDonald's is the first restaurant company to develop a global training center.

Since its inception, training at Hamburger University (HU) has emphasized consistent restaurant operations, procedures, service, quality and cleanliness. It has become the company's global center of excellence for McDonald's operations training and leadership development.

Since 1961, more than 80,000 restaurant managers, mid-managers and owner/operators have graduated from this facility.

Course materials are available in 28 languages, and class discussions may be simultaneously translated into as many as six languages. McDonald's has 139 country and regional training centers that provide training based on the HU restaurant management curriculum.

In 2005, the American Council on Education (ACE) - the largest higher education association in the U.S. - extended recommendations for college credits to all McDonald's restaurant management and mid-management courses. These credits can be applied toward a college degree. McDonald's is currently the only restaurant organization in the U.S. with recommendations for college credit from ACE. See http://mcdonaldsemail.com/corp/career/hamburger_university.html

⁷ To quote just an example, the well known American oil company writes in the 2000 Annual Report: "it believes the development of employees at all levels is critical to personal and business success. Conoco University (CU) - a comprehensive global approach to learning - focuses on expanding employees' personal leadership skills by exposing them to excellent teachers and hands-on experiences. In addition, CU's 'Trailblazer executive development program' is recognized both inside and outside the company as an innovative approach to developing leadership excellence".

See Marco Minghetti, 2002.

⁸ See Daniele Boldizzoni, Giorgio Ghezzi, 2000.

⁹ Isvor Fiat is the corporate university and training service provider of the Fiat Group. It operates in collaboration with the companies of the Group, choosing and personalizing the methodologies and contents on their needs, in order to support the updating of the competences. As a CU, it has the task to help the societies of

internal training centres at a national level. An example recently followed by other companies such as Geox, Illy, Alpitour, Seat Pagine Gialle¹¹, Kerakoll, and so on¹². The missions can regard the support to cultural integration, to the development of management leadership, in relation to the processes of acquisition and international development. Otherwise the priority can be the communication to employees of the know-how on products and the main processes of the company. In any case, “Corporate Universities aim at having excellent networks for training, constituted by managers and experts from within the company itself, as well as by external people”¹³.

The analysis of the literature provides the main characteristics of Corporate Universities:

- *plurality of the agents involved*, from the single internal employee to groups of employees, clients, suppliers, partners (other kinds of schools, besides universities), teachers (belonging to the academic world, consultants, managers of the company);
- *delocalization*, because the priority of the learning process is networking and the communication of organizational knowledge;
- *use of Information & Communication Technology tools*, “which re-qualifies learning as a dynamic of participation within a company’s community and professional communities which reproduce competences and identities”¹⁴;
- *action learning*¹⁵, as learning methodology;
- *connection*, to be coordinated, *between employees’ needs, training process and business strategic aims*.

The following paragraph will illustrate the experience of Lidl-Italia in the field of company’s training, analyzed by means of a structured interview to the person in charge of the company’s training projects, which highlighted further issues for research and which allowed to develop the conclusive elements for reflection which will be illustrated at the end of the present paper.

the Group to develop values and behaviours in management as well as an adequate distinctive leadership to sustain competitiveness. As a service provider, it has to ensure an efficient, high-quality training, able to meet the specific needs of the single sectors. It operates on a wide range of contents, exploits multiple training methods and technologies and avails itself of a wide net of collaborations (managers, experts, national and international consultant societies, polytechnics, universities, business schools, research centres). For further information, see www.isvor.it

¹⁰ Eni has started the project of rationalization and re-launch of the training activities and company’s culture by creating a Corporate University where everyone belonging to the field of training and knowledge management could operate in a more effective and synergetic way. The Corporate University has been founded as a society in order to guarantee a more effective access to funding systems, as well as operational flexibility, a more transparent control of costs, a more efficient service orientation, direct participation and responsabilization of the societies of the Group. See www.cestor.it/enti/eni.htm

¹¹ Seat corporate university, belonging to Seat Pagine Gialle, operates since January 2005. It’s also dedicated to the customers’ training and to small- and medium-sized businesses’ consultancy in the fields of communication and marketing.

Cfr. Silvana Saturno, 2006 e cfr. www.seatcorporateuniversity.it

¹² See Lucia Scopelliti, 2008. For a further analysis on the main Italian experiences of Corporate University see the 2003 Asfor research, which presents the analysis of 25 CU cases with reference to their targets, areas of intervention, essential characteristics of the training offer, company’s functions involved in the training, suppliers, partners, most used supply methods, evaluation methods and learning certification.

¹³ See Alessandra Ferretti, 2007 and Alessandra Bonetti, Paola Pignatelli, 2004. On this topic, see in particular Salvatore Garbellaro, 2006.

¹⁴ See Giovanni Costa, Enzo Rullani, 1999.

¹⁵ “Knowledge will continue to move away from the theoretical to the applied, driven by demands for immediate and practical application and by the need for executives to relate tangibly to business and environmental situations around them”. See Jay A. Conger, Katherine Xin, 2000.

2. The case of Lidl Italia Academy

Lidl started its activity in the 1930s, when Lidl & Schwarz Grocery Wholesale was founded in central Germany. In the 1970s, the company diversified into discount food stores (Lidl) and supermarkets and hypermarkets under the trading names Kaufland and Handelshof.

Today Lidl, owned by the Schwarz group, is one of the 10 leading grocery retailers in Germany. Lidl's great expansion took place in the 1980s, after the opening of the first discount stores in the previous decade. However, the company is now well established also at a European level, thanks to the most extensive network of stores in the discount sector. Today, Lidl can be found in 22 countries; it has more than 7.800 stores and 130.000 employees.

For the future, Lidl aims at continuing to play a major role as a food retailer by sticking to its already famous strategy of always offering "the highest quality at the lowest price"¹⁶.

Lidl Italia srl was founded in 1991, operating as a large-scale retailer with 480 stores. In 2007, Lidl Academy was created, whose role is to focus on staff training. Lidl Academy is located in Arcole (Verona, Italy), next to the General Administrative Offices, in a 3-floor building dedicated to training courses and masters directly organized by the company. The school, which occupies about 1500 square meters, has two rooms with 100 seats each as well as other smaller rooms for role plays and a specialised library. The training activities started on January 1st 2006, and until the completion of the new school building the courses were taking place at the various Lidl headquarters around Italy¹⁷.

The training is intended for those occupying or aiming to occupy key roles in Sales, and the programs are focused both on technical and managerial/administrative issues, through theoretical and practical lessons.

The technical issues represent about 60% of the training and intend to transmit specific knowledge about work methodologies, internal procedures etc. The remaining 40% of the training deals with managerial/administrative issues about work legislation, commercial contracts and so on.

¹⁶ As revealed by the company's principles, customer satisfaction is the cornerstone of Lidl's philosophy:

Customer satisfaction drives our action
 Outstanding value for money determines our market
 Efficient decision making and simple procedures ensure our success
 We expand faster than our competitors
 It is our duty to be fair to everyone in our organisation
 We respect and support each other
 Agreements are made and kept in an atmosphere of trust
 As a branch organisation we work with a system
 Praise, recognition and constructive criticism shall determine our working atmosphere

¹⁷ The Regional Headquarters are located in Arcole (VR), Volpino (TO), Biandrate (NO), Somaglia (LO), Sesto al Reghena (PN), Massa Lombarda (ra), Anagni (FR), Pontedera (PI) e Molfetta (BA). The training courses were initially held in their meeting rooms.

The courses' organisation is based on an alternation between theoretical lessons and practical, on-the-job training, with company's tutors supporting the participants during the various stages¹⁸.

The teachers are selected among the company's personnel and, since recently, also among external recruits, thanks to the cooperation with other public and private institutions.

The Lidl Academy's staff is actually constituted by 24 people, all employees of the company - former sales managers - selected through a process based on interviews, and trained through specific courses¹⁹. The teachers do not only work as teachers, but they also plan the courses' contents²⁰, support the trainees as tutors during the on-the-job training and follow them on their place of work, verify the quality of their learning and possible problems and needs for improvement.

The training staff represents a real reference point in case of working or personal difficulties deriving from the encounter with a dynamic job, where the ability to work by objectives is fundamental.

Thanks to the specific technical knowledge and to the professional experience, the teachers are able to communicate reliability and to propose coherent training courses. This last aspect is particularly relevant if we consider the unrelenting acceleration of processes in retailing.

Training is thus at the basis of the company's philosophy, which considers human resources as its real engine.

The complexity of the milieu makes competences and autonomy particularly relevant features, so that an appropriate training represents a strategic resource in order to guarantee a high level of specialization of the personnel.

In fact, Lidl believes that employees will work better and be more motivated if they know how to carry out their tasks and if the aims and the underlying logics are clear. It is not enough to say that a certain procedure is important: it is also necessary to explain why it is important, so that the employee can fully understand the significance of his/her job for the company and the company's consideration for his/her job.

Lidl has fostered three training paths: the *Progetto Master* (the Master Project), the *Progetto Capi Filiale* (the Store Managers Project) and the *Progetto Apprendisti* (the Apprentices Project).

The Master Project is intended for young university graduates, in any subject, who want to start a career in large-scale retail trade. Lidl offers them a permanent contract at managerial level ("livello Quadro") according to Italian Employment Law in the commercial sector. The Master, which lasts 8 months, aims at training the future District Managers, who will supervise 4/5 stores and lead a team of about 50 people. The District Manager will thus need communicative and leadership skills, as well as the ability to delegate and coordinate. Flexibility, team-work skills and problem-solving skills are also fundamental. In particular, he/she will be responsible for the economic and commercial management of the stores, supervises the right application of the company's directives and of the norms on safety and hygiene at work, directs the selection process and plans ad hoc trainings for his/her employees.

¹⁸ The teacher follows very carefully the trainees during their learning and helps them thanks to his professional experience. The courses adopt a mixed didactic method and are based on the skills and competences of the internal personnel.

¹⁹ In 2005, the staff was constituted by 5-6 persons. In 2006/2007, the number had already doubled to 12-14 persons.

²⁰ On the other hand, the courses organized in collaboration with external partners are co-planned with the partners themselves.

The Store Managers Project is intended for university or high-school graduates, and it aims at training store managers able to lead a team of about 20 people. The course lasts 4/5 months, alternating 2/3 days of theoretical lessons with periods of on-the-job training, and it offers the opportunity to get a first-level permanent contract (“primo livello”) according to Italian Employment Law. The roles of the store manager include the application of the company’s directives and the compliancy with the norms on safety and hygiene at work, planning and organizing the operational activities such as customer care, checking stocks and ordering goods, carrying out administrative tasks.

The Apprentices Project is intended for young high-school graduates. It was started in November 2005 and it aims at training a team of employees able to support the store managers and to become store managers themselves in about 3-4 years. The training lasts 1 year, and it includes 10 to 12 three-day lessons, alternated with on-the-job training. They usually offer a 48-month apprentice contract.

The contents of the three projects are quite similar: analysis of the retail division; commercial aspects and sale logics; human resources management, management of the relations with labour unions and conflict management; Information Technology applied to the store management; planning and analysis of costs; time project management; norms on safety and hygiene at work. However, the language, support services and levels of elaboration are different for each course.

Lidl also invests in periodical refresher-training sessions for the employees (for example, cold chain logistics, norms on work, store layout...).

The teachers can use different didactic instruments such as films, case histories, role playing, story telling, exercises, group works, halfway or final tests, and simulations, which can also take place directly in the store (from personnel selection to merchandise layout). The courses are intended to be strongly interactive.

The didactic material provided to the trainees includes a manual, edited by three members of the training staff, whose contents are analysed in detail during the theoretical lessons.

The Italian retailing industry, characterized by huge investments in the opening of new commercial structures and by the constant search for young, motivated people, has led Lidl to start collaborations with Universities and vocational schools, which will organize with their teachers specific lessons aimed at exploring the areas of competence of the retail management.

In particular, collaborations with the following institutions have been started:

- the *Centro Studi Comunicare l’Impresa* (CSCI), which operates since 1993 in the sector of high-level training and consultancy.

In May 2007, Lidl organized in Bari with the CSCI a Master in Retail & Distribution Management for training Junior Retail Managers, with the aim of offering a complete managerial training that guarantees specific competences in the area of retail and distribution management. The Master was intended for university graduates under 30, dynamics, motivated, flexible and with team-work and problem-solving skills, willing to relocate to other cities, especially where new branches are being opened. The course is articulated in different phases, theoretical and practical, for a total of about 670 hours, divided into distance learning, classroom lectures and a 3-month paid internship, useful for understanding whether the trainee is fit for the proposed job. The CSCI was in charge of the human resources recruitment for Lidl in the South of Italy, and it also dealt with the organizational aspects of the Master, while Lidl run the course with its teachers.

- *Infor - Athena Group*, for the Specialization Master in Junior Retail Management, which aims to provide the participants with the managerial skills required in the Retail Management area, and to allow them to start a preparatory internship for a possible

future hiring by Lidl. The Master takes place at the School of the Centro Direzionale Milanofiori in Assago (Milan) and it includes 42 days of theoretical-practical training (344 hours of lessons), with compulsory attendance, and a 3-month paid internship in one of the Lidl stores.

- the *University of Verona*, since February 2008, for the organization of a Post-graduate completion course in Retail Management. The course aims at providing the participants with the necessary skills for managing a modern retail store and the technical knowledge required in the area of retail management, with particular reference to the Retail segment²¹. Moreover, it aims at developing the market analysis skills of the participants, as well as care and attention for the customer and for co-workers. It is intended both for young graduates looking for a specialized training helping them to find a job, and for workers looking for professional updating in order to expand their competences. The course is organized in 7 modules, each lasting between 16 and 28 hours, to be carried out in one week following a schedule which is different for every module, for a total of 160 hours, distributed between lectures and company's visits, with compulsory attendance. The course involves University Professors and Researchers, as well as professional trainers and managers, who will propose exercises and case histories specifically created for facilitating the understanding and the ability to manage the dynamics of the Retail segment.

The partnerships with external institutions represent a consolidation of the internal training and derive from the company's will to confront itself with other training professionals in order to improve its work, as well as from the necessity to broaden its recruitment channels.

The choice of the partner is based on several criteria: first of all, the partner's prestige, its experience in training, the proximity to the Lidl headquarters, which facilitates the creation of a strong synergy.

The Masters' participants have shown a high motivation. They comprehend the company's interest for this kind of training, and for the sharing of values and goals; they appreciate the feeling of involvement experienced during the training, the didactic material, the punctuality and reliability of the teachers; they also consider the training very useful for their work placement. The possibility of a professional growth based on merit, which is the philosophy adopted by the company, is definitely stimulating.

The training experience also acts crosswise on the general company atmosphere, because it increases the reliability of the company and the personnel's sense of belonging, favours socialization, and allows the employees to get to know directly the company's management. This kind of personal contact is certainly enriching for everyone involved.

The training model adopted by Lidl is the result of a gradual growth, deriving from various revisions and adjustments operated day after day, experience after experience. It is thus not a static situation: whenever there is a feeling that something should be changed, the necessary changes are implemented.

The retail sector has more and more increased its importance in the economic system, since the value creation for the customer has moved from the moment of the goods' and services' production to the moment of their selling.

Retail trade, and in particular large-scale retail trade, is one of the most dynamic economic sectors both at national and international level, where the companies' growth leads to the constant implementation of initiatives on the part of the different players.

²¹ From the planning of economic and commercial policies, and of the selection and training of new personnel, to the enforcement of the norms on safety and hygiene at work.

Retailing thus requires more and more specialized and up-to-date competences and professionalism in order to provide commercial companies with the knowledge required for improving their competitiveness and growth.

Lidl Academy has already offered 120.000 hours of training per year, and trained about 500 people who, since the very first day of their training, have been hired by the company at the best possible levels according to Italian Employment Law.

3. Conclusions about the illustrated experience

Lidl training project cannot yet be proposed as a laboratory for the exploration of new possible activities in the future and directions for the organization, where questions and challenges can be set, however it might become such.

At the moment it aims to consolidate a business formula which has proved successful and aspires to lead the management of change. Although the direction and nature of the latter are decided elsewhere, the direct contact with the company's management (President, Board of directors, Managing Director, Human Resources Manager) increasingly integrates training with the company's vision, mission, values and strategy²².

The effort tends towards the improvement of the existent training processes, the consolidation and enlargement of the external collaborations' network, which will require more and more consistent investments in the near future, and which Lidl intends to face. From this point of view, the company is also working to access the existent financing opportunities promoted by the European Community (European Social Funds) and by the Regions, for the support of multiple training projects, both for those already activated by the companies and for potential ones.

Regarding the introduction of new training methodologies, the company is not going to include outdoor training programs, because it does not deem them fit to the learning aims of the internal personnel. Currently, the ones under experimentation are organized by external societies and are intended only for the top managers.

In the near future the development of e-learning could be promoted, because it would allow a centralized coordination of the training process, characterized by flexible timetables, and of the Store Managers dislocated on the whole national territory. Moreover, a web-based training system can be adjusted to the training needs of the individual person, without the need for particularly sophisticated devices, and it will provide a reduction in the company's costs, such as mileage allowances, rentals or mortgages, etc. In particular, the know-how could be communicated promptly by "putting knowledge on the net"²³.

However, attention should be paid to one of the main problems of e-learning, that is, the difficulties of the learner in having a break from the contingent professional requirements; as he/she often attends the e-course from his/her/ workspace, he/she is often interrupted and therefore the course becomes more a burden than a necessity.

It must also be considered that if Corporate Universities, in collaboration with universities, management schools and other organizations, could transform themselves into

²² According to a study by Renaud Couloin, over 90 per cent of Corporate Universities aims to the emergence of the company's values, to the improvement of the integration between people and companies, to facilitate the actualization of big strategic changes. The direction CU are following is characterized by "major emphasis to entrepreneurship in behaviour and decisional choices, aggressive market presence, tendency to the innovation of methodologies, recourse to alliances in order to gain new competitive advantages" (My translation). See Salvatore Garbellaro, 2002.

²³ See Giovanni Costa, Enzo Rullani, 1999.

laboratories of experimentation and best practice in the use of e-learning technologies combined with other methodologies (rooms, coaching, outdoor etc.), the whole training field would profit from this²⁴⁻²⁵.

This is particularly true in a fragmented economical pattern like ours, where the subjects are clearly weaker (apart from cases of excellence) if they act individually, but they demonstrate big potentialities in a situation of collective synergy.

As already mentioned, the experience of Lidl has gradually and continuously developed and it has been accompanied by a progressive awareness of the company's training potential, which was formed on the basis of the company's values and culture²⁶. The connection with the policies of internal resources' growth is an element which tends to connote training as a processing instrument for the implied knowledge present in the organization and as an interpretive tool for the company itself.

The degree of mental openness with which the organization will be able to look at its internal and external resources will contribute to delineate its new learning frontier. Some of the questions to be faced are already under discussion:

- what kind of correlation there is between Lidl's training project and commitment and the company's competitiveness;
- how the efficiency of the activated training processes can be evaluated, that is, how the efficacy of training on the performances can be measured;

Lidl is trying to find some quantitative and qualitative measurement modalities.

The tests, the exercises made in the classroom during the week, and the field work allow to monitor the status of theoretical and practical learning (that is, the acquired level of competences and knowledge).

This can be seen as entirely or mainly deriving from the considerable investment which has been made in human capital, thus showing reliability and offering a guarantee of continuity, as well as some favourable conditions such as a reduction in turnover, a higher level of internal cohesion and socialization, an improvement of the productive processes, the ability to keep talented people...;

- which is, if present, the contribution of the Lidl training project to the creation and consolidation of the company's identity, with reference to two related aspects: the organizational identity, that is, the values and distinctive traits which are perceived from the inside as fundamental characteristics; the corporate identity, that is, the image that a company communicates to the outside, through the logo, visual, premises, but mainly through products, services and behaviours²⁷.

The company's identity determines the development of feelings of pride and belonging and influences the company's reputation, intended as the relatively stable opinion which the different interlocutors of a company have about its ability to meet their expectations;

²⁴ See Giuseppe Perrone, 2003.

²⁵ "Corporate Universities and e-learning focus on a necessity which also becomes a great opportunity for companies and people: learning itself is a continuous process. People naturally tend to develop new knowledge; they should constantly look for new knowledge for the company" (My translation). See Tiffany Keith, Laura Saldarini, 2002.

²⁶ The concept of "company" is intended as an educational place. See Pierfranco Pellizzetti, 2002.

²⁷ For further details on the concept of identity and corporate identity see David Bernstein, 2005.

- what are the potential risks for the organization if the conditions at the basis of the implementation of the activated training projects and their consequences are not monitored²⁸;
- how the company can enlarge its training commitment.

In recent years, CU have tended to become profit centres and to extend their activity towards the external market exploiting the “pay for service” logic²⁹. We are witnessing a phenomenon in continuous development, which also shows many ambiguities. The term CU risks to include very heterogeneous realities: some focus only on the managers’ training, some sell services to external subjects, some are more structured and some others define themselves as such without even having a budget³⁰.

CU do not include universities nor business schools. They are organisms directly controlled by the corporations which generated them and which only exist in function of their own strategic aims. The choice of the term University appears ambiguous, because they do not correspond to the traditional concept of “universitas” or to the current one of “university”: as a matter of fact they are not a “group of associated people” nor “a didactic and scientific institution and structure”³¹.

Maybe we should reconsidered the term in order to avoid confusion, which is destined to increase, given the activated communication initiatives.

The analysis illustrated up to this moment cannot and does not intend to be exhaustive; it paves the way to new research paths and further studies on the phenomenon of Corporate Universities, which seem to represent an interface model (actually there are multiple models still in their phase of definition or rather in a phase of continuous evolution) – among the agents directly and indirectly involved in the organization and management of the enterprise activity in the milieu of reference – consistent with the transformations in the competitive assets which are taking place on a global level.

The efficacy of such a model, as well as of other training frameworks, depends on the force with which the importance of learning how to learn will be claimed, which cannot be divorced from learning how to keep silent, how to listen and how to reflect.

“Training is and will remain necessary in any organization, because culture, competence, tradition and knowledge have to be communicated. However, the method of communication has to be updated scraping off the rust which has progressively stiffened it, rendering it more and more obsolete when the people become increasingly active and vital. We need to start again from the people, involve them, interest them with connections, provocations and stimuli

²⁸ Attention must be paid to the potential risks of the implementation of a CU model from the point of view of the company: for example, cultural homogeneity, de-responsabilization of the hierarchical structure, difficulty of integration and management, a heavier structure, the placement in the structure of unwelcome people with subsequent loss in image and reliability, the reduction of innovative drive. See Erika Lonardi, Giuseppe Negro, 2002.

²⁹ Examples of this increasingly widespread trend are Motorola, Ibm, Sun Mycosystem, Disney, Raytheon. In Europe, among the few CU working as profit centres, there are for example Axa in France, British Telecom Academy in the UK, Isvor in Italy. The latter has created a society exclusively focused on the external market. See Salvatore Garbellaro, 2002.

In Italy CU are currently focusing on the training needs of small- and medium-sized enterprises. See Elena Comelli, 2008.

³⁰ “The 2005 Annual Benchmarking Report compiled by the Corporate University Exchange of new York offers an overview of the models: 55% of corporate academies depends from functions of human resources management, 30% depends from the executives of the company and possesses a strong vision of the group’s future, 10% belongs to other sectors” (My translation). See Lucia Scopelliti, 2008.

³¹ See Daniele Boldizzoni, Giorgio Grezzi, 2000.

which they perceive as personal and focused on their own development and improvement. There is a way to stimulate learning: example and testimony. The teacher should be an example of vitality and success and welcome the participants in the classroom as if he were honoured to have such an enriching and fascinating opportunity”³².

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COMPARING CRITICAL INCIDENT TECHNIQUE AND SURVEY QUESTIONNAIRES AS A MEANS OF COLLECTING STUDENT FEEDBACK

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Introduction

In the management of service quality, organisations need to have in place appropriate mechanisms for measuring and monitoring the level of their service offering to ensure they deliver what they have promised to their users. UK Higher Education Institutions (HEIs) are no different in this respect particularly given they are now in an extremely competitive environment, with the recent growth of institutions obtaining university status. There are currently 168 HEIs, 88 of which are universities based in England (Universities UK, 2008), this excludes any foreign HEIs that are operating within UK. Importance has been placed on gathering student feedback as a means of eliciting data on their satisfaction levels with the student experience within the HE environment (Douglas *et al.* 2006). The information gathered is of interest to a number of stakeholders within HE, including the Higher Education Funding Council for England (HEFCE), HE managers and administrators and teaching staff themselves. However, according to Tam (2002) the various stakeholders have differing views about what quality within education means. According to Douglas and Douglas (2006) the direct receivers of HE at its point of delivery are the students and they argue therefore that they should be one of the primary arbiters of quality within the HE environment.

With higher fees of up to £3000 per annum introduced across the UK for an undergraduate degree and even greater fees for international students, ensuring, maintaining and improving student satisfaction is very important to HEIs. HEIs worldwide are now seeking student opinions, generally in the form of a self-completion satisfaction questionnaire. However, Aldridge and Rowley (1998) recognised the need for a more sophisticated and comprehensive methodology for the measurement of student satisfaction. Douglas *et al.* (2008) found that there was a widely used method (in other service sectors) that can be adopted for eliciting student feedback, namely the Critical Incident Technique (CIT). It remains to be seen whether this method can work effectively and efficiently across the HE sector.

Aims and Objectives

The main aim of this paper is to critically evaluate the standard self-completion, multi-question 'tick-box' quantitative survey questionnaire traditionally employed to collect student feedback in HE, against the more qualitative critical incident technique that has been recently tested within one HE context by Douglas *et al.* (2008). This aim will be achieved by reviewing the extant literature to determine the advantages and disadvantages of both feedback methods and then comparing the data gathered from university students using both approaches. Conclusions will then be drawn regarding the suitability or otherwise of the two methods. The criteria for comparison used are the administration of the survey instruments; analysis of data; quality of data; and finally how useful the data was for education managers.

Student Feedback Surveys

Surveys are used for a variety of reasons in different industries, such as marketing a new product, predicting the outcomes of elections and discovering customer attitudes and opinions. A sample can be collected in order to learn something about the larger population (Scheuren, 2004). The sample size itself depends on the level of reliability needed. There are a variety of methods in use, such as Email surveys, telephone interviews and personal interview surveys, the latter being the most expensive method (Scheuren, 2004) there are also now on-line survey services used, for example, 'SurveyMonkey' (SurveyMonkey.com, 2008). Some surveys focus on opinions and attitudes, others on factual characteristics or behaviour. However, many surveys combine both. They can contain open questions and/or closed questions. Surveys should be anonymous and confidential and in particular publication of the results should not be able to be traced back to individuals (Oppenheim, 2000).

In the spirit of continuous improvement, the student satisfaction survey was deemed a suitable tool for collecting management information for action (Knight and Harvey, 1999). The main methods preferred within UK HEIs continues to be the use of this annually administered student satisfaction survey, which is aimed at all levels and types of student, *i.e.* undergraduate, European Union (EU), post graduate, part time, full time, home (UK) and non-EU international students. Almost a decade ago Knight and Harvey (1999) contended that the methods by which student feedback were gathered were becoming more sophisticated and systematic. The use of electronic software packages now means that this sophistication can be enhanced further. HEFCE now conducts its own annual satisfaction survey of final year undergraduate students, the results of which inform various 'league tables' used by potential students and parents when choosing their university. (Douglas and Douglas, 2006). Amongst other statistics these basic tables include first destination statistics, progression rates, staff / student ratios, spending per student.

Generally surveys use either a 7-point or a 5-point Likert scale, rating satisfaction and importance. Student focus groups are often used first to decide on the agenda from the student point of view and inform the decision on what questions to ask.

***Modus Operandi* for Survey Research**

In designing and administering surveys generally, a number of researchers (Jankiwicz, 1999; Oppenheim, 2000) have recommended an initial piloting of the questionnaire in order to test whether there are any ambiguities in the questions and remove any doubts; clearly a poor question could produce a narrow range of responses (Oppenheim, 2000). A 9-step process for administering surveys has been developed by Scheuren (2004). This started with identifying the information required through a pilot survey, to analysing the results of a full survey. He found that taking shortcuts in the process could lead to incorrect results, for example, a poll in 1936 wrongly predicted that President Roosevelt would lose the USA election.

In designing a survey research instrument the approach within HE it is usually based on a tried and tested process, that is to establish a focus group, consisting of both staff and students, the aim of which is to provide a forum for discussion of the appropriate areas that will be explored in the questionnaires, such as, *inter alia*, teaching facilities, learning resources availability and lecturer punctuality. The individual questions are then designed as a series of closed questions, usually asking about satisfaction levels and importance ratings in order to weight responses (Douglas and Douglas, 2006). Typically the survey will ask students to tick a box on a 5- point Likert Scale of satisfaction / dissatisfaction, with 1 = Very Dissatisfied, 2= Dissatisfied, 3 = neither Dissatisfied or Satisfied (neutral), 4 = Satisfied and 5 = Very Satisfied, as well as how important the issue is to the respondent. The results are analysed quantitatively using a software package such as SPSS (Statistical Package for Social

Sciences). However, Douglas and Douglas (2006) found that some universities have collected only the satisfaction ratings and did not provide the opportunity for students to rate how important each area of enquiry is. For example, a student when asked about the availability of computers in the department may rate this as a '1' (Very Dissatisfied) but may also rate that the importance level as a '5' (Very Unimportant). If the 'importance' rating is not asked for then it makes the data quite meaningless as the various aspects of the service cannot be given a relative weighting and acted upon accordingly.

Advantages and Disadvantages of Self-Completion Questionnaire Surveys

The main benefits of self-completion questionnaires identified within the literature are: the relatively low cost of administration; time-effectiveness (quick to administer and analyse); convenience for respondents; absence of interviewer bias; and absence of interviewer variability (Bryman, 1984; Bell, 2005). Milne (2007) found that as the responses were gathered in a standardised way the questionnaires were more objective than interviews and generally were a very quicker way to collect data from large groups.

Within HE Rowley (2003) found that in the absence of any other technique, questionnaires at least provided a method of listening to students, although she suggested that students would be in a better position to answer questions the longer they had been studying. However, this does not make the views of first year students any less important. Knight and Harvey (1999) deemed student questionnaires to be a tool for collecting information for management which would indicate action to improve the service for students. This concurred with Deming's (1953) view that they provided a rational basis for action.

Oppenheim (2000) found that there were problems with memory and the ability of people to recall events and Miller (1998) found that surveys do not often reveal how organisations can improve satisfaction, did not enable focussed action and that the wrong people were often asked the wrong questions at the wrong time. His research illustrated that it was possible for customers to rate satisfaction for every question but to be dissatisfied overall. He believed however, that if questionnaires were designed and implemented correctly, then they could be effective and economical in driving improvements. In their evaluation of teaching quality Douglas and Douglas (2006) found that academic staff on the whole did not hold student questionnaires in particularly high regard. Their research indicated that many of the questions were subjective and would therefore provide responses possibly influenced by personal prejudice. Furthermore, they found that much of the sought after data was outwith the academic's control, for example, whether there was an adequate number of textbooks in the library; clearly this links with Oppenheim's (2000) findings that many surveys contain redundant or irrelevant questions. Some academic staff felt that students would use the questionnaire as a form of 'revenge' in return for receiving a low mark on their assessed work. There are also a number of reasons for university staff not supporting the use of student questionnaires, for example, doubts over students' competencies in filling in such questionnaires, problems over students being able to evaluate teaching and the influence of a number of variables, such as course tutor and student characteristics (Rowley, 2003). Student satisfaction surveys are concerned mainly with measuring outcomes, with questions such as '*was the teaching accommodation suitable?*' and '*overall were lectures satisfactory?*' They are generally quite onerous and lengthy to complete and when administered electronically they tend to have a variable response rate. Hamilton (2003) found in the USA and Canada that online surveys had an average response rate of 32.5%. Whereas Geall (2000) in Hong Kong received a response rate of 52.2%, increasing to 67.5% following a reminder email. HEFCE runs the National Student Survey (NSS) In England, Northern Ireland and Wales and

this received a 60% response rate on its third iteration of the survey, with responses varying from university to university (HEFCE, 2008). Rowley (2003) looking into student feedback, postulated that not enough consideration was given to the design of the questions, thus affecting the validity, accuracy and relevance of the questionnaire. Given that student feedback is also sometimes used to inform performance appraisal (Douglas and Douglas, 2006) it could be argued that it can be a fairly powerful and potentially dangerous management tool if not designed and administered appropriately.

Critical Incident Technique

Another method used to collect customer feedback is the Critical Incident Technique (CIT). This method was first developed by Flanagan (1954) in the 1950s for use within the military as part of an aviation psychology programme to explore why pilots could not learn to fly. Flanagan's development built on earlier research by Sir Francis Galton circa 1930 (Flanagan, 1954). Since then because of its versatility, the technique has been widely adopted and adapted for use in many service contexts, proving popular in areas such as hotels (Edvardsson and Strandvik, 2000), banking (Johnston, 1995), wine retailers in Australia (Lockshin and McDougall, 1998), airlines and restaurants (Bitner *et al.* 1990) and also healthcare (Gabbot and Hogg, 1996; Kemppainen, 2000). CIT has been widely used within the service sector to investigate sources of satisfaction and dissatisfaction with service encounters. The CIT questionnaire simply asks respondents to recall and describe in detail a story about something they have experienced within the service environment. To his credit very few changes have been made to Flanagan's original method according to Gremler (2004) and it remains in wide use today.

Davis (2006) suggests that CIT provides an organisation with a starting point to advance its development through a learning experience. He found that an organisation can identify its impact on its customers as well as help to highlight the organisational failures. In their investigation into service failures Douglas-Hoffman *et al.* (2003) used CIT to explore the interaction between customers and the service organisation in which the interaction was particularly positive or negative. Lockshin and McDougall (1998) found that organisations could anticipate potential difficulties and inform their customers, using CIT to anticipate and respond to customer needs. Edvardsson and Roos (2001) believed it to be a tool for managing services and according to Johnston (1995) identifying the organisation's determinants of quality is essential to enable the service delivery to be improved. Johnston (2004), in his three year study into service excellence, said that it was not enough to merely satisfy customers but that they should be delighted. In order to delight, an organisation needs to understand what their customer wants from them and CIT is a way of extracting this information. CIT allows customers to express their perceptions in their own words and to classify them into satisfying or dissatisfying factors.

Modus Operandi of CIT

According to Davis (2006) a 'critical incident' is an observable form of action or form of expression, which is complete enough in itself to allow inferences to be drawn. When employing CIT the respondent is required to remember an experience they have encountered, either negative or positive, and re-tell it as a story or narrative. CIT is a qualitative technique, which Flanagan (1954) defined as a way of identifying the significant factor(s) that contributed to either the success or failure of a particular human event. Kemppainen (2000) described CIT as a flexible, qualitative research technique used to solve practical problems.

The technique allows participants to provide details of their experiences as they perceive them, rather than being asked specifically about selected areas identified by the organisation. Respondents can freely describe their experiences and unreservedly express their feelings, providing a narrative or an anecdote on the service encounter. A positive critical incident is classified as a 'Satisfier', a negative incident is termed 'Dissatisfier' (Cadotte and Turgeon, 1988) where the incident is deemed to be a catalyst for a change in customer loyalty behaviour, such as positive or negative word of mouth for example, this has been termed 'Critically Critical' by Edvardsson and Nilsson-Witell (2004) and where there are a lack of recorded incidents concerning particular areas of the organisation these are classified by Cadotte and Turgeon (1988) as 'Neutrals' (neither satisfy or dissatisfy).

CIT narratives can be collected in a number of ways. They can be gathered via focus groups, one-to-one interviews or large group settings, direct or participatory observation and by telephone (Edvardsson and Roos, 2001). Various approaches to the CIT process have been identified for example, a ten-step approach by Johnson and Gustafsson (2000) and a detailed five-phase checklist by Gremler (2004). The latter in summary involves: problem definition; study design; data collection; data analysis and interpretation, finally culminating in the result report. Data analysis involves a process of content analysis and coding in order to interpret the respondent's comments and draw any inferences from the narratives (Gabbott and Hogg, 1996). The data analysis phase should involve more than just one judge to ensure reliability of the findings and coding and they should be adequately trained (Gremler, 2004).

Advantages and Disadvantages of Critical Incident Technique

A number of benefits of CIT have been outlined, namely CIT provides a rich source of data because it allows respondents to decide which incidents are the most relevant to them; there is no preconception about what will be important to the respondent; it does not restrict observations; it is a useful method when exploring an unknown phenomenon; the respondent's own perspective is reflected; it can be used to generate an accurate and in-depth record of events, and it is useful in assessing perceptions of customers from different cultures (Gremler, 2004), data can be obtained quickly and CIT is useful when handling complex factors (Kemppainen, 2000). It is easy to administer in a group setting and allows the researcher to look in more depth into a phenomenon (Burns *et al.* 2000). A surprising richness of data can be collected (Johnston, 1995). Customers are not forced into a specific framework (Strauss and Weinlich, 1997) and it helps the service provider understand their role and their interaction with the client and employees (Byrne, 2001), which is useful given Bitner *et al's* (1990) findings that front line staff are not always trained to understand the customer. Finally, Lockwood (1994) found that people actually enjoyed recounting stories.

As with many methods there are also a number of drawbacks to the CIT method. Johnston (1995) in his research into the banking sector, found that it was difficult to process and analyse anecdotal material; however, more than a decade later there are now computer programmes, such as Nvivo, that may make this process easier (Bazeley, 2007). Gremler (2004) contended that there was a number of shortcomings. Firstly, there may be an impact on reliability and validity if respondents' interpretations are misunderstood, although he recommended that this can be mitigated by using two or three trained judges. Secondly, there may be customer recall bias and memory lapses. Thirdly, there may be a low response rate because of the time it may take to retell all the details of an incident. Burns *et al* (2000) discovered that friends tended to reveal more to other friends than to strangers. Where a recorded incident is vague and lacking in detail then Kemppainen (2000) suggests that this

incident may not be fully remembered or may be inaccurate so should not be included within the study. Other shortcomings identified by Strauss and Weinlich (1997) include that CIT only records exceptional customer encounters, in other words it may only emphasise rare events, not the norm.

As well as utilizing more than one trained judge for content analysis, Gremler (2004) recommended that they should also undertake their evaluation independently and anonymously of each other in order to further ensure validity and reliability. Interestingly, he found that of the 168 studies that had used CIT, none had identified any fundamental flaws to the method; however, there was a criticism of past research in that samples had been too small. Indeed Lockwood (1994) recommended that at least 100 incidents should be collected in order to help with the analysis and to provide more reliable categories.

Methodology

The aim of this study was to make a comparison of the usefulness of two data collection methods and the quality of data collected from both the Critical Incident Technique and the more traditional method of gathering student satisfaction ratings, namely Student Feedback Surveys. A review of the extant literature on student surveys and the use of CIT in services was conducted in order to gauge best practice in both methods and to highlight the advantages and disadvantages of both. The study also included a desktop analysis of two survey instruments that were recently used within a university business school. These had been used to gather student opinions on their satisfaction and dissatisfaction levels regarding the HE experience and their loyalty intentions with respect to the school. The analysis also included an examination of the corresponding data collected from both methods. Analysis of the survey instruments involved consideration of (i) the administration process, (ii) the data analysis, (iii) the quality of data and (iv) the data usefulness to management. These are discussed within the next section.

Results

Administration

The first survey conducted by Douglas *et al.* (2006) was of students within a university business school. The traditional self-completion, tick-box survey method based on both satisfaction and importance was used. The survey's design was based on Sasser *et al.*'s (1978) service product bundle of facilitating goods, for example, lectures and tutorials, explicit service, for example, knowledge of staff, and implicit service, for example, the treatment of students. A focus group, involving staff and students was not employed at the start of the process, as they considered that previously this method had not resulted always in the generation of valid and reliable questions. The survey instrument was designed as a quantitative questionnaire consisting of sixty questions covering all aspects of university life, including the teaching environment and the ancillary services offered, such as catering. The questionnaire also included an enquiry as to whether the student would recommend the university to others or not, but not whether satisfaction or dissatisfaction in certain areas might impact on other loyalty behaviours, such as continuing on the programme of study or re-enrolling for further post-graduate study. A section of demographic questions was also included to allow segmentation of the sample population. The questions included gender, age, level of study (year 1, 2 or 3), mode of study (part time, full time) and the student's country of origin. The questionnaire was administered in a large group setting using core (mandatory) classes to capture enough students and took on average twelve minutes for the

students to complete. A total of 864 completed questionnaires were returned, out of a total population of approximately 4000 students.

The second survey conducted by Douglas *et al* (2008) adapted and adopted the critical incident technique to survey undergraduate students from the same school. As with the traditional method the questionnaire was distributed to large class groups using the core classes. A total of 163 questionnaires were returned, containing 517 anecdotes (or narratives), both positive (259) and negative (258). (see Appendix 1 for examples of anecdotes). The questionnaire asked for stories of good and bad experiences in both the teaching learning and assessment environment and the ancillary services environments, such as catering and administration, and whether the experiences would result in students not recommending the university, not enrolling on another course at the university, or not staying on the course. The respondents took up to 15 minutes to complete the questionnaire. On average the anecdotes were about 50 words in length and were sufficiently detailed to allow content analysis and coding of the results. The CIT method captures the actual voice of the student, verbatim.

Analysis of Data

For the self-completion survey the satisfaction and importance ratings were entered into SPSS by one person. This data was then analysed using quadrant analysis to illustrate in graphic form the relationship between the importance ratings and satisfaction ratings for each question (see Appendix 2 for the quadrant analysis grid). In particular it makes it easy to see which areas of high dissatisfaction are the most important to students.

A number of personnel were used to evaluate the CIT questionnaire responses and categorise the narratives into themes building on earlier work into service quality determinants by Johnston (1995) and Parasuraman *et al* (1985). NVivo software was used to aide the judges in the content analysis and coding of the anecdotes. Where the narratives could not be categorised neatly into the established determinants of service quality a new HE service quality determinant was identified. Once agreement had been reached by the judges each coded anecdote was entered into SPSS together with the demographical data and the loyalty intentions. This enabled identification of any patterns emerging from the themes, the context in which the incident occurred, for example, administrative office, teaching methods, and library personnel, as well as whether the experience was likely to affect specific loyalty behaviours, namely recommending the university to others, continuing on the programme of study and enrolling for further post-graduate study. From the analysis the judges were able to show which areas were critical to loyalty (critically critical) within the teaching, learning and assessment environment. These were “responsiveness” (helpfulness) and “communication”, and for the ancillary services these were “access” and “responsiveness”.

Quality of Data

The results of the self-completion questionnaire indicated which areas were most important and least important to students and which areas were satisfactory or otherwise. The teaching ability of staff was ranked most important, and the decoration in lecture facilities was ranked least important to students. Overall, Douglas *et al* (2006) were able to show that many of the physical aspects of the University services are not as important as the quality of teaching and learning to student satisfaction. The Cronbach alpha score of 0.965 gave assurances regarding the reliability and validity of the questionnaire.

The CIT data proved to be a very rich source of information and allowed for the identification of the quality determinants within their particular HE context (Responsiveness,

Communication and Access). The concerns regarding validity and reliability of the data appears to have been ameliorated by using additional judges for the content analysis stage of the CIT process.

Usefulness to Management

The quadrant analysis grid created from the self-completion questionnaire data identified the High Importance and Low Satisfaction results as the high priority area for managers. The recommendation was that the focus should be on textbook value for money, availability and usefulness; promptness and usefulness of feedback on student performance; availability of staff and their responsiveness to requests; course workload; and the organisation of timetable. The results did not however, indicate whether any of these areas of dissatisfaction would cause students to change the various loyalty behaviours towards the university, only whether they would recommend the university to others.

From the CIT analysis it was possible to ascertain which areas were critical to three loyalty behaviours within the teaching learning and assessment environment and the ancillary services provision and so gave the management group specific areas in which to focus their limited resources.

Conclusions

In conclusion the aim of the study was to compare two methods of student satisfaction data collection, in order to evaluate which approach was the most suitable within the Higher Education sector. The two methods considered were the more traditionally used student feedback self-completion questionnaire and the Critical Incident Technique. Based on consideration of administration, data analysis, data quality and how useful the data is to managers, this main aim has been achieved and it has emerged that the principal issue regarding suitability is resource utilisation.

The CIT questionnaire is much easier and quicker to design than the traditional questionnaire, asking only a small number of questions. However, it takes much longer for students to complete this questionnaire. The richness of the CIT data in terms of loyalty intentions and satisfiers and dissatisfiers however, make it a much more attractive technique in gathering meaningful data on which to focus on. The technique also seemed a lot more attractive both to the researcher and to the respondents, although this could be attributed to the novelty of its use within HE. It is evident from the findings that the input of the data and its analysis was much faster for the traditional survey than CIT and that fewer personnel were required for this phase of the process.

Within the existing literature the pros and cons of both methods have been explored regarding their utilization within a variety of contexts, although there is clearly less on the use of CIT in HE. Within HE it would seem that questionnaire fatigue may have impacted on the response rates and that CIT might be received well by students. Moreover, the different kind of data produced via CIT would deem it worthy of wider use within HE in the future.

In summary, CIT in HE provides a blank canvas for students to paint whatever picture they desire in terms of their satisfaction / dissatisfaction levels and intended loyalty behaviours. It informs the decision-making process on attempts to improve what is significant to students. This qualitative method could therefore compliment, rather than replace, the traditional quantitative method in order to see a more informed picture on what students would like to experience within HE. However, it is recognised that where resources are not available within an HEI, then it is more likely to continue to employ the traditional survey questionnaire method.

One of the main limitations of this comparison is that that Douglas *et al's* (2008) study using CIT was in preparation of a larger study and involved a smaller sample size than the compared study by Douglas *et al* (2006). It is also recognised that CIT in HE would need to be further and more widely tested for its suitability within the HE sector as a whole.

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Appendix 1: Extract from the positive HE CIT Narratives

'The office staff were very helpful when I arrived back after Christmas. They helped with changing my timetables' This was themed as 'Responsiveness' within the Ancillary services provision.

'During [name supplied] module our lectures and form of assessment were well structured with skills that were directly relevant to skills that are needed in life, for example...' This was themed as 'Functionality / Usefulness' within the Teaching, Learning and Assessment environment.

Appendix 2: Quadrant Analysis Grid

High I M P O R T A N C E Low	A	B
	Concentrate here	Maintain Quality
	C	D
	Low Priority	Possible Overkill
	Low	High
	SATISFACTION	

FACTORS WITH INFLUENCE ON UNIVERSITY RESEARCH QUALITY: A REVIEW OF THE LITERATURE

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1. Introduction

Quality rating of centers of higher education is an issue of hot debate in recent years. Progress has been made in detecting the factors that define quality as it pertains to some of the functions they assume. However, this analysis has been less evident in the area of research activity carried out at the Universities.

Science and Technology are currently becoming a core element in policy decision-making. Both scientific research, as well as the institutions generating this research comprises a core component of the economy and knowledge-based society worldwide. They have become one of the essential drivers of economic and social progress, a key factor in companies' competitiveness, employment, and quality of life. On the other hand, monitoring and analysis of the science and technology performance and, consequently, scientific publications, reports, patents, among other research outcomes, currently constitute an essential tool for use in studying them (Van Raan, 1999).

Evaluation of universities' scientific policies seems inconceivable without dimensions that can quantify research outcomes. Dimensions comprise a tool that makes it possible to observe the status of science and technology through scientific literature, patents, etc., generated at different levels of aggregation. Each of these dimensions reveals one facet of the science and technology systems that are subject to evaluation (Okubo, 1997). These dimensions are appropriate for analysis at both a macro level and for micro studies. They constitute a mean by which to appraise the state of research at the different universities and aid in discerning the links they generate. Neither a surrogate nor a substitute, they supply experts with elaborated information, data and analyses conducted in this type of studies, they are valid for those in charge of planning actions aimed at drawing an expedient and efficient scientific policy at research-generating institutions.

In order to understand research evaluation, its dynamics of change and its challenges, we must situate it within the context of R+D systems and their interplay with the policies that tend to promote it. Nowadays, research evaluation entails a new, broader and more integrating conception. The panorama of research evaluation in Spain has been predominated almost exclusively by ex ante evaluation of research projects (in order to obtain funding) and individuals (for the purposes of sexenios¹) (Sanz Menéndez, 1995). In other countries, R+D project evaluation is internalized in the systems and more discussion is dedicated to evaluating other objects, such as research institutes, universities or R&D programs, both in terms of their quality or excellence, as well as in terms of their socioeconomic impacts.

Given that our aim is to detect the factors that constrain the quality of research in the sphere of economics at the Spanish University, we should first fully identify the different dimensions of research quality detected by means of a bibliographic review. Many authors have focused their studies on such reviews (Gómez et al, 1995; Moed and Hesselink, 1996; Ball, 1997; Bourke and Butler, 1998; Noyons et al, 1998; Mansfield, 1998; Arocena and Sutz, 2001; Van Raan and Leeuwen, 2002; Autio et al, 2004; Balconi et al, 2004; Carayol and Matt, 2004;

¹ Translator's note: Six-year periods used for purposes of research-based reimbursement of university professors in Spain.

Grupp and Mogee, 2004; Jacobsson and Rickne, 2004; Laursen and Salter, 2004; Looy et al, 2004; Murria, 2004; Tijssen, 2004; Cherchye and Vyten Abeele, 2005). Different authors have highlighted the role of publications (Bourke and Butler, 1999; Butler, 2003; Jiménez-Contreras et al, 2003; Sorenson and Fleming, 2004) and patents as outcomes of investigators' research (Dalpé and Yerson, 1995; Mowery et al, 2001; Mowery and Ziedonis, 2002; Thursby and Kemp, 2002; Acosta and Coronado, 2003; Owen-Smith and Powell, 2003; Balconi et al, 2004). Another outcome pointed out by the literature is the generation of start-ups (Di Gregorio and Shane, 2003; Audretsch and Lehmann, 2005) and the creation of spin-offs (Autio et al, 2004; Lockett et al, 2005; Salter and Martin, 2001). Finally, it is interesting to underscore the importance different authors give to technology transfer (Salter and Martin, 2001; Chapple et al, 2005; Lockett et al, 2005; Markman et al, 2005) and support to industrial activity (Etzkowitz, 2000; Behrens and Gray, 2001; Feller et al, 2002; Autio et al, 2004; Laursen and Salter, 2004; Looy et al, 2004).

Our review of the literature has enabled us to elaborate the following classification of aspects that have a bearing on these outcomes: a) factors related to researchers, b) factors related to university management, and c) factors related to setting, including here those that have to do with university and socioeconomic settings. On the basis of their analysis, we will cover the following sections.

2. Factors related to researchers

Several different factors have to do with the researchers. We will divide this group further into two subsections: a) characteristics that are intrinsic to the researchers and b) research teams. The first of these two sections will contemplate not only the researchers' traits (Campbell et al, 2000), but also scientists' professional careers (Debackere et al, 1995; Jacobsson and Oskarsson, 1995; Cohen et al, 1999; Salter and Martin, 2001; Murray, 2004; Dietz and Bozeman, 2005), as well as researchers' work organization (Landry and Amara, 1998) and researchers' behavior (Landry et al, 2001). As regards research groups, the literature has made reference to the creation of collaborative networks among scientists (Etzkowitz, 2003; Adams et al, 2005; Rigby and Edler, 2005).

3. Factors related to university management

Different factors are very closely linked to university management. On the one hand, we will begin by first focusing our attention on aspects that have to do with the departments and, secondly, we will examine aspects having to do with research management at the hands of the University. Several authors have concentrated on aspects related to departments: department funding (Bourke and Butler, 1998), the selection of research areas (Zaidman, 1997), whereas Etzkowitz (2003) focuses on research teams. Another noteworthy aspect is collaboration through research groups and how the universities manage the relations among groups (Adams et al, 2005). Secondly, we have funding (Landry et al, 2001; Ball, 1997), the benefits and costs of cooperative research (Behrens and Gray, 2001), economic benefits (Salter and Martin, 2001), the expenditures governments and private organizations dedicate to the university (Jacobsson and Rickne, 2004). Likewise, Zellner (2003) presents evidence of the role that stays at other universities and several authors highlight the importance of technology transfer offices (Siegel et al, 2003; Chapple et al, 2005; Lockett et al, 2005; Markman et al, 2005).

4. Factors related to the university and socioeconomic setting

Within the university setting, the literature has underscored: internal funding (Debackere et al, 1995; Behrens and Gray, 2001; Landry et al, 2001; Balconi et al, 2004), university networks (Balconi et al, 2004), and academic freedom (Behrens and Gray, 2001). Insofar as the

socioeconomic setting is concerned, several authors emphasize the role of external funding (Dalpé and Yerson, 1995; Behrens and Gray, 2001; Landry et al, 2001) and public auditing and governmental involvement (Kobayashi, 2000). In contrast, other authors have referred to aspects related to institutional structuring of collaboration (Landry and Amara, 1998). The literature also shows the fundamental role played by research policy (Dalpé and Yerson, 1995; Bourke and Butler, 1999; Hanney et al, 2001; Beesley, 2003; Braun and Benninghoff, 2003), as well as the legal setting (Mowery et al, 2001; Mowery and Ziedonis, 2002). Finally, aspects of university-industry-government relations (Debackere et al, 1995; Cohen et al, 1999; Arocena and Sutz, 2001; Beesley, 2003) have also been examined.

5. Conclusions

The quality of the University is currently a highly relevant issue. Some aspects of this topic have been studied more. Nevertheless, to date, the quality of research activity has not undergone the same scrutiny. Although certain aspects have been emphasized in the study, particularly regarding the quality of individuals' activity, others appear to have been more disregarded.

This work seeks to analyze the involvement of different actions that have to do with the quality of the research done into the University. This analysis will be based on the model that is summarized in the following Figure 1.

The relevance of this study lies in demonstrating that the influence of some of the factors named above have been addressed independently by the literature; however, it is no less true that taken as a whole, they have not been investigated in-depth. On the other hand, there are very few individual analyses. We believe that studying these actions as a whole is an important step towards understanding the consequences of research at the Universities.

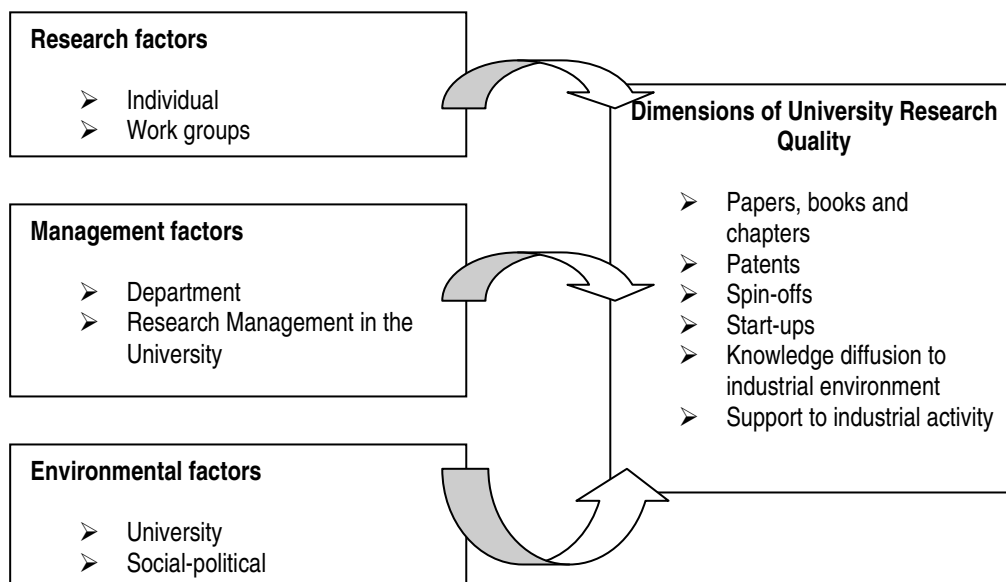


Figure 1. Summary of the Model

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THE CHOICE OF SCENARIO FOR THE UNIVERSITY – RETHINKING OR HOLLOWING OUT POLICY

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Macedonian higher education is in a state of flux since the traditional social contract between higher education and society is deemed to be no longer valid, and there is not yet a new one. The process of change in the environment of the national higher education institutions, the growing complexity of the governance mode and the European integration efforts resulted with growing imbalance between demands from environmental actors on higher education institutions and the institutional power to satisfy these demands.

The two programs, Bologna and the Lisbon Declaration have the same dateline for completing their initial goals, though fulfilling very different objectives. To summarize these parallel processes, in reference to Bologna, the “European Union university policy may well lead to a new phase of ‘Europeanness’ of the European universities” (van Vught, 2007). Lisbon, however, stands as a more transparent program the purpose of which is to harness the universities in Europe as instruments of policy across a very wide domain indeed: science and technology policy, innovation policy, aspects of social policy and employment (Neave, 2006).

The knowledge-based society is largely based on the response of the national universities and other higher education institutions to the national innovation system. The anticipation of changes and the adequate reaction and flexibility to the changing needs are ground rules for the social role that higher education institutions have to fulfill, especially those publicly subsidized. The traditionally hierarchical internal structures and negligence of modern management shine away from the flexibility, “modest hierarchy” (Heionen, 1997) and new public management techniques. At the same time, the universities are losing the monopoly as the sole providers of higher education, a trend followed by differentiation between institutions and diversification within institutions.

Universities now find themselves having to pay attention to many more “political centers” (Paterson, 2001:150) than before. Spatial reconfiguration of research and education systems occur in different forms such as: inter-institutional networks, new strategic alliances between universities at both local and international levels aimed at promoting the commercialization of knowledge and the technology transfer.

The expectations placed on the national higher education institutions became, in most of the cases, unrealistic thus contributing to the discrepancy between what is in the capacity and the role

of these institutions and the things they are expected to do. Current situation of cutting the budgetary funds results with the tendency where universities themselves give optimistic picture of the ability to offer solutions to cure many of the global topical existing problems.

Given the multitude of expectations directed towards the higher education and research, a picture of what are the forms and institutional structures that could respond to the national authorities' and other interested parties' expectations emerges.

2. Entrepreneurial reinvention

The term entrepreneurial university, comes to feature prominently a wide range of activities since the 1980s. "Marketisation" of higher education and university "entrepreneurialism" are sometimes treated as being nearly synonymous. At the same time, entrepreneurial is often used interchangeably with enterprising".

According to Williams (2003), the entrepreneurial university, the enterprising university - enterprise is an enabling process through which the more fundamental aims of universities can be protected and pursued in mass-higher-education systems. Competitive enterprise can certainly result in dumbing down, but it can also lead to great works of scholarship and artistic and intellectual creation. Research at the boundaries of knowledge (...) are all produced and made widely available as a result of enterprise. It is the challenge facing those who manage and work in universities to ensure that the dominant outcomes of their enterprise are the proven virtues of exciting teaching and discerning research and not the transient rubbish of the mass media or the mass instant-food industry. Rinne and Koivula (2001) assert that entrepreneurial university has many definitions but generally it means entrepreneurial action, structure and attitude in a university. Clark (1998) argues that entrepreneurial university is a kind of university characterized by strong relationship links with hi-tech industry and business, thus, entails market-like behavior by both management and faculty. However, provided that no attempt is made to define it too precisely the term remains a useful generic epithet to describe the manifold in mission, management and funding that many universities, more or less successfully, have experienced in the past three decades.

As Clark (2001) argues, pathways for infusion of entrepreneurialism in universities in terms of purposive transformation do not stifle the collegial spirit; universities are not handmaidens of the industry sector; and most important the universities are not commercialized and transformed into shopping malls. All three counts move the university in opposite direction thus strengthening university collegiality, university autonomy, and university achievement.

This certainly undermines the over simplified understanding of the university as merely business, helpless and passive whose fate is determined by external demands. On the contrary, the entrepreneurial narrative uses the advantages of university's own terms and commitments, and sits comfortably with self-initiating, self-steering, self-regulating, self-reliant, progressive university that is proactive thus shaping the environment as much it is shaped by it.

Barnett (2005) and Shattock (2005) suggest that, at least in higher education, there are different forms of entrepreneurialism broadly described as "soft" and "hard" where what is described as an

"open market" one can find "civic entrepreneurialism", where a university is keen to develop itself in a free market and "unbridled entrepreneurialism" where the generation of non-state income is under for its own sake and where the university would see itself as "a major source of exploitable knowledge capital [...] and it would seek to deploy that capital effectively and so secure the maximum financial return". Opposite to this, in the "controlled markets" categories of "hesitant entrepreneurship" are defined where institutions may be encouraged to be entrepreneurial but are risk averse, and "curtailed entrepreneurship" where the state has, effectively, limited the options by closing them off through regulatory or other bureaucratic means.

2.1 Factors destabilizing the status quo of the Ivory tower

The desirability or inevitability of the entrepreneurial culture arises from the change of the existing cultural patterns. Highly individualistic, predominantly kind, non-threatening and safe culture; low personal and group accountability; reluctance to confront problems often hidden behind the consensus, ambiguous and unconnected goals; are confronted with demands for corporate culture, overarching strategies for faculty or university level, reinforcement of academic market place and precise instruments of change (Davies, 2001). Among the factors that have a destabilizing effect on the conventional culture of the Macedonian universities, are the following:

Reductions in public funding for higher education institutions, accompanied by changing in funding formulae create pressures to seek alternative sources of funding (Kuzmanoska et al., 2007);

Governmental financial reduction might destabilize the institutional stability; therefore, under the new circumstances higher education institutions must have strong commercial and financial awareness. Reverting to the entrepreneurial potential, different faculties will differ in the potential for entrepreneurial activities and commercialization. In addition, cuts in funding also result from declining enrolments or other academic business. A visible raise level of investment following the EU and OECD policies is the increase of budget means for education to 5% of GDP by 2010, a policy of the Government in order to place priority on its most important assets. The higher education law (2000) entitles the universities to collect and manage additional funding that can be retained by each institution in a separate account, such as: revenues from sponsoring activities, donations and grants, funds collected from educational services to foreign and domestic individuals and /or legal entities. In spite the fact that Macedonia had no tradition of private sponsorship of higher education institutions, Macedonian higher education has a greater dependence from the private sector as seen from 2003 onwards. In 1999, 56.28% of the higher education budget was consisting of state money and 43.72 % came from their own sources. In 2005, the proportion changed and the state contributed with 42.97 % of the higher education budget, whereas the other 57.03 % were secured from their own revenues. However, higher education revenue from charities, private enterprises, business and organizations is still insignificant.

Continuing pressure on universities from governments and the industry sector to develop applied research and make available education in forms of delivery congenial to companies and public sector organizations (Gibbons, 1998);

Macedonian science is more academic and less development oriented which seriously hinders country's economy. However, Macedonian major source of new knowledge - university research activities, must be seen as essential in a knowledge intensive, globally competitive marketplace, and as such have a fundamental, long-term impact on the overall productivity of the economy. If we take a look at the statistics, the picture is less positive. Macedonian gross domestic expenditure on R&D (GERD) in year 2001 presented 0.32 % of the national GDP, declining in 2002 on 0.27%. According to the Macedonian Ministry of education and science, 56.5% of GERD was spent in the governmental sector in 2002 out of which 40.9 % by the higher education sector, whereas the share of the business sector was only 2.6%. It should be noted that the business sector expenditure on R&D was five times higher in 1998 (11.6 %) and in 1999 (12.5%). The industry invests very little due to the poor performance of the Macedonian economy.

Research is a key element for universities, both as part of their mission, and as an input and attitude for teaching provision. However, "the "dynamic" impact of universities and their research work is absent in most other industries, nevertheless universities generate and disseminate knowledge and technology which in turn increase the productivity of factors of production, thereby increasing GDP (Martin & Trudeau, 1999; Kuzmanoska, 2002, 2004). Strengthening research capacity and competence at national level primarily involves university sector. Most of the qualified researchers are at the universities, and the universities are responsible for training researchers. Most of the researchers' expertise is acquired while they are conducting basic research, but apparently these individuals have an impact on the productivity or further commercialization of applied R&D. On the other hand the contribution of R&D to the improvement of practice had been somewhat disappointing. Basic national statistical indicators on R&D show downward trend in the number of researchers (from 3 257 researchers in 1998 to 2869 in 2002) which represents a decrease of 12.4 %. The structure of researchers by sector of performance reveals that the largest share of researchers (67.9%) comes from the higher education sector and negligible number from the business sector (3.5 %).

Life-long learning (Ojala, 1998);

The shift from recurrent mode to life-long learning mode has been a priority for a longer time; however the case has not been stated in powerful terms such as development of action plan and development of strategy for life-long learning. Scattered policies as constituencies of a single life-long learning strategy approach covering primary, secondary, post-secondary and higher education are defined in various Government programs such as Program of the Government of Macedonia 2006-2010 (2006), National employment strategy 2006-2010 (2006), Program for development of entrepreneurship, competition, innovations of small and medium term enterprises 2007-2010 (2007). These documents lay down principles in terms of providing conceptual framework or as in the case with the Strategic plan of the Ministry of education and science (2006, 2007) are more operational with identified main challenges and developed policy measures. Although the primary focus is on the formal education and training systems, the

importance and the status of non-formal and informal learning are recognized hence different implementation patterns concerning the specific nature of the national system are underway, and represent a point of departure from the usual rhetorical platform. New actors and new components have arisen whilst new competences are increasingly based on knowledge and skills, regardless of where and how they have been acquired. Life-long learning is the new order for the concept of the higher education establishment as an institution. National authorities heavily rely on higher education to react rapidly to the challenges of life-long learning especially in relation to anticipation of the educational needs and rapid response to the new educational needs. In this context it is particularly important to stress the needs of SME industry, including the service sector.

Such differentiation and diversification of clientele and programs effect ample response from the authorities and institutions. Another view is that there are many factors running through this phase, as limits of the differentiation, on the identity of higher education institutions under the conditions of diversification and the expansion of higher education concept.

Globalization of higher education in its various forms and the opportunities offered by the information/knowledge society revolution (Duderstadt, 2000; Scott, 1999).

The globalization is interwoven in the integration process in Europe and in the higher education, representing as such highly addressed issue by organizations as OECD, UNESCO, World Bank and UN. Converging trends can be seen from the Bologna process, various communications and reports by the European Commission. As signatory to the Bologna Declaration, Macedonia through the Ministry of Education and Science has committed itself to achieve the core Bologna reforms by 2010, a commitment that certainly requires targeted incentives from the responsible authorities in the national context as backstopping for genuine take-up of the reforms rather than superficial compliance with the standards. Pro's and contra's regarding the globalization process question the adequacy of the Bologna process as a European response to the challenges of the globalization. Both in terms of perception and practice, the globalization is closer to the competition, pushing the concept of higher education as a tradable commodity and challenging the concept of higher education as a public good. The opposition of the globalization concept argues that global competition and free trade in the area of higher education will be disadvantage to smaller nations and languages, and will threaten the national sovereignty over educational system (its public funding), institutional autonomy, academic freedom, job security and quality assurance (van Vught et al., 2002).

The economic contribution of the knowledge society forms the central plank of the EU Lisbon Declaration which sets the target for R&D expenditure in Europe as a proportion of GDP by 2010. The goals are new jobs, economic growth, social cohesion and the promotion of entrepreneurship (Lisbon European Council, 2000). One of the central goals in Lisbon (European Commission, 2002) is to develop "third generation innovation policies"; whereas policies are molded to support entrepreneurship i.e. higher education institutions shall be more entrepreneurial with respect to innovation.

2.2 Higher education institutions and the national innovation system

The analysis of the new governmental policies gives a telling account of policy modification. New taxation regimes, accounting standards and company reporting are in force; however care must be taken that this is not another scheme for the “haves” rather than “have not” (Eurydice, 2001). The development and adoption of the new law on scientific and research activities, law on encouraging and supporting technology development, law on industrial and intellectual property protection, supporting regulations on award and distribution of funds for research projects, better promotion and use of the EC programs available for Macedonia, aim at contributing to changes that will reduce the bureaucracy by streamlining the regulations to cut the red tape, decrease the legislative barriers and ease the administrative procedures. The government has adopted the Program for research and science 2006-2010 in 2006 as a platform for action of all involved with science. Highlights include measures for determining the financial, legal and institutional aspects, intensified cooperation of higher education with the industry, pro-active approach in international cooperation and increased participation of the country in the framework and other EU programs.

The mid-term priorities include the increase of the investments in the research infrastructure through modernization of the scientific equipment and enrichment of the scientific bibliographic and IT resources.

Furthermore, other accepted policy measures adhere to:

increase of investments in R&D – different ministries will be encouraged to adopt the goal of investing 1% of the GDP to be invested in R&D till 2010 (Government of Macedonia, 2007),

budgetary funds for science, R&D of benefit for the private sector - in 2000 the EU average participation rate of the business sector was 65,3 % compared to the Lisbon goal of having 66% of investments in R&D from the business sector,

encourage and support science through fiscal policy – the Ministry of finance has to facilitate the process of implementation of new taxation regime for SME that will foster the R&D investments (Government of Macedonia, 2007).

This way, the promotion of the so-called “triple helix” of interaction between industry, government and universities as a key feature of the knowledge based economy is distinguished. The "triple helix" interaction process has been represented by three factors or levels: the actors, the institutions and the rules and regulations, the linkage which warrants closer scrutiny (Viale and Ghiglione, 1998). The government thus promotes the universities to be "entrepreneurial" and "commercialize" their knowledge by the recent policy directions. The effective dissemination of knowledge between knowledge institutions such as universities and the private sector will depend on certain regulatory factors intellectual property rights (IPR) policy in the public sector, developing new sources of revenue, mediation of flow of knowledge between the industry and universities by formal licensing agreements. It should be noted, however, that the expectations regarding the university patenting and exclusivity in exploitation of research results may become complicated and controversial, especially regarding the principle of free dissemination of publicly funded research. The “triple helix” analysis of increasing interactions between

universities, governments and firms is viewed as less ambitious in how it often limits itself to describing what is happening (Etzkowitz & Leydesdorff, 2000).

The anticipated liberal policies lead to a flurry of initiatives, such as science parks and centers of excellence as interesting developments providing the possibility to identify some trends. With those trends a lock-in may occur, in which institutions and activities at different levels of the research system get aligned and a new regime emerges (Rip, 2004). The feasibility studies point towards the potential for starting up at least two science and business parks where production of software and other IT related parts and equipment will take place, Given the central position of the country, the starting point for the centers of excellence will be in the promotion and the support in the science technology and innovations in the areas of molecular biology, software etc.

3. Conclusion remarks

The theme surfaced in this study has been of entrepreneurialism at higher education institutions as apparent tendency. Higher education traditions, management and academic cultures in the transitional countries of what is sometimes called “New Europe” are showing their development path into stimulating or constraining entrepreneurialism. The entrepreneurial university as new model for the Macedonian higher education institutions will increasingly fit the temper of times. Forms of knowledge, diversified clientele, new labor market connections, new problem-solving skills for the government and the economy in general, are brought in the vogue. The diagnosis of the situation refers to unbundling of the university that will have pivotal role in simultaneously expanding choice and enlarging merit. The entrepreneurialism in a university context is based on the concepts of entrepreneurialism from the economics world and business but is not precisely coterminous with them. The very concept is often challenged in the university world but can not be regarded as a reaction to the financial stringency. Additional constrains to the institutional initiative at all levels arise from over regulation and national bureaucratic control.

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FORECASTING FUTURE TRENDS IN HIGHER EDUCATION AT FACULTY OF ORGANIZATIONAL SCIENCES IN BELGRADE

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Key words: higher education, Delphi method

INTRODUCTION

Educational system in Serbia has to undergo reforms leading to higher quality and more efficient studies on different educational levels. The Faculty of Organizational Sciences at University of Belgrade is a leading faculty in Serbia in the field of information systems and management. In school year 2006/2007 it has started the new educational program that is completely correlated with the principles of Bologna Declaration and ECT System. As the Faculty is operating in the field of rapid changes and intensive competition there is a constant effort to include all possible new technology solutions in the process of education and student evaluation.

In the beginning of 2008 the forecasting method Delphi was conducted at Faculty with the main purpose to predict future trends in applying new technologies in educational system. The new technology solutions in higher education can provide efficiency, quality and student satisfaction. In employing the Delphi method, data were collected about the events that will occur, the time of occurrence, and the degree of consensus reached by the group of experts. The panel included managing board, professors, and other employees directly involved in development of educational system and providing student satisfaction. Four rounds, each involving a questionnaire and questionnaire analysis, were conducted and the results with the main conclusions will be presented in the paper.

1. HIGHER EDUCATION IN SERBIA

Higher education in Serbia is going through reforms, due to the very explicit needs of the society in transition towards market economy and integration with European economy and standards. The higher education should become:

- complementary with European system;
- evaluated through European credit system (ECTS);
- accorded with international standards;
- accorded with actual needs of society and educational system.

The Faculty of Organizational Sciences at University of Belgrade is a leading faculty in Serbia in the field of information systems and management. These are the areas undergoing very intensive changes and theoretical and practical results need to be introduced into current educational programmes in the shortest possible time period. The quick response is necessary due

to intensive changes and new philosophies, methods and techniques occurring in theory and practice and frequent developments in the teaching contents and practices at a wider perspective. The educational system has to serve the needs of globalisation, modern world closely connected by new communication and information technologies, which rely strongly on competences in solving numerous problems in industry, service and public sector.

Education in the area of management and information systems is of vital importance for educating experts competent in recognizing new technology and innovation as opportunity and also capable of establishing one's own business, managing it as small business enterprise and alleviating the society of some of the burdens of unemployment, stagnation, etc. Developing the educational system in Serbia at undergraduate and graduate level should be well adapted to the current needs, comprising of the results of state of the art theory and practice, with new teaching methods, comprehensive textbooks, adapted to European educational standards. The special emphasis is on introducing new, comprehensive teaching methods, especially distance learning for better understanding, educational software, and more efficient learning enabling shorter study period. Introducing new credit transfer system would enable mobility of staff and students with European higher education institutions which will enable exchange of valuable knowledge and experience. Graduates in Serbia, by professional competences, should become equal competitors at European work market. Education plans and programs for the future must include theoretical and practical knowledge based on: literature and research, students' experience from practice, individual and group problems and examples, case studies and practical and theoretical studies which are close connected.

2. NEW TECHNOLOGIES AT FOS

Faculty of Organizational Sciences – FOS was established in 1969. Today it is a leading faculty in Serbia for information systems and management which are the core areas in development strategy of the country. The educational programs are pursued with the best programs in the world in order to educate experts in stated areas. From school year 2006/2007 educational programs at FOS have been correlated with principles of Bologna declaration, ECT system, and involve continuous evaluation of students during semester, students practice and diploma supplement. FOS has been continuously and successfully developed. Today it offers educational programs for undergraduate, master and doctoral studies which are based on contemporary scientific results and practice. The Faculty operates in very dynamic scientific areas, and that is considered as a special challenge for teaching staff. Faculty management gives special attention to development of young teachers and it is considered as a priority for a strategic development of FOS.

FOS enrolls more than 600 undergraduate students every year. In October 2008 there will be 790 new undergraduate students enrolled; among them will be 60 distant learning students. From 2005/2006 Faculty has distant learning possibility with adequate software support. The Faculty has 4 PC classrooms, Internet connection in each classroom, Internet connection for students in corridors and student café. Student can see the exam schedule and apply for the exams using Internet; they can provide some learning materials, get much information about specific subject and communicate with their professors and teaching assistants. Further development of technology goes in direction of informing students using SMS messages. Today employees of

FOS got SMS messages as reminders for exams, attendances, meetings and other events at Faculty. The idea is that students could get important information in the same way. This year at entrance examination for enrollment at FOS, all candidates were informed by SMS about all important details and events. The identification cards for students are also in Faculty plans, as they could provide more efficient and secure checking of students at classes and exams.

There are many improvements at FOS every year and all of them are in direction of efficiency, quality and student satisfaction. Students of FOS, as members of many national and international organizations have well developed Internet forums where they can exchange their knowledge and experiences. There are teacher evaluations few times a year by anonymous questionnaires which are delivered to students for each subject. The results of the evaluations and more than 1000 students that apply every year for enrollment test (1289 candidates in 2008.) indicate that Faculty goes in right direction providing qualitative and reputable studies. In the beginning of 2008 the forecasting method Delphi was conducted at Faculty with the main purpose to predict future trends in applying new technologies for providing quality and efficiency of education and students satisfaction.

3. FORECASTING FUTURE TRENDS

3.1. Delphi method

Delphi method is the most commonly known forecasting method that is based on series of written questionnaires with feedback and re-voting. There are two participant roles: **design group** (sometimes just one person) that makes the questionnaires for the expert group and makes the consensus of the expert group and **expert group** – panel that answers the questionnaires. The members of panel do not meet face-to-face, they are characterized by three important conditions: anonymity, iteration with controlled feedback, and statistical response. This is no an opinion survey, but rather, a way systematically asking and summarizing expert judgment in successive rounds of Delphi forecasts. Despite some limitations, it has been recommended that studies employing the Delphi should be continued in order to further refine the technique and to explore its application. The first idea for applying the Delphi method in forecasting events in education came from the article “The Delphi Technique: A Possible Tool for Predicting Future Events in Nursing Education” by Bamwell L. and Hykawy E. in which the authors have presented the potential use of Delphi method in this area. Despite the limitations they indicated, one suggestion supported by the panelist in the study was important, which is of special interest for the society in transition. They have suggested that Delphi method seemed to have promising application as a tool for teaching persons to think and discuss about the future in a more complex way than they ordinarily would.

The study conducted in Health College in Belgrade in 2005 for predicting further events in nursing education in Serbia using Delphi method confirmed that claims. In conducting Delphi method at FOS data were collected about the events that will occur, the time of occurrence and degree of consensus reached by the group.

3.2. The Panel Selection

Experts in the study were the employees of the Faculty of organizational sciences who were involved in developing of educational system as planners, researchers, or processors. Among them there were members of managing board, professors, teaching assistants, and employees from student service department. Experts were selected on the basis of their position in the

institution, experience in developing educational system and programs, and degree of contact with students in order to recognize their expectations. The selected panel consisted of 10 experts, who agreed to take part in the survey.

3.3. Round I - Composing the Questionnaire

In Round I selected experts were asked to review the list of possible predictions for the questionnaire. After consultations and significant suggestions of panelists there were some modifications of proposed questions. The aim was to select 10 questions the experts considered most important for the near future. The predictions referred to development of student satisfaction by implementation of new technology solutions. At the end of this round, after selection, the questionnaire comprised following questions:

1. When do you expect introduction of SMS for informing students about exam schedule?
2. When do you expect introduction of SMS for informing students about results of exams?
3. When do you expect checking students at the exams by RFID technology?
4. When do you expect the possibility of using Internet for paying scholarship?
5. When do you expect introduction of on-line consultations using video linkages?
6. When do you expect the possibility to listen to the lectures from other faculties (from abroad) using Internet?
7. When do you expect the student service automation so that student can order certifications and other documents by Internet?
8. When do you expect introduction of simulation programs in lectures, stock exchange simulation etc?
9. When do you expect introduction of Facebook for students of FOS?
10. When do you expect on-line download of electronic books from the faculty library?

3.4. Round II

The questionnaires were sent to the panelists and they were asked to predict the year in which they expect the events would occur. The experts could choose one year from 2008 till 2014. Results were calculated and reported for each statement in terms of average value of predictions, variance and standard deviation. After this round there was no consensus among experts for any question (except question 3) and all of them were kept in the questionnaire for Round III. Consensus has meant that the variance was less than 1. The highest values of variance were calculated for questions 5, 6 and 9.

3.5 Round III

The results of Round II were sent to the panelists. They were asked to answer again the questionnaire, having the result of the group response for each question. So, they could revise their opinion; change their answer if it was different from a group response or if they thought they could make a wrong prediction in the previous round. The results were again calculated and reported for each statement. After this round the consensus was reached on 6 questions and final predictions are presented in Exhibit 1.

1. When do you expect introduction of SMS for informing students about exam schedule?	1.2	0.36	Yes	2009
2. When do you expect introduction of SMS for informing students about results of exams?	1.4	0.44	Yes	2009
3. When do you expect checking students at the exams by RFID technology?	0.9	0.29	Yes	2008
4. When do you expect the possibility of using Internet for paying scholarship?	1.4	0.44	Yes	2009
5. When do you expect introduction of on-line consultations using video linkages?	3.3	2.41	No	-
6. When do you expect the possibility to listen to the lectures from other faculties (from abroad) using Internet?	2.8	1.36	No	-
7. When do you expect the student service automation so that student can order certifications and other documents by Internet?	2.2	0.96	Yes	2010
8. When do you expect introduction of simulation programs in lectures, stock exchange simulation etc?	1.6	1.04	No	-
9. When do you expect introduction of Facebook for students of FOS?	1	0.66	Yes	2009
10. When do you expect on-line download of electronic books from the faculty library?	2.6	1.44	No	-

Exhibit 1: Consensus reached by the panelists - Round III

3.6 Round IV

The questions for which the consensus was not reached were repeated in the questionnaire in Round IV. These questions referred to the use of Internet in consultations and lectures and download of electronic books from the library. After this round the consensus was reached for 3 more questions and only the question 6 still had very different opinions and polemics among panelists.

5. When do you expect introduction of on-line consultations using video linkages?	2.9	0.89	Yes	2010
6. When do you expect the possibility to listen to the lectures from other faculties (from abroad) using Internet?	2.7	1.61	No	-
8. When do you expect introduction of simulation programs in lectures, stock exchange simulation etc?	1.1	0.9	Yes	2009
10. When do you expect on-line download of electronic books from the faculty library?	1.9	0.89	Yes	2009

Exhibit 2: Consensus reached by the panelists - Round IV

After round IV the final conclusions have been made. The event that is expected in the end of this year is introduction of student checking by RFID technology. The same technology for employees has been prepared for application. In 2009 according to the panelists, following services will be applied: use of SMS in informing students, paying scholarship by Internet and development of Facebook for students of FOS. At the end of 2009 panelists expect introduction of simulation programs in lectures and possibility for on-line download of electronic books from the faculty library. The events expected in 2010 are student service automation and introduction of on-line consultations using video-linkages. There was satisfying agreement among panelists after round IV. The question referring to the listening the lectures from foreign faculties using Internet had many polemics and panelist couldn't reach the consensus. For that question the final prediction couldn't be made. The Delphi method has shown that this group of experts from different apartments and positions in organization could reach consensus for almost all questions, which could further result in determining future-oriented objectives for implementation of new technologies.

4. CONCLUSION

The study conducted at Faculty of organizational sciences in Belgrade has shown that a well known Delphi method can be used as a forecasting tool for predicting future trends in higher education, specially referring to implementation of new technologies in providing students' satisfaction. The reactions of contacted experts were mainly positive and consensus was reached on questions after three rounds of inquiry, as the first round was only to compose the questionnaire. It can be concluded that selected questions were about the topics that were of the main interest for development of student satisfaction in near future. There was a very high level of understanding and similar opinions among experts from different departments. The study, by the reactions of panelists, confirmed that Delphi method has made them think and discuss about the future in a more complex way than they ordinarily would. The management and professors could hear and understand the voice of students, as the students contributed in composing the questionnaire, and the students could find out something about opinions and predictions of the management. The Delphi method is recommended as a forecasting tool, but also as a way of communication and shearing opinions about possibilities and convenience of new technologies in future of services.

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RISK MANAGEMENT IN HIGHER EDUCATION – DO WE NEED IT?

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The concepts of risks and academia could not be further apart – that is the common thinking in many circles. Academia is viewed as a haven for deep thinking, contemplation, leisurely walks with colleagues while discussing matters of philosophy, of theories and sophisticated ideas – interlaced with a few hours of teaching the young eager minds of tomorrow's leaders, managers, philosophers, writers, etc. The notion of risk seems irrelevant in such an environment. The normal association of risk is with extreme sports, with aberrant behavior or with the business or financial worlds – all, supposedly, indeed as far from academia as anyone can imagine.

The truth is quite different. Risks are a part of almost every human activity, and the exceptions are rare and hard to come by. It is, however, a fact that the sheltered existence of academia in its Ivory Tower has blinded it to many of the aspects of the world outside that tower, risks being one of them. Academia typically behaves as if the traditional way of (work) life is guaranteed forever. The truth, however, is that academia could not be more in error than in this case. Look for example at the following list of risks that face academia in every facet of its existence:

Academic risks

Research risks

Teaching risks

Faculty risks

Wrong promotion to tenure

Wrong decision on non-tenure

Dismissal at a relatively old age

Ethical risks

Political risks

Management risks

Leadership risks

Students-related risks

Declining entry grades

Pressures for higher grades, easier exams

Poor placement

Institutional risks:

Financial risks

Insufficient funds for research, for teaching, for maintenance, for development

Bankruptcy

Insufficient (non-financial) resources:

Classrooms

Laboratories

Equipment

Information and knowledge

Commercialization

Competition

Violence

Security

Poor student placement

Declining reputation

Faculty turnover

Insufficient enrollment – in general or for certain departments

Of course, there are other risks than may be placed in this list, but the idea is clear: institutions of higher education face many risks and they should be prepared to deal with them. A very poignant observation, true in all management and leadership situations, is that a risk, once identified, is no longer a risk – it is a management issue.

Are those risks real?

Let us now take a closer look at the risks listed above. In order not to belabor the obvious, only some will be expounded, but the main issues will be explained.

Academic risks

Academic risks are those associated with the academic activity of the institution. They are mainly research risks and teaching risks.

Research risks

Low quality research: research which is all too often rejected by the scientific community, or produces no meaningful results or no results at all

Wasteful research

Research harmful to the environment

Dangerous research: research that puts at risk people, equipment, animals, buildings

Teaching risks

Poor teachers

Insufficient teaching resources

Unfair or improper tests

Students that never complete their studies

Faculty-related risks

These risks are divided between the institution and the individual faculty members. Those of the faculty members are not, strictly speaking, the concern of the institution (although they have a direct impact on the behavior of the faculty members, thus affecting the institution).

Wrong promotion to tenure: giving tenure and promotions to undeserving faculty, thus keeping them in the institution even though they do not belong in it

Wrong non-tenure decision: not giving tenure and promotions to well qualified, deserving faculty, and thus causing them to leave

Ethical risks

Ethical risks can, of course, be found in many of the activities of an institution of higher education much like in any other organization. And, indeed, in any risk management activity those risks should be dealt with appropriately. Institutions of higher education have additional ethical risks that may not necessarily be part of the ethical risks of a non-academic organization. These risks include, among other:

Unethical research practices

Plagiarism

Unethical exploitation of students

Unethical grading

Political risks

These mainly involve a (dramatic) shift in policies governing higher education and, subsequently, a major revision in funding policies.

Management risks

Under this heading comes a slew of risks, associated with management in any organization. In addition to these, higher education has a different management structure than most other organization, and thus has an added collection of risks, including:

Inability to replace a poor manager in spite of clear evidence of non-performance

Replacement of successful managers because of required rotation

A 2-heads approach to management: in some institutions the rector is responsible for academic affairs while the general manager is responsible for the administration of the institution, without a well-defined 'tie-breaking' rule in case of conflicts

Leadership risks

Students-related risks

Declining entry grades

Pressures for higher grades, easier exams

Poor placement

Institutional risks

Financial risks

Insufficient funds for research, for teaching, for maintenance, for development

Bankruptcy

Insufficient (non-financial) resources:

Classrooms

Laboratories

Equipment

Information and knowledge

Commercialization

Competition

Violence

Safety and Security

Poor student placement

Declining reputation

Faculty Desertion

Insufficient enrollment – in general or for certain departments

This list, while incomplete, does present enough evidence that risks are prevalent in all institutions of higher education. While some institutions may have more of some types of risks and less of some other types, and other institutions' risks list will be different, all share many of the risks in the list. However, a lack of systematic, coherent and transparent approach to risk management in academia leaves every single management team in an institution of higher education to cope with those risks alone, without the benefits of shared information, shared insights and, even worse, without tested tools for their own needs in risk management.

Literature Review

A search of the literature for works on the topic of risk management in higher education produces very little results. Those works that deal with this subject explicitly are centered on the financial risks involved in the management of the institutions, as indeed there are financial risks in running an organization – for profit or not-for-profit – that must be addressed and managed, usually by the institution's chief financial officer (or treasurer, or vice president for finance, etc.). See, for example, Culcleasure (2005) and Query (2000).

Query, (2000) also deals with what may be termed "insurable risks", and lists accidents, sexual harassment, student drinking, drug abuse, employment liability practices, student lawsuits and more – but does not mention many of the risks mentioned above, which may be called "academic-specific risks". Some other authors, like Helsloot and Jong (2006), refer to safety, security and crisis management, but not to the academic risk.

It is not that all of the other risks have gone unnoticed so far, and most prominent on the list of concerns, more than risks, has been that of losing the most sacred hallmark of academia: its freedom to tell the truth as it sees it, independent of all other considerations. A vocal protester against what he sees as the commercialization of higher education, thus subjecting everything, including clinical research to sponsors' interests regardless of the truth is Bok (2003). Thus it seems that the academic-specific risks have, by and large, been ignored in the academic literature as, indeed, it has received little attention, if any, in many institutions of higher education.

Risk Management Essentials

Risk management is the systematic management process intended to discover all the risks facing a given organization and then decide what to do about them and how to handle them properly. It is not to be confused with insurance. Even though many people still consider risk management to be synonymous with insurance, current practices of risk management view insurance as only one of a number of ways to handle risks, and not necessarily the option of first choice. There has been, in recent years, quite an interest in risk management, both in academia and in practice, and the common approach to risk management consists of 4 steps:

- Risk identification
- Risk classification
- Risk analysis
- Risk mitigation
- Risk identification

Risk identification is a process that is intended to discover all the risks the organization faces, regardless of their likelihood of occurrence. Of course, the first order of business is to compile a comprehensive list of all possible risks. This can be done by using an industry-specific master list, if one exists, and modifying it in accordance with the needs and special features of the institution. Lacking an industry-specific list, a general list may be used, and it too will most likely have to be modified. Then, using the resulting institution-specific list, all the relevant risks must be identified and listed.

This is by no means a one-time activity. Risks change – some are added, some are removed; the organization changes, in many ways, over time, affecting the risks it faces. For example, in a higher education environment, a decision to start a new program is made, and the new program requires a specialized laboratory – thus exposing the institution to new risks – those involved with the operation of the new laboratory and the access of student, faculty and staff to that laboratory. Consequently, the risk identification procedure, indeed the risk management process, must be done at regular intervals and also as part of every new initiative. Usually, in an organization starting out with risk management, the iterations come in a fast sequence, until the management feels (relatively) secure in its risk management capabilities and activities. By then, normally, a comprehensive risk identification method is in place, along with the other parts.

Risk classification

In this phase of the risk management process, the risks – discovered in the first phase – are classified. The classification may vary from industry to industry and within each industry as

well, but generally it is done according to the following descriptors of the discovered risks: Attributes of the risk: frequency of occurrence, severity and predictability.

Risk type: speculative (i.e., there is a potential gain against the possible negative outcome), or pure risk (no gain possible).

Scope of the risk: project, organizational unit, the whole organization, market, environment.

Risk analysis

Risk analysis is made up of a number of steps:

Consideration of all possible outcomes and combinations.

Evaluation and separation of the risks into two distinct types – those that are controllable, and those that are not.

For both types, estimate what the impact may be: its range, its mode and its maximum. Both quantitative and qualitative data is gathered at this step.

Interpret the results.

Decide which risks to retain and which risks to allocate to other parties.

Frequently, quantitative data is not available or suspect, for the risk's potential impact as well as for its likelihood of occurrence. In these cases, it is usual to use the following rough estimates:

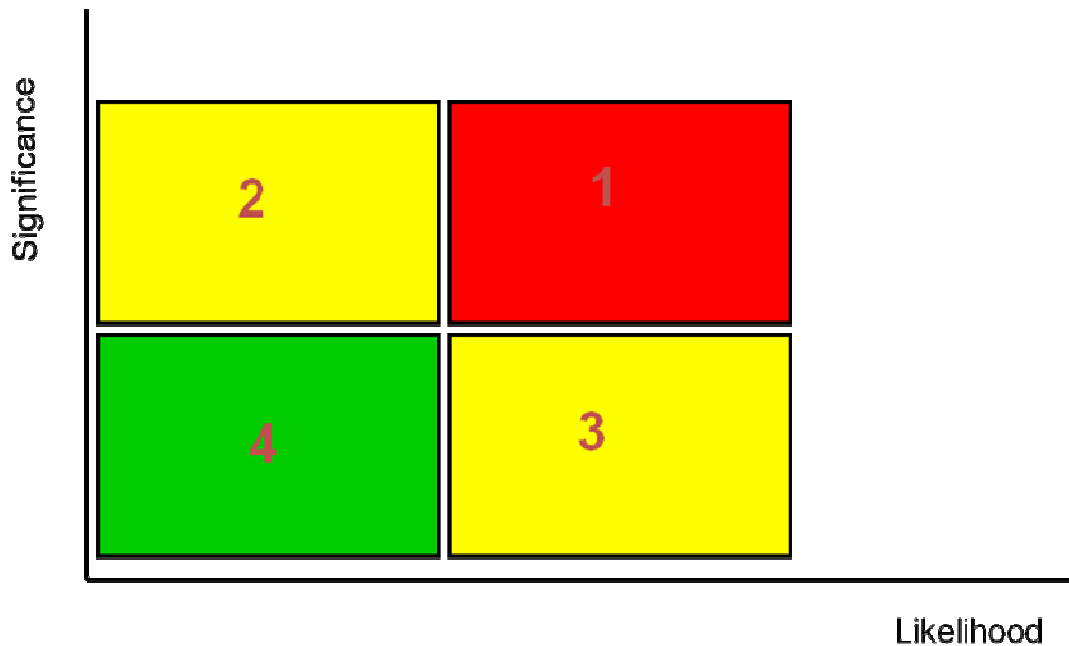
Table 1: Severity Estimates

Severity Level	Consequence	Impact Description
1	Marginal	Response will cause disruption to the program
2	Significant	Aborts a significant mission need
3	Serious	Aborts a critical mission need
4	Very Serious	Failure in Key Performance Indicators
5	Catastrophic	Can cause abortion of of current phase

Table 2: Likelihood of occurrence

Rating	Likelihood	Occurrence	Probability
1	Negligible	Assume no occurrence	<10%
2	Unlikely	Possible but less than likely	10%-40%
3	Likely	Significant chance	40%-65%
4	Highly Probable	Very high chance	65%-90%
5	Near Certainty	Assume occurrence	>90%

The results of this analysis are often portrayed in a risk map, dividing the risk space into four quadrants, as follows:



The 4 quadrants are numbered according to the priority of handling them. Naturally, those risks with both a high likelihood and meaningful significance (severity) must be the first to be addressed. Equally natural is the relegation of the risks with the inverse properties – low likelihood and little impact to level 4. The decision which of the remaining two quadrants to label 2 or 3 is somewhat a matter of personal choice, but in most cases it is reasonable to address those with the higher impact before those that may happen more frequently but carry relatively little meaning.

Risk mitigation

Once the risks have been analyzed, it is time to decide what to do with them. There are four possible responses to risks:

Avoid the risk. That is, do not take the action that may produce this risk.

Transfer the risk. This is usually where insurance comes in – we buy an insurance policy to cover this risk, thereby converting a stochastic event with potentially high impact to a deterministic event of known, acceptable magnitude.

Reduce the risk – take action in order to reduce the potential impact, or the expected frequency or both.

Accept the risk – do nothing, and take your chances.

The mitigation strategy to be used for each risk is a function of many characteristics, including the attitude of the management, the ability of the organization to absorb risks and their consequences, the legal framework within which the organization operates, and more. However, the risk management process must culminate, every time, with a list of risks and the mitigation strategy assigned to each risk. During the next iteration it is possible – and advisable – to reconsider the mitigation strategies already assigned to various risks, based on the accumulated experience, and not just to worry about the newly added risks. It is a part of the risk manager's job to constantly reassess the organization's response to its risks.

Risk Management in Academia

At this point, it seems obvious that the question, posed in the title of this paper, must be answered with a big, resounding yes. As the academic world is going through a period of

unprecedented change, it must also adopt advanced, state of the art management methods, approaches and techniques. While there are areas within the management of institutions of higher education that will require long time and some crisis before they happen, there is no reason why these institutions cannot adopt a management tools which is relatively easy to deploy, not very expensive, and one which has the potential of improving management's performance quickly –risk management.

Initially, the institutions of higher education will have to rely on the expertise developed for other sectors of the economy, until a specialized tool is developed for them, but even this modest start has the potential of great gains. In time, it is to be expected that custom-made risk management tools for academia will be developed.

In the mean time, let us not wait for the perfect solution to be available for us, but let us start with the available tools of today and work from there on. After all, a risk avoided is a problem saved.

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QUALITY MANAGEMENT SYSTEMS IN UNIVERSITY EDUCATION PROCESSES

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The rapidly changing socio-economic resulting from the integration with the realities of the European Union has forced training and education public and private to face a number of issues related to quality and customer satisfaction.

The field of training has begun a process of profound transformation that invests most of the structural components related to management strategies, language and behavior; some time, in fact, Europe insists on the need to introduce an increase in the quality of training and education through the implementation of systems homogenization and standardization.

The interventions promoted by Europe in the field since the mid-90s were numerous. In 2000, in the Treaty of Nice quality is conceived as a link between competitiveness and cohesion as highlighting the quality in training, the use in industrial relations and social policies is essential for achieving a goal of fundamental importance as that of full employment and competitiveness; in the document startup of the European Forum on the Quality of Vocational Training (2001) the concept of quality is associated with the size of the effectiveness of education programmes.

In 2001, in Italy, with the Ministerial Decree 166, are introduced in Italy for the first time in the system of education criteria of quality in services and structures for all bodies that contribute to public calls. In parallel, the European Union identifies the ISO 9001:2000 as the tool that education institutions may adopt for the design, control and evaluation of the training process through the use of objective parameters that have a value nationally and internationally.

Then the quality certification obtains a strong impulse, becoming, spurred by regional accreditation for education institutions, a crucial parameter of selection. The accreditation process, in this way, contributes, at least in formal terms, to increase the quality of education and training systems, leading the change of organizational processes.

An alternative approach to certification, claimed and widespread in recent years, especially in the services sector and particularly in the education, is that the self-assessment (the organization is confronted with a model in order to get to know, measure, benchmark with others and in particular with the best and then take action for improvement), assessment (action independent, external, objective, confrontation and possibly demonstration to obtain a qualification) and accreditation (formal recognition of compliance with certain requirements agreed, carried out through a process of periodic assessment and made normally in the public domain) against reference models more general, often due to compliance ISO, and focused on the principles of effectiveness and improvement.

Implementing a quality management system in a process such as education is not easy, primarily because of its nature of service. However, just as for products, the service is a logical sequence of activities readily identifiable, measurable and assessable. It is believed

that the services often are not measurable in terms of quality. However, the evolution of the quality concept allows us to reverse this erroneous approach, by a comparison, a single and indisputable parameter: the level of customer satisfaction.

The customer satisfaction of those who interact with the process (end-users / students, firms / business, public / community) is a measurement tool of fundamental importance to monitor quality of operations; is now consolidated thesis in order to evaluate the success of a strategy oriented to quality require that the quality perceived by the customer is greater than expected. In addition, studies and research in recent years within the services made it possible to refine the tools and techniques of control and measurement of performance in education.

Who provides education and training is called to a dual task, invest and reorganize production processes according to new principles of evaluation and enhancement and, at the same time, to increase the role of actors in the knowledge that the quality culture is the main variable to ensure an education system of quality.

The production of education activates a process which, starting from the objectives (the results expected), then develops a series of operations (some in sequence are also in parallel) that, carried out properly, can get the result. This result is learning by the students, success of education, and represents the added value that the operators of education should produce.

Assuring quality in education is no longer a discretionary but essential performance, because the competition between Countries and the same quality of life of citizens will be increasingly based on the quality of education systems, which must be able to produce no diplomas or certificates but knowledge, or rather, people able to learn and create in turn knowledge and will have to carry out this task in an ever more effective and efficient way.

In Italian academia, the system of higher education has undergone a profound change with the D.M.1 n. 509/99, as amended subsequently with the D.M. n.270/04.

The reasons which led, eight years ago, the Italian university system to embrace a change of this size are different: the number of graduates in Italy appeared to be among the lowest in Europe; half of subscribers did not achieve the title of the study; the actual duration of the studies was on average higher than that provided by the educational systems; the organization of courses was inflexible; the educational system was not always able to prepare neo-graduates to face adequately and immediately the world of business.

The objectives of reform were:

shorten the time of acquiring the diploma and reduce losses;

combine a methodological and cultural preparation, which has always been the prerogative of university teaching, with a highly professional training;

create a system of studies on two levels of graduation according to the formula of 3+2, joined by other possible routes, designed for constant updating and directed to students and professionals (master, specialization courses, refinement courses, PhD);

recognize greater autonomy to universities: a statute decided and approved independently, administrative and financial autonomy and self-ordering of courses of study. This autonomy should have put each university in a position to propose an offer education meets the needs of research and education from society and from the territory of influence of individual universities;

facilitate the mobility of students nationally and internationally through the introduction of the system of "credits".

Subsequent legislation has been to create, for now with little success, a mechanism of competition between universities by strengthening a system of assessment² based on a series

¹ D.M. = ministerial decree.

² To assess the quality of Italian universities was established, with a decree accompanying the Italian Finance Act n. 244/07, a specific structure. This is the National Agency of Assessment of the University and Research System (in Italian ANVUR). The Agency will deal with assessment, data collection and analysis, advice, training

of indicators and parameters that affect aspects of teaching, first, but also research and administration.

The frequent financial interventions operated by different governments in recent years have in fact increasingly linked the provision of resources to the results (and therefore to the assessment) compressing ever more operating margins of universities and increasing level of competition.

Under this context, it is strongly increased the need to implement a system that can allow more control over processes, in terms of quality, effectiveness and efficiency; in particular the growing attention to quality systems in education is underlined by the presence of numerous regulatory interventions aimed at defining certification and accreditation types to be taken in education systems, although now all approaches tend to converge in the model defined by ISO 9000:2000, which, based on principles and methods of management, are a benchmark for quality systems.

Their application to education processes does not involve special constraints. The reasons that lead the education bodies to use the ISO 9000 standards are now recognized in their overall value and the ability to identify a model of quality management shared and standardized, although it is necessary a process of adjustment and adaptation to meet peculiarities of service education³.

The central concepts of a quality management system are three: management processes, customer satisfaction and continuous improvement. The system therefore must be designed to achieve the quality objectives identified in the planning phase and the continuous improvement of performance in order to meet changing needs and expectations of different stakeholders (customers, employees, property, suppliers, communities).

In a process approach the "system" has the meaning of an integrated and functionally uniform network. The systemic approach to management therefore ensures a global monitoring process, reactive and proactive, both from the viewpoint of operation, which from that of interactions.

Implementing a quality management system in the area of education requires first to identify actors, constraints and opportunities.

The input of quality management system in the university is the system of vocational school while the output is identifiable with the graduate students. Within this basic process interact with the education system of universities different stakeholders, attributable to three main categories, such as end-users / students, firms / world of business, and public / community. To have expectations against universities are not only students but also families, enterprises, the social context in essence, for which the quality of education should be input crucial.

and cultural promotion. One of the main tasks of the ANVUR will be to point out the part not consolidating of the Fund for the Financing Ordinary of universities which must be allocated by the State to universities and research centres. This is a body which will act totally independently and released by the Ministry.

Other recent regulatory impact on the assessment are those of Law 31/3/2005 n.43, in particular, art.1 b, which defines the content of programming and evaluation of universities, the D.M. 3/7/2007 n.362, which defines the general outlines of address of the new programming, D.M. 18/10/2007, setting standards, criteria and indicators as defined by qualitative and quantitative indicators for the three years 2007-2009, to monitor and evaluate the results of the programmes of universities and the DM 31/10/2007 which defines the requirements for the annual activation of the education offer of universities.

Respect and use of these parameters and indicators for universities is a major constraint because the funding of universities and the activation of courses of study depend on the results.

³ From this point of view there are several tools to help implementation of quality systems in education. In particular, the UNI ISO 10015 "Guidelines for training" provides a series of requirements that guide the creation, within the educational structure, of a quality management system able to keep under control and to improve the quality of the process of education.

The degree of satisfaction of stakeholders is the benchmark from which to draw the signs to implement improvement actions.

The benefits arising from a quality system in accordance with ISO 9000 standards can be traced increasing the level of customer satisfaction and the effectiveness of the services offered by the university.

At the side of ISO 9000, the university system has developed in recent years CampusOne experimental project, aimed at evaluating the courses of study by an assessment both the results of service (product assessment) and that of his management system (system assessment), for continuous improvement of courses of study. The CampusOne Model for the evaluation of courses of study adopts the process approach promoted by ISO 9001:2000, and through appropriate adjustments may make it possible for universities to come without difficulty to ISO certification. By comparing the two models is possible to notice the strong symmetries (table 1).

One of the most important steps is the assessment, understood not as a point of arrival but as an element of quality development and improvement.

The functions and purposes of quality assessing go with the objectives determined at the time of defining the formative process. The processes of assessment and implementation of quality cannot be separated.

So, in both models tested, both in the university system as a whole, the evaluation becomes the cornerstone of the process, with respect to the acquisition of resources and to the management of processes.

The object of evaluation can be examined under different plans for analysis, in terms of quantity and quality. If the former can easily be attributed to cost parameters, time, performance, efficiency, and resources, second (qualitative) have a significant importance, but at the same time are difficult determination as referring to a series of elements.

The purpose of the evaluation consists essentially of three such areas as education, research and administrative management, which are also the objectives of a management system. The aim is to improve the effectiveness and efficiency of these areas.

Increasing quality in education is the result of the intersection of two dimensions, that efficiency and effectiveness in relation to training and scientific knowledge.

In the first case, the education becomes a structural assessment which complements the act of teaching and becomes systemic practice of adjusting the education process. In the second case customization of education process provides for the use and the introduction of a series of "accompanying" factors that guide the student in the curriculum. This will customize the courses and reduce the risk of abandonment. Belongs to this dimension the reception, which covers all activities of logistics information on the journey teaching; the accessibility, seen in terms logistical, technological, economic and communicative, which guarantees equal access to education; the guidance, driving student in training; the mentoring, centered on relational and disciplinary initiatives designed to facilitate and make more profitable the study by providing a range of support services; the internship, aimed at preparing for the future inclusion in the job environment; the flexibility, based on a different proposal for teaching, not on rigidity but in the ability to differentiate and customize the plurality of educational activities; the distance learning, seen as innovative element in the education system, such as to put in direct communication professor and student through the use of information technology.

TABLE 1: ISO 9000 and Campusone model compared			
ISO 9000:2000	CAMPUSONE		
		DIMENSION	ELEMENTS
QUALITY MANAGEMENT SYSTEM		ORGANIZATIONAL SYSTEM	Management system
			Responsibility
			Review
MANAGEMENT RESPONSIBILITY		NEEDS AND OBJECTIVES	Needs of stakeholders
			General objectives and policies
			Learning objectives
RESOURCE MANAGEMENT		RESOURCES	Human resources
			Infrastructure
PRODUCT REALISATION		EDUCATION PROCESS	Process design
			Loans and learning
			Services of context
MEASUREMENT, ANALYSIS AND IMPROVEMENT		RESULTS, ANALYSIS AND IMPROVEMENT	Results
			Analysis and improvement

Source: direct processing by authors

The quality of teaching is, then, a complex subject with irreducible specificity, making emerge at this point the problem of evaluation.

There are many bodies and people who, in various ways and at different levels, interact with the education assessment:

the Ministry of University and Scientific Research (MIUR), the National Committee for the Evaluation of the University System (CNVSU) and the National University Council (CUN);

the collegial bodies of universities;

the assessment bodies of universities;

stakeholders at national level and individual universities: students and families, territorial public institutions, enterprises, orders and professional associations, the business world in general.

The presence of so many committed and interested stakeholders makes complex the whole framework and the assessment of teaching can be achieved successfully only if you manage to combine and bring to summary different and partly divergent functions, content and principles.

Assess teaching means put in place quality assurance systems and thus evaluate the project, the process and the output of academic activities together by combining quantitative indicators, qualitative assessments conducted by external parties and examination of procedures used, in a logic that sees self and external assessment combined to effectively

respond to the needs evaluation that is not possible to simplify or standardize excessively or flatten on a single dimension. The activity of external assessment should be conducted at the level of a single discipline or disciplinary homogeneous groupings by external peer, possibly not only Italians.

In most Italian universities conducting assessment of teaching is done by the students and therefore, as important, has a limited horizon. In addition, students do not always face so serious an activity of which are unable to verify the utility; teachers consider an unnecessary extra effort availability to carry out evaluation which has not actual effects. Only a proper use of the results can help transform today's assessment activities in an educational tool for improving effective courses of study, as the institutional organization.

The second objective which aims to achieve a quality management system in academia is to increase the efficiency and effectiveness of research on which the literature and scientific debate are ample and articulated. The connections of research with teaching are evident: the results of research are the lifeblood of education.

The third area includes the administration, with particular attention to resource and to budget, which must comply with the parameters imposed by national legislation.

The evaluation of technical and administrative structure is all the more necessary when the university has to deal with increasingly limited resources to achieve its goals, education and research. In this context, is of particular relevance to the performance evaluation, which represents an opportunity for growth and development of human resources of technical and administrative areas; the system for evaluating the performance of these areas can be made by assigning individual targets to staff inserted at the highest levels of organizational structure and team goals to staff remaining.

So the assessment has now acquired a strategic role not only in the management of the education process but in the more general question of universities. This not only highlights the close connection with the principles and methods of quality system, which by its nature is based on the circuit virtuous goals, control, performance, improvement, but, in our opinion, implies the adoption of a management model based on deployment and, potentially, on the certification of a quality system, according to one of the various and consolidated existing models.

A system based on the assessment cannot function without an effective management system (which could be precisely the quality system) able to coordinate, plan and organize processes, define strategic variables and implement a framework of indicators that can continuously monitor the development of the system and make available data and information for review and decisions.

For this purpose in our paper we tried to simulate a system of internal assessment, included in a quality system, with its targets and related indicators, taking into account the typical areas of interest for the university, to demonstrate how it can respond to the objectives related to compliance with the ministerial regulations, but is in the same manner fully consistent with the observance of the requirements of a quality system.

The simulation identifies a system of targets and indicators for areas of education, research and administration.

TABLE 2: some assumptions of variables for an evaluation system			
Variables	Education	Research	Administration
Target 1	Students satisfaction	Quantity and quality of research	Economy and efficiency
Target 2	Learning	Ability to raise resources	Responsibility and trust
Target 3	Placement	Spin-off	Quality and transparency

Source: direct processing by authors

For each variable we can identify the macro-indicators, bearing in mind that it's always a simulation and that in each university targets and related indicators could be different.

So for teaching we can have, in accordance with its targets, the following types of indicators: indicators for assessing the students satisfaction: measuring the students satisfaction than the teachers; measuring the students satisfaction in relation to the services offered; indicators for the assessment of learning: number of students without educational debits; tests for the evaluation of pre-and post-preparation course; indicators for assessing the placement: number of graduates who found jobs within a year since gaining title.

For research:

indicators for assessing the quantity and quality of research: number of publications in international refereed journals; number of publications in national refereed journals;

indicators for assessing the ability to raise resources: amount of research contracts with enterprises, number of scholarships funded for doctoral research;

indicators for the assessment of spin-off: number of new spin-off constituted; average operating income of spin-off constituted.

For administration:

indicators for the assessment of economy and efficiency: compliance with the ceiling of 90% to cover employees costs in the budget of university; relationship between use of resources and targets;

indicators for the assessment of responsibility and trust: ability to solve problems, ability to work in teams, ability to conclude the work within set time, ability to achieve the goals;

indicators for assessing quality and transparency: compliance / non-compliance with rules and legislation, internal and external customer satisfaction, use of student evaluations for the actions of government.

As you can see all indicators are measurable, with appropriate methods and techniques, and are characterized in order to be compared over time.

This allows the definition of a goal in quantitative terms, the identification of an average value and therefore the possibility of making assessments as objective as possible on the achievement of targets, compare the results with the average standard, and start corrective actions to bring the system toward standards and improvement actions to improve performance.

From here follows another important aspect, namely the opportunity to grow, through the raising of the average values of performances, the entire organization.

The system of indicators can be implemented with measurements related to a function organization (an office, a process), a teamwork, and a person.

Such a system responds perfectly to the needs identified by the most recent ministerial regulations on planning and evaluation, which are a constraint for a quality system built within the university system, but at the same time, is absolutely consistent with the principles and requirements of a quality system.

In this respect we can underline in particular the consistency with the requirements related to the objectives (ISO 9001:2000 management responsibility, point 5.4.1 quality objectives and point 5.6 management review), control (ISO 9001:2000 product realisation, point 7.5.1 control of production and service provision), measurement (ISO 9001:2000 measurement, analysis and improvement, point 8.2.1 customer satisfaction, point 8.4 analysis of data) and improvement (ISO 9001:2000 measurement, analysis and improvement, point 8.5.1 continual improvement, point 8.5.2 corrective action).

Even if one of the objectives of reforming the university system was to recognize greater autonomy to universities, but this freedom remains bound by certain parameters set by law that universities are called to respect.

Connections with the quality system are evident: D.M. 31/10/2007, n.544, including requirements for the annual activation of the three-year and specialist degree courses, defines (article 1) those for quality assurance education processes.

Implementing a quality system in universities can therefore be of great help to guide the organization in this complex system of benchmarks and indicators, but must inevitably be confronted with a series of constraints that affect its implementation.

A potential risk that follows the adoption of a quality system is to weigh down a structure that, like most of Public Administration, is already by its nature rather bureaucratic. The excessive bureaucratization also brings a less flexibility of the structure, which is much more rigid than any other organization.

Implementing a quality management system must be planned so as to achieve a perfect fusion between the indicators measuring proposed by MIUR and those developed by individual universities on the basis of their needs and specific organizational and financial conditions.

It can thus say that indicators of measurement can be divided into two categories, those defined by MIUR, nationally, binding and therefore applicable to all universities, and those developed by individual universities, developed taking into consideration the characteristics, constraints, needs and requirements of its education system and research, using as an element of merging the goal in common: continual improvement.

Based on the above considerations can be said that a university of quality is able to ensure certainty to all customers and stakeholders with regard to their ability to obtain adequate results to the targets declared and promised; in an organization that provides education, quality processes must be studied, planned, designed, evaluated and validated, demonstrating the responsiveness to the requirements of use, and then continuously improved.

The quality of the university system should be checked at different levels of decision-making involved; principles of competitiveness and capacity to set up an open system, oriented to culture of listening, confrontation and objectivity resulting from the release of information are to be introduced.

Through the comparison between the results and expectations, the system allows you to identify the criticalities through monitoring activities, and in case of discrepancy between objectives and results can be achieved corrective action plan, designed to eliminate the cause of non-compliance, and improvement, aimed at enhancement and raising the level of quality.

The quality system can be very useful to pursue the objective of continual improvement, which is essential in a competitive environment such as that which is affirmed, but invoked

constantly now in all the most recent legislative and ministerial acts, although in its application the constraints described in our paper must be considered.

But the challenge to continual improvement of the educational process has now been launched and, as gradually, the universities must adapt, who will do it first will enjoy a competitive advantage and provide added value to society in all its parts, students, world of business, families.

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ORGANISATIONAL CULTURE, JOB SATISFACTION AND HIGHER EDUCATION SERVICE QUALITY. THE CASE OF TECHNOLOGICAL EDUCATIONAL INSTITUTE OF LARISSA

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1. Introduction

The quality assurance and improvement in higher education is one of the most important priorities for the educational institutes in European Union. Since education, science, technology and human resource becoming crucial factor for the economic growth and social progress the qualitative upgrade of higher education is a central goal of the Lisbon Strategy and of the Bologna Process. Recently in Greece, legislation (3374/2005) about Quality Assurance was activated aiming at the adoption of necessary metrics and processes in order to assure and improve the quality of services provided by Higher Education Institutions (HEIs). In this frame, the introduction of an evaluation system, quality assurance procedures and long range planning meet the opposition and resistance of most of the HEIs' stakeholders.

This paper addresses these issues as well as problems identified in literature examining culture and quality, by providing a synthesis of existing approaches in a specific HEI. In particular, we attempt to provide an insight into the culture profile of faculty and administration staff, in the case of the Technological Educational Institute of Larissa and currently involved in the implementation of a Quality Assurance System. More specifically, the current study aims:

- To diagnose organizational culture profile of faculty and administration staff by utilizing a comprehensive and diagnostic framework,
- To investigate the relationship between organizational culture, job satisfaction and higher education service quality.

The paper is organized as follows: The next section presents definitions and measures of higher education service quality and organizational culture. This is followed by the research methodology and a description of institute's culture profile. Afterwards, statistical analysis and findings discussion are presented.

2. Literature Review

2.1 Service quality

Several measuring instruments have been developed aiming to capture and explain the service quality dimensions. There is little doubt that among these, SERVQUAL (Parasuraman et al, 1985; 1988; 1991; 1994), according to which quality is calculated as the difference between customer expectations and perceptions, has proved to be the most popular, as acknowledged even by its critics (e.g. Asubonteng et al, 1996). The 22 items of this instrument are categorised into the reliability, tangibles, responsiveness, assurance, and empathy service quality dimensions.

Despite the great popularity and wide application of SERVQUAL, it has also been under extensive criticism. The most important topics of debate include:

- The applicability of the ‘perceptions minus expectations’ model to measure quality (Cronin and Taylor, 1992; 1994; Teas, 1994).
- The number and type of the instrument’s dimensions as well as their generic applicability to all contexts (Babakus and Boller, 1992; Buttle, 1996; Carman, 1990).

Comprehensive descriptions of the debate regarding SERVQUAL and other service quality measurement instruments can be found in the work of Asubonteng et al (1996), Baggs and Kleiner (1996), Robinson (1999), and Seth and Deshmukh (2005).

2.2 Service Quality in Higher Education

Despite the debate on quality definitions and the different perceptions of quality which are both inevitable and legitimate, and subject to continuous change (Tam, 1999), there is some consensus that quality has to be determined by stakeholders (Anwyl, 1992; Birnbaum, 1994; Harvey and Green, 1993; Lindsay, 1994; Ruben, 1995). Higher education, sharing many characteristics with other organisations of the public sector, has a number of stakeholders, all of whom experience different aspects of the higher education institutions. Stakeholders include: students, their parents and family, academic and administration staff, and society.

For example, betterment of service quality requires a sustained improvement in the clarity, accuracy and reliability of the service offered, with no particular aspect standing out. Improvements that would meet only external customers’ perceptions, leaving out internal customers would almost certainly provoke a negative reaction among the latter. The fulfilment of all stakeholders’ criteria is not inherently incompatible but, given limited resources, it may not be possible to simultaneously accomplish them. For example, in educational organisations, it is difficult to improve appearance and responsiveness, and at the same time the task-based service given to staff (Galloway, 1998).

In service quality literature, there has been no consensus on a generally applicable instrument to all service industries. However, SERVQUAL has earned great popularity and wide application in last decades.

Following a theoretical study of the dimensions of service quality in higher education, we concluded that most researchers have been focused on student’s view of quality, while little attention has been paid on the perspective of academic and administration staff. In a similar vein, few researchers have empirically tested measurement instruments of service quality referring to teaching processes as well as administration services.

In this study, two frameworks of service quality measurement were synthesised referring to quality of teaching and administration quality:

1. Owlia and Aspinwall’s (1996) theoretical framework of quality dimensions with an emphasis on teaching aspects of education (academic resources, competence, attitude, content).
2. Waugh (2001) model of the quality of administrative and supportive services (reliability and responsiveness, assurance and empathy).

In the current study, both academic and administration staff evaluate the quality of teaching and administration. Although administrators do not participate in teaching procedure, it is necessary to take into account their opinion about the teaching process quality.

Due to the fact that academic and administration staff were the respondents in our survey, the dimension *tangible* was renamed to *academic resources* according to the Owlia and Aspinwall framework and it was used as tangibles in the measurement of administration quality. Waugh’s (2001) instrument for the quality of administrative and supportive services was based on SERVQUAL, which was revised and adapted for use in higher education. His final model was based on two main aspects, *Reliability and Responsiveness* and *Assurance and Empathy*.

Our final tool for the measurement of higher education service quality is described in table 1.

Table 1. The survey instrument of quality of teaching and administration

Quality dimension	Sample items	Number of Items	
Academic Resources	Sufficiency of academic equipment e.g. laboratories, workshops Ease of access to information sources e.g. books, journals, software, networks	5	Owlia & Aspinwall (1998)
Competence	Theoretical (relevant) knowledge of academic staff Practical (relevant) knowledge of academic staff Expertise of academic staff in teaching/communication	4	Owlia & Aspinwall (1998)
Attitude	Extent to which academic staff understand students' academic needs Degree of academic staff 's willingness to help Availability of academic staff for guidance and advice	3	Owlia & Aspinwall (1998)
Content	Extent to which students learn communication skills Extent to which students learn team working Relevance of curriculum to the future jobs of students	7	Owlia & Aspinwall (1998)
Reliability and Responsiveness	Administrative contact Confident and dependable administrative advice Advanced notice of administrative changes	9	Waugh (2001)
Assurance and Empathy	Courteous and confidence in contact Individual and understanding contact Felling secured caring contact	8	Waugh (2001)

2.3 Faculty and administration staff behaviour towards quality evaluation

Higher education has a long history of resistance to change under external pressure (Benjamin, 1994; Bok, 1986; Mc Connell, 1992). The emphasis on autonomy from external control and manipulation affects the degree to which faculty and administrators view the importance of quality assurance as a path towards institutional effectiveness.

It is argued that front-line staffs do not mutely accept policy or the changes associated with it, and are not passive recipients of management actions. This argument impinges upon the view that 'academic culture' exists as a monolithic, mono-cultural entity guiding the behaviour, thoughts and actions of academics. Thus, culture may be considered as at least partly *constructed* on an ongoing basis by individuals and groups' (Trowler, 1998).

Harvey and Knight (1996) concluded that quality assurance systems have negative impacts to staff in higher education. In particular, organisational members who are already involved in innovation and quality initiatives, may be discouraged by accountability approaches. Furthermore, they have to overcome both the added burden of responding to external scrutiny and the feeling of being manipulated and undervalued by managers and external agencies.

2.4 Organizational culture

Competing Values Model (CVM) is adopted in this study, for the operationalization of the organizational culture construct (Deshpande et al., 1993; Quinn 1988; Quinn and Rohrbaugh 1983, Trivellas, 1999). CVM share wider acceptance among researchers as it has been validated by an increasing number of researchers not only as a model of culture (Howard, 1998; Kwan and Walker, 2004), but also as a measurement instrument for other organizational phenomena such as organisational effectiveness. CVM has also been utilised as

a device for mapping organizations' culture profiles and conducting comparative analysis (Quinn and Cameron, 1983; Quinn and Kimberly, 1984).

CVM emphasizes the competing tensions and conflicts across two axes, which form a four-cell model (Figure 1). The first axis extends from change, flexibility and spontaneity to stability, control, continuity and order. The second reflects the conflict between the internal focus or integration of socio-technical systems and external focus on the interaction with business environment. Consequently, the intersection of the two dimensions defines the following four quadrants, which may produce either four archetypes of organizational culture, namely adhocracy, clan, hierarchy and market respectively (Figure 1):

Adhocracy culture stresses entrepreneurship, creativity, proactiveness, and innovativeness in discovering new markets and directions for growth. It is characterized by flexibility, adaptability and external orientation.

Clan culture values employee commitment, loyalty, empowerment, openness, morale, participation, teamwork, personal involvement and cohesiveness, putting emphasis on flexibility and internal focus. Clan cultures are related to enhanced levels of trust, while they constrain conflict and resistance to change (Zammuto and Krakower, 1991).

Market culture, emphasizes goal achievement, productivity, task accomplishment, profitability, planning and setting objectives and efficiency (Cameron and Freeman 1991; Deshpande et al., 1993), reflecting its external orientation and favouring stability and control (Hooijberg and Petrock, 1993).

Hierarchy culture focuses on order, uniformity, certainty, stability, and control, reflecting inward orientation and formalized structures. Rules and regulations, definitions of responsibilities, centralization of decision making, standardization of procedures, dependability and reliability, measurement, documentation, maintenance of stability and record keeping are values deeply espoused in hierarchy cultures.

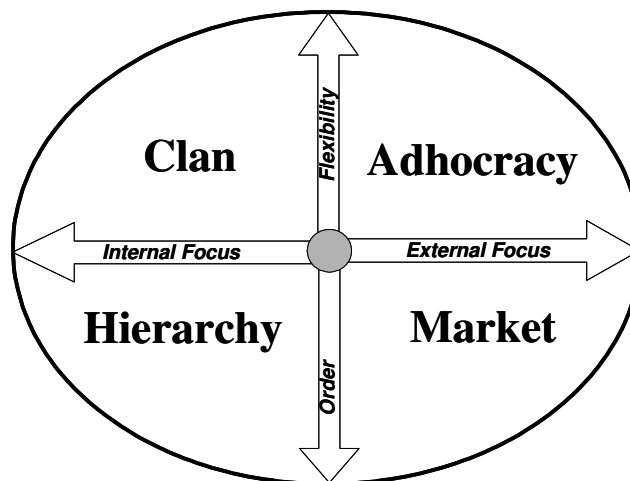


Figure 1. CVM for Organisational Culture (adapted from Cameron and Freeman, 1991)

2.5 Organizational culture in Higher Education

Organizational culture is reflected at the shared values and beliefs of its members, and is manifested in the ends sought by the organization, and the means used to achieve them, such as firm's structure (Hofstede, 1994; Quinn, 1988; Zammuto & O' Connor, 1992).

University culture has been defined as the collective personality of a university, college or other organization. It has also been described as the atmosphere which is created by the social and professional interactions of the individuals at the university. Also, culture serves a crucial role in determining "what the institutions is and what it might become" (Norton, 1984).

In the higher education literature, the CVM has attracted research interest. Cameron and Freeman (1991) have surveyed and compared 334 higher education institutions, investigating the relationship between organisational culture and effectiveness. Their empirical results proved that culture type is a significant factor in determining organisational effectiveness. Different culture archetypes are found to be associated with different aspects of organisational effectiveness (Yuzhuo, 2005). Several implications serve to underline the paramount importance of university culture in the university setting, and the most important of them is that culture is intricately tied with quality.

2.6 Faculty and staff satisfaction and its linkage to quality

Job satisfaction has stimulated much research interest, mainly because it is argued that either as an individual outcome or as an important interrelated factor plays a crucial role in HRM literature. In this line, institutions can only excel building on the views, attitudes, and perceptions of their human resources (Witt and Beokermen, 1991; Jekins, 1993; Judge and Watanable, 1993). Although most of the research in this field has been focused on profit making industrial and service organizations, there has been a growing interest in employee satisfaction in higher education, especially in relation with quality management. The reason for this increasing interest is that higher education institution is “labour intensive”, since a vast amount of resources are allocated to employees and their effectiveness is largely dependent on their employees. Across this line of reasoning, Kusku (2003) states that employee satisfaction of higher education institutions is very important factor in order to reach university accountability and quality. In particular, employee satisfaction is related positively to increased quality levels of higher education institutions.

3. Research Methodology

3.1 Sample and Questionnaire Design

The field research was conducted in September 2007. Respondents were faculty and administration members of Technological Educational Institute (TEI) of Larissa (equivalent to Technical Universities). The resulting sample comprised 134 valid questionnaires (response rate about 85%). The research instrument was a structured questionnaire based on a seven-point Likert-type scale, which was developed to measure institute’s culture, job satisfaction and the quality in services and internal processes. Tapping on the advantages of CVM, institution’s culture scale was articulated by items suggested by Cameron and Freeman (1991), Quinn and McGrath (1985) and Trivellas, (1999). Job satisfaction construct was built upon Cammann’s et al. (1983) recommendations. Higher education service quality was operationalised by adopting both the quality dimensions emphasised on teaching aspects proposed by Owlia and Aspinwall (1996), and Waugh’s (2001) measures of administration quality.

3.2 Organizational Culture profiles of faculty and administration staff

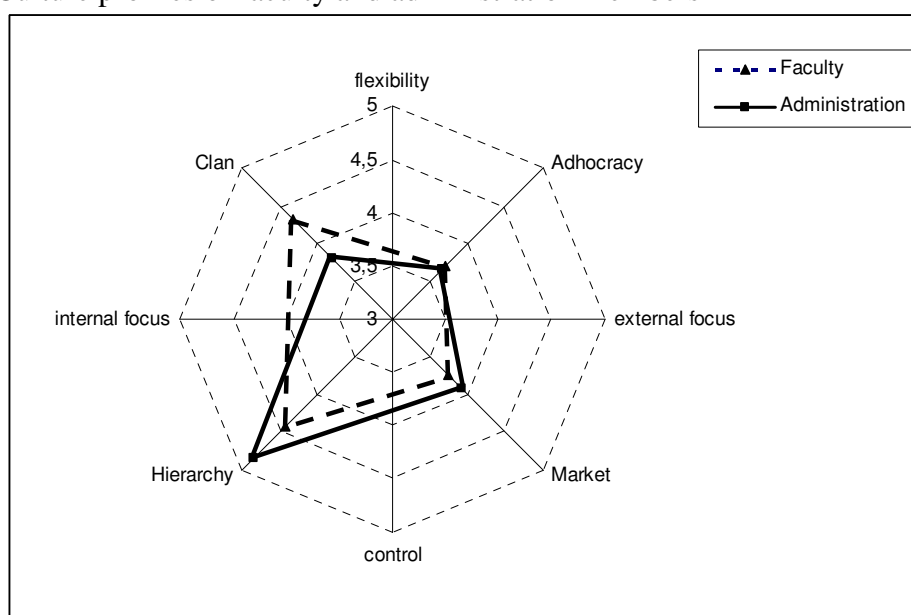
Regarding organisational culture, faculty considered hierarchy (mean=4.33) and clan (mean=4.42) as the most espoused archetypes, while administration staff ranked hierarchy (mean=4.85) as the dominant one. The CVM based instrument, applied as a diagnostic tool, reveals that this organisation is deficient in innovativeness, creativity, risk taking and growth potential, as well as in a market orientation towards goal achievement, task accomplishment, productivity and efficiency. Besides, t-test analysis was used to asses the statistical significance of the differences between faculty and administration members of TEI of Larissa. Results summarized in table 2, indicate each group’s mean and level of significance of each

paired comparison. Administration staff lacks employee commitment and empowerment, group cohesiveness, and morale, while they are more inclined to formalized structures, rules and regulations, decision making centralization, stability and control, in comparison with academics. A graphic visualization of the findings across the emerging culture types is illustrated in figure 2.

Table 2. Results of paired t-test analysis among culture types

	Faculty	Administration	Sig.(t-test)
Organizational culture			
<i>Adhocracy</i>	3.712	3.650	n.s.
<i>Clan</i>	4.333	3.805	p<0.05
<i>Hierarchy</i>	4.424	4.848	p<0.1
<i>Market</i>	3.742	3.922	n.s.
<i>Valid N</i>	66	68	

Figure 2. Culture profiles of faculty and administration members



4. Statistical Analysis and Results

Principal Component Analysis was performed to identify latent factors within the organizational culture and job satisfaction constructs and to verify the reliability and validity of the emerging dimensions. Finally, multiple regression analyses were conducted to assess the unique contribution of each predictor (organizational culture and job satisfaction) in explaining criterion variance (higher education service quality).

4.1. Principal component analysis

Principal Component Analysis (PCA) was conducted to identify latent factors within organizational culture. Four factors with eigenvalues greater than one (Kaizer, 1960; 1974) were extracted from the data, as it is shown in table 3 (see also appendix, table A-1). These principal components accounted for over 71% of the total variation. A cut-off of 0.50 was

used for item scale selection and it was selected a normalized varimax rotation to bring about simple and interpretable structure. Following an inspection of the items' loadings on each factor, four distinct principal components were identified, corresponding to: *adhocracy*, *clan*, *hierarchy* and *market* archetypes. Also, two principal components were extracted (Kaizer criterion), explaining approximately 60% of the overall variance for the job satisfaction scale (table 3). Applying normalized varimax rotation, the dimensions of *human relations and job enrichment* (*relations with colleagues, relations with supervisor, autonomy*), and *working environment and job outcomes* (*e.g. wage, security, physical environment, working hours*) were assigned to the aforementioned construct. The factor loadings and eigenvalues of PCA are reported in appendix (table A-1, table A-2). Preceding PCA, the Bartlett sphericity testing on the degree of correlation between the variables ($p < 0.001$) and the appropriateness of the sample according to Kaiser–Meyer–Olkin (KMO over 0.83) verified the appropriateness of the sample (Norusis 1990).

Inter-item analysis is used to verify organizational culture, job satisfaction, and higher education service quality scales for internal consistency or reliability (Nunnally and Bernstein, 1994). Specifically, Cronbach's coefficient alpha (Cronbach, 1960) is calculated for each scale, as recommended by Flynn et al. (1990), ranging approximately from 0.81 through 0.97. Thus, all sub-scales exhibited well over the minimum acceptable reliability level of 0.7 (Nunnally, 1967).

Table 3. Descriptive statistics and internal reliability analysis of all scales

	mean	Std. dev.	items	Cronbach alpha:	KMO*
Organizational culture					0.862
<i>Clan</i>	4.06	1.379	6	0.898	
<i>Hierarchy</i>	4.64	1.343	6	0.887	
<i>Market</i>	3.83	1.352	6	0.895	
<i>Adhocracy</i>	3.68	1.360	6	0.910	
Job satisfaction					0.836
<i>human relations and job enrichment</i>	4.87	1.302	8	0.911	
<i>Working environment and job outcomes</i>	4.64	1.180	6	0.809	
Higher education service quality					0.855
Quality of teaching					
<i>Academic Resources</i>	4.13	1.302	5	0.833	
<i>Competence</i>	4.28	1.259	4	0.921	
<i>Attitude</i>	4.09	1.403	3	0.934	
<i>Content</i>	4.08	1.261	7	0.955	
Quality of administration					
<i>Reliability and Responsiveness</i>	4.28	1.450	9	0.966	
<i>Assurance and Empathy</i>	4.38	1.496	8	0.968	

*The Kaiser–Meyer–Olkin (KMO) indicator was calculated to assess sample size adequacy. The minimum acceptable level is 0.5. Bartlett's test of sphericity is significant at $p < 0.001$ for all scales. Valid N=134.

4.2 Multiple Regression Analysis

Six multiple regression analyses were conducted one for each higher education service quality dimension as dependent variables, testing their relationships with organizational culture and job satisfaction.

Overall, the independent variables explained a significant degree of variance in the dependent variables, with the explanatory variables explaining 62% of variance in academic resources, 43% of variance in quality competence, 24% of variance in higher education service attitudes, 44% of variance in quality content, 67% of variance in reliability and responsiveness and almost 70% of variance in service assurance and empathy. These results show that the predictor variables have captured a significant proportion of change in the dependent variables.

No serious problems of multi-collinearity exist between the independent variables as Variance Inflation Factors (VIF) is far below the 3 points limit suggested in Social Sciences literature. The results of regression analyses (standardized betas, adjusted R square, significance levels) are exhibited in table 4. The data were examined for outliers, skewness, kurtosis, and multivariate normality using statistical procedures and plots available by SPSS (14.0).

Table 4. Results of regression models testing the relationships of organisational culture, job satisfaction and higher education service quality.

<i>Independent variables</i>	<i>Higher education service quality (dependent variable)</i>					
	<i>Quality of teaching</i>			<i>Quality of administration</i>		
	<i>1 Academic Resources</i>	<i>2 Competence</i>	<i>3 Attitude</i>	<i>4 Content</i>	<i>5 Reliability & Responsiveness</i>	<i>6 Assurance & Empathy</i>
Organizational culture						
<i>Adhocracy</i>	0.486***	0.466***	0.243⁺	0.498***	0.302**	0.287**
<i>Clan</i>	-0.291***	0.025	0.028	0.019	0.006	-0.070
<i>Hierarchy</i>	0.292***	0.219*	0.053	0.151	0.047	0.069
<i>Market</i>	0.054	0.049	0.088	0.021	0.140	0.165*
Job satisfaction						
<i>human relations and job enrichment</i>	0.156	-0.108	0.103	-0.019	0.218*	0.203*
<i>Working environment and job outcomes</i>	0.168*	0.108	0.096	0.102	0.253***	0.324***
Adjusted -R ²	0.622***	0.429***	0.240***	0.446***	0.668***	0.695***

⁺ Significant at the 0.1 level, * significant at the 0.05 level, ** significant at the 0.01 level, *** significant at the 0.001 level, N=134.

In model 1, the values of standardized betas reveal that adhocracy (stand. b= 0.486), hierarchy (stand. b= 0.292), and satisfaction issuing from working environment and job outcomes (stand. b= 0,168) are significantly and positively related to the academic resources' aspect of higher education service quality. On the contrary, clan culture exerts a strong negative relationship (stand. b= -0.291). In model 2, adhocracy (stand. b= 0.466) and hierarchy (stand. b= 0.219) are significantly and positively associated with quality competence. Examining the attitude dimension of higher education service quality (model 3), only adhocracy (stand. b= 0.243) is marginally related to the dependent variable, although the total model is strongly significant (p<0.001).

Considering higher education service quality content (model 4), only adhocracy (stand. $b=0.498$) exerts a strong positive relationship. Regarding reliability and responsiveness (model 5), adhocracy (stand. $b=0.302$) and satisfaction stemming from both human relations and job enrichment (stand. $b=0.218$) and working environment and job outcomes (stand. $b=0.253$) are positively related to the dependent variable. Finally, in a similar vein, adhocracy (stand. $b=0.287$), market (stand. $b=0.165$) and employee satisfaction issuing from both human relations and job enrichment (stand. $b=0.203$) and working environment and job outcomes (stand. $b=0.324$) are positively associated with assurance and empathy (model 6). Consequently, adhocracy was found to be the most powerful predictor of higher education service quality, while job satisfaction is strongly associated with administration quality.

5. Discussion and conclusions

This study aims to investigate firstly, the culture profiles of faculty and administration staff of a higher education institute (TEI of Larissa), and secondly the relationship between organizational culture, job satisfaction and higher education service quality. The CVM was adopted as the instrument to operationalize organizational culture. Higher education service quality was measured by adopting both the quality dimensions, emphasised on teaching aspects, as suggested by Owlia and Aspinwall (1996), and Waugh's (2001) metrics on administration quality.

5.1 Organisational Culture

Findings indicate that institute's culture is mostly characterised by hierarchy, followed by clan and market archetypes, while adhocracy was ranked as the lowest.

Several researchers (Ciampa, 1991) have recognized the importance of the diagnosis and analysis of culture, in order to provide a clear map of organizational strengths and weaknesses. Such insight may enable management to choose the correct path to prepare the organisation for the implementation of a quality assurance system. Our results, considering overall institute's culture, underline an overemphasis on order, uniformity, stability, rules and regulations, documentation, job descriptions, hierarchical authority, and control. On the contrary, intrapreneurship, creativity and innovativeness values are sacrificed in favor of bureaucracy, revealing a crucial weakness of TEI's culture profile. Furthermore, institute's culture suffers from low levels of market culture, interpreted as goal achievement, productivity, task accomplishment, planning and efficiency. Some researchers state that a mechanism of individual and organizational goals alignment may lead to employee involvement (Cole et al., 1993) and commitment (Sathe, 1983), thus fostering quality assurance systems' implementation (Cole *et al.*, 1993). Consequently, TEI's culture lacks of external orientation and organisational adaptation, weaknesses which maybe partially attributed to its strong dependence on the Ministry of Education.

Exploring further the culture profiles of faculty and administration staff, interesting findings were brought about. The dominant culture archetype of administration staff is hierarchy, highlighting their perception to stability, record keeping, monitoring, standardization of procedures, dependability and reliability, measurement, and documentation.

In hierarchy cultures, coordination and problem-resolution is assigned to higher levels of hierarchy. Employees are unlikely to recognize problems as they come up due to their limited understanding of the overall process. Even when employees identify problems, they do not have the authority to resolve them without upper management approval (Jasmine & Sameer, 1998). Organizational adaptation is poorly supported by hierarchy culture, as it is in close alignment with stable environments. However, it will encounter problems when external changes or crises arise (Sporn, 1996).

However, studies share controversial findings about culture hierarchies since some scholars advocate that they are effective in the management and communication of information (Cameron and Freeman 1991; Quinn and Rohrbaugh 1983), while others consider that they fail to leverage organizational information transmission (Deshpande and Kohli 1989; Jaworski and Kohli 1993; Twati and Gammack, 2006). In addition, Edwards et al. (1998) concluded that favorable views on quality programs were strongest under intense monitoring of employees.

In addition to hierarchy, faculty of TEI of Larissa is also deeply espoused by clan values. Clan culture is focused on employee commitment, loyalty, empowerment, openness, and teamwork and represents a friendly place to work. Given that clan cultures are related to enhanced levels of trust, they may constrain conflict and resistance to change (Zammuto and Krakower, 1991).

5.2 Higher education service quality

Findings indicate that adhocracy prevails in the improvement of all aspects of higher education service quality. Adhocracy culture embraces intrapreneurship, experimentation, creativity, proactiveness, adaptation and innovativeness in discovering new markets and directions for growth. These values are conducive to enhanced quality of teaching and administration. Quality of teaching building on academic resources, teaching expertise, theoretical and practical knowledge, attitude of academic staff, and curriculum content, requires creative spirit, experimentation, receptiveness to radical new ideas, tolerance to ambiguity and inclination to change. In a similar vein, flexibility, adaptation and proactiveness are the foundations for the improvement of administration quality, referring to administration contact, reliability, confidence, understanding and caring.

The improvement of higher education service quality lies in the organization's ability to provide an overall climate and culture for change through its various decision-making systems, operating systems, and human resource practices (Mosadeghard, 2006). In alignment with this argument, a transformation from hierarchical top-down structures to top management commitment, decentralisation, employee involvement and effective leadership is a prerequisite for TEI's adaptation towards the implementation of quality assurance systems (Mizikaci, 2003). Given that these transformations often meet employee resistance to change, the successful introduction of a quality assurance system depends on decisive factors such as trust and long term commitment to the organization (Zammuto & O'Conner 1992); participation in decision making (Baroudi, Olson, & Ives 1986; Franz & Robey, 1986); and empowerment.

Previous research has shown that flexibility-oriented organizations, such as those with clan or adhocracy cultures, are positively correlated with a climate of trust, a positive attitude toward the organization, and equity of rewards (Zammuto & Krakower, 1991).

Examining higher education, evaluation, an inextricable component of quality assurance, frequently cause reluctance or opposition to those who are involved in education processes (faculty and staff) as many of them consider that this could be used as a mechanism to pin deficiencies or failures from the upper management to lower hierarchical levels.

Smart (2003) states that the organization must recognize either a threat to its survival, or a strong positive external pressure calling for adaptation and integration of new systems, before the introduction of changes. Employees must be convinced that the change is necessary not only for organizational survival but also for betterment at the individual as well as at the organizational level. Since, leadership come to play a significant role in the transformation of attitudes, management has to find ways to facilitate changes towards enhanced service quality.

In this line, management systems that support the emotional needs of people, and encourage experimentation are required. Designing organizational systems that take into account human

relations and employee welfare, and create a climate that promotes positive group interactions and creativity is of utmost importance for an institute that values openness, trust, and innovativeness such as academic community. In addition, Lakos and Phipps, (2004) support that by involving staff in decision making and developing clear and comprehensive communication systems, increase the potential for actual cultural change.

5.3 Job satisfaction

Results indicate that job satisfaction stemming from both human relations and job enrichment, and working environment and job outcomes are positively associated with administration quality. In addition, job satisfaction issuing from working environment and job outcomes is significantly associated with academic resources, the tangibles' dimension of quality of teaching.

Our findings corroborate with Kusku (2003) conclusions that employees are more productive when they are satisfied with their jobs and the environment they work in and contribute to enhanced institutional quality. Czepiel et al. (1985) argue that, "*employees not only deliver and create the service, but are actually part of the service*", thus their satisfaction fosters service quality.

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APPENDIX

TABLE A-1. Principal Component Analysis of Organizational Culture Scale

	<i>Clan</i>	<i>Hierarchy</i>	<i>Market</i>	<i>Adhocracy</i>
item 1	-	-	-	0.589
item 2	-	-	-	0.843
item 3	-	-	-	0.503
item 4	-	-	-	0.635
item 5	-	-	-	0.536
item 6	-	-	-	0.529
item 7	0.788	-	-	-
item 8	0.826	-	-	-
item 9	0.803	-	-	-
item 10	0.653	-	-	-
item 11	0.651	-	-	-
item 12	0.686	-	-	-
item 13	-	0.732	-	-
item 14	-	0.810	-	-
item 15	-	0.720	-	-
item 16	-	0.773	-	-
item 17	-	0.560	-	-
item 18	-	0.612	-	-
item 19	-	-	0.660	-
item 20	-	-	0.592	-
item 21	-	-	0.811	-
item 22	-	-	0.601	-
item 23	-	-	0.631	-
item 24	-	-	0.554	-
Eigenvalues	5.492	4.870	3.908	2.850
Percent of total variation	22.883	20.292	16.282	11.877
Cumulative Percent of total variation	22.883	43.175	59.457	71.334

Rotation: Varimax with Kaiser Normalization,
All loadings less than 0.5 suppressed

TABLE A-2. Principal Component Analysis of Job Satisfaction Scale

	human relations and job enrichment	Working environment and job outcomes
item 1	0.802	-
item 2	0.880	-
item 3	0.678	-
item 4	0.609	-
item 5	0.758	-
item 6	0.724	-
item 7	0.639	-
item 8	0.590	-
item 9	-	0.558
item 10	-	0.712
item 11	-	0.734
item 12	-	0.642
item 13	-	0.636
item 14	-	0.648
Eigenvalues	4.713	3.721
Percent of total variation	33.66	26.58
Cumulative Percent of total variation	33.66	60.25

*Rotation: Varimax with Kaiser Normalization,
All loadings less than 0.5 suppressed*

PROCESS IMPROVEMENT MEASURES IN SOCIAL AREA ORGANIZATIONS

A study in Institutions for Elderly: Survey preliminary results

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1. Introduction

For the purpose of this research, performance measurement has been defined as the process of quantifying the efficiency and the effectiveness of action (Neely et al., 1995). Traditional methods of measuring an organization's performance using financial indices alone have virtually disappeared from large organizations (Basu, 2001). A range of strategic and operations-based performance approaches supplements traditional accounting techniques (Gregory, 1993). Good performance measures are a necessity for any progressive organization to recognize successful strategies and to discard unsuccessful ones (Hakes, 2001).

Quality performance measurement represents the most positive step taken to date in broadening the basis of business performance measurement (Bogan et al., 1994). Non-financial measures are at the heart of describing strategy and developing a unique set of performance measures that clearly communicate strategy (Kaplan & Norton, 1992, 1996), and help in its execution (Frigo, 2002). The advantages of using quality performance measures have been identified by several authors (Juran&Godfrey, 1999; Divorski & Scheirer, 2001).

Nowadays, the main concern of organizations, lucrative ends or not, is related with Quality management. None organization obtains total customer satisfaction, partners and community recognition, if did not reach, at least, the minimum quality requirements. The technical competence, technician-professional standards and good practice are a good start, but by itself, can't guarantee the organizational quality and the service conformity.

Services in social area (publics or private) are, for inherence, services that use in a wide application, quality management processes essentially, due to: 1) services where people and goods safety are critical; 2) non conformity costs are very high; 3) prevention has an value unquestionable; 4) improvisation and mistakes cause high dissatisfaction, and 5) the customer, frequently, has a limited possibility choice, however, with the right to a high service quality based on a rigorous technical quality face to the actual state of art.

The inadequacy of some services is more expensive than the necessary investments to quality improvement.

2. Quality improvement strategies in Social Area

The phenomenon of ageing is the unfolding of the law of life but, for the societies, ageing, whilst a structural phenomenon is a challenge, the outline and impact of which is far from being duly identified and assessed. Although the scenarios and figures are well known, they are nevertheless deserving of attention. Based on data of EUROSTAT (2005), by the end of this decade the population of Portugal should have attained its historical maximum of some 10 million 600 thousand inhabitants. At that time, those who are 65 and over should represent 16% of the total. If we project the current trends to forty years hence, in the middle of the 21st century the Portuguese population will have suffered a reduction of 1 million 300 thousand

inhabitants and the aged will then represent some 32% of the total. On average, the Portuguese will live six years longer and the current ageing index will be multiplied by almost two and a half times, going from the current 108, to 243 aged per 100 youths, that is, should the current trends be maintained, those aged 65 and over will represent, by 2050, approximately one third of the Portuguese population.

This is a large change in the Portuguese demographic and social structure, which demands from the following generations new means of facing the ageing phenomenon and new remedies for the allocation of the available resources. Public opinion and the media have almost exclusively focused their concerns on the costs with ageing. The impact on the pension systems, their financial sustainability, or the pressure on the national health systems deriving from the increased costs of longevity are topics which have been insistently raised.

Ageing can not be seen as a burden for the welfare of the new generations, and the fact that we are writing about Institutions for elderly should not prevent us from considering them as a part of the remedies that open new doors to the future. The impact on older people's quality of life, the changes or improvements that may be needed to achieve that and the effects of the way services are delivered, requires the involvement in quality assessment and quality assurance.

The development of politics creating better conditions in order to senior stay in family house through economical support is one of actual Government's bets, generating high consensus in Portuguese society. The adjustment of the services to the new reality requires reforms, initiating a price-setting system based on the degree of elderly dependence. However, Homes for elderly are an appropriate answer for many seniors that physical, psychic and socially have no conditions to continue at their houses. In Portugal, based on 2003 figures (Quedas, 2004), there were 1 517 legal Homes for elderly, answering a total of 56.535 users (72 % with age over 75). Furthermore, as the demands toward long-term care services are rapidly increasing, it urges to enhance management efficiency and improving care service quality to satisfy the residents and their families, assuring these receive good care services.

Besides direct management of some public institutions for elderly, Portuguese State supports Social Solidarity Institutions and some private ones. Minister of Social Affairs have promoted some initiatives, aiming to foster quality system implementation based on ISO 9001 certification market schemes ("Grand Father Plan", 2001). In one hand, service quality should be visible and independently evaluated (auditable), avoiding administrative and bureaucratic inspection structures and in other hand, financial support could be related with quality performance levels.

Following ISO 9001:2000, the process approach promoted the analysis of activities, in similarity with the Excellence Models. According to ISO 9001, organizations can be considered as systems formed by process groups, sub-processes, activities and tasks, with a systematic improvement system involving all organizational functions. Quality management practices have developed from performance product/service evaluation (Quality) to organization culture (Total Quality) through learning capacity with the experience of others organizations.

Quality management has been considered a major driver in enhancing organizational performance. Samson and Terziovski (1999) attempted to find the relationship between the various total quality management practices, individually and collectively, and organizational performance, and concluded that the intensity of quality practices does contribute significantly to the performance.

Nicholas (1999) refers that Homes for elderly in the United States have adopted measures like Total Quality Management and Continuous Quality Improvement to improve quality. The advantage is that residents receive appropriate assessment and the quality is supervised and

controlled in the institutions, and thereafter, institutions can improve quality and adjust user services focusing on their needs.

There are a lot of quality improvement paradigms to help organizations improve their products or services (Arneson et al. 1996). Based on the principles of TQM models, implementation guidelines can be grouped into three types (Yusof et al. 2000):

1. Prescriptive teachings from quality experts or practitioners such as Juran, Deming and Crosby;
2. Quality certifications from international organizations such as the ISO 9000 series of standards, and quality awards such as the EFQM – European Foundation for Quality Management (2003).
3. Scholarly academic research that strives to conceptually and empirically extract the components of quality management and their linkages to performance, such as the balanced scorecard (Kaplan et al., 1992), the performance prism (Neely et al., 2002) and Kanji's business excellence model (Kanji, 2001).

TQM practitioners have proposed a number of different implementation models, each based on their own knowledge and interests resulting in a diversity of philosophies, principles and methods. Deming (2000) proposed 14 steps to combat the deadly diseases, Juran and Godfrey (1999) put forward a 10-step roadmap, and Crosby (1986) suggested a 14-step programme for quality improvement. The differences between their approaches to quality management can be found in Oakland (1989). Their principles evidence key characteristics, which are in some cases contradictory, in example: Is quality free? Or should organizations adopt long term relationships with suppliers or use multiple sources? To further study this subject a revision will be made on scholarly academic research.

Quality experts focus on two main areas, the technical needs of quality control and the human dimensions of quality management (Claver et al., 2003). Technical needs of prediction and control are catered largely by statistical and quantitative methods. Management of the human dimension of organizations is not at all clearly provided for.

The gurus commonly declare their interest in managing people in their philosophies, but offer few tangible principles and virtually no usable methods. According to a survey carried out by Claver et al. (2003), the human aspects were those least implemented. Nevertheless, the one that receives most attention is training, possibly due to the fact that it is an element required by ISO 9001:2000. If the success claimed by these quality experts is a result of implementing their methodologies, then it confirms the idea that there is not one best solution but a set of solutions that will improve organisational performance.

These TQM implementation models are sequential and prescriptive (Ghobadian et al. 1996). This has a positive impact on what is referred to as total quality paralysis (Kanji, 1990), but contradicts the previous assumption that there is not one best solution and leaves unanswered: What is the best approach? How long will it take for the benefits to overcome the costs? Can it be implemented in third sector organizations? What to do if some of the resources are not available or some steps are not successfully concluded?

A popular process improvement methodology, with principles similar to those of TQM, but with less emphasis on its soft issues is Six Sigma (Senapati, 2004). It is one of the most comprehensive approaches for company development and for the improvement of products and processes and strives for a complete and profitable fulfilment of customer requirements (Wessel et al., 2004).

3. Performance measurement systems

Juran and Godfrey (1999) argue that “the choice of what to measure and the analysis, synthesis, and presentation of the information are just as important as the act of measurement itself” and emphasise the system to which the measurement process belongs (Figure). The

measurement process consists of steps needed to collect data and present results. The larger measurement systems also embrace the decisions that are made and the framework in which the process operates.

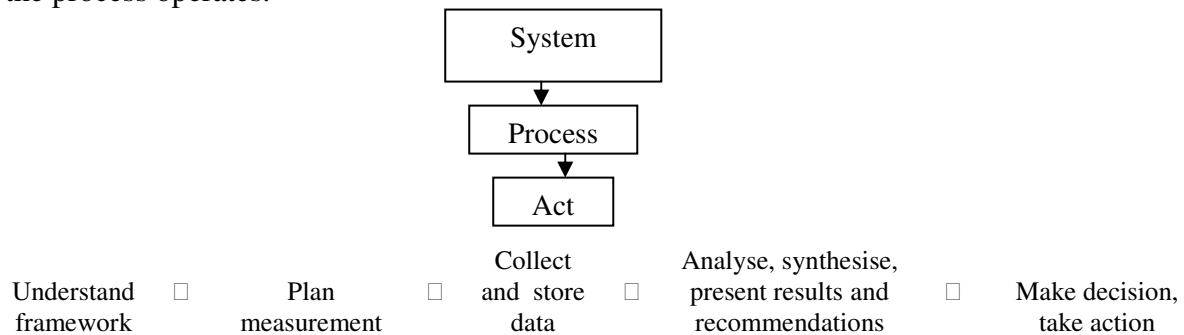


Figure 1 – The act of measurement is but one step in a large system.
Source: Adapted from Juran and Godfrey (1999)

There are two basic types of performance measures in any organization, those related to results - competitiveness, financial performance - and those that focus on the determinants of the results - quality, flexibility, resource utilisation and innovation – (Neely et al., 1995). This suggests that it should be possible to build a PMS around the concepts of results and determinants. The EFQM also supports this concept.

4. Research method

The adopted research procedure is similar to that of Saraph et al. (1989). The first step was to carry out a comprehensive literature review into TQM review, its implementation issues, ISO standards, performance measures and indicators, quality improvement frameworks, excellence awards and data analysis. Aspects related to performance measures and quality tools were discussed with academic and non-academic specialists. This allowed the design of a questionnaire for managers, which after piloted and revised was, then, distributed to Institutions for Elderly. The SPSS v.12.0 (2005) was used to analyse the data. Descriptive statistics were calculated to identify possible errors or outliers in the data and the reliability, and validity of the questionnaire was also verified. Reliability which measures internal consistency and the validity of the questionnaire was assessed using Cronbach's alpha coefficient.

The "Kaiser-Meyer-Olkin" indicator was calculated to assess sample size adequacy. Content, construct and predictive validity were also performed. Pearson's product moment correlation coefficient was used to assess the possible linear relationship between the groups of measures based on the balanced scorecard. ANOVA tests were used to compare means between Profit and No profit organisations, and Quality Certified/under certification and No Certified ones. In all cases a significant level of 0, 05 was used.

5. The Empirical Study

The questionnaire developed in this study consisted of five main sections: I- the background of organization; II - the process management; III - the level of knowledge about performance management; IV - the importance and use of specific measures, and V- the use of quality tools. The first section was intended to determine fundamental issues, whether a certified system was held, the level of TQM and quality measures and the strategic objectives. The second section is related with structural organization, process approach and quality culture. The third section consisted of 24 statements about the general opinions about performance measurement. The fourth section is related with the importance and use of performance measures and the last section referred to the use of quality tools. The questionnaire was pre-

tested, and revised, and then distributed to a sample of organizations spread all over the country. The sample comprised 32 organizations. The respondents were asked to rate their degree of agreement with each statement according to a five-point Likert scale from 1 “strongly disagree” to 5 “strongly agree”. Two further questions were added to determine the most important performance measures used in the organization and main obstacles in adoption of measures.

The balanced scorecard (Kaplan & Norton, 1992, 1993) was chosen as the basis for the characterization of the importance and the use of performance measures, mainly because of its simplicity, its general acceptance among authors and its connection with strategy (Kaplan & Norton, 1996).

The last section listed several quality tools; The objective was to determine which tools, were more used by organizations.

6. Data analysis and Results

Sample characterization

Our sample of 32 institutions is formed by 25 of Non Profit sector (State-2; IPSS Institutions Particular of Social Solidarity – 23) and 7 of Profit Sector, as illustrated in table 1.

Table 1 – Distribution of organizations

Organisation	Type	Frequence	Percentage
Profit Sector	Private	7	21,9
No Profit sector	Oficial	2	6,3
	IPSS	23	71,9
Total		32	100

Organisations presented different levels of quality systems implementation (see table 2)

Table 2 – Level of certification

Class	Quality Certification	Organisation	Percentage
A	Certified	4	12,50
	Under certification	10	31,25
		(14)	(43,75)
B	High level	6	18,75
	Médium level	12	37,50
		(18)	(56,25)
Total		32	100

On average, the certified organisations (12,5%) had obtained their certification in the last 2 years.

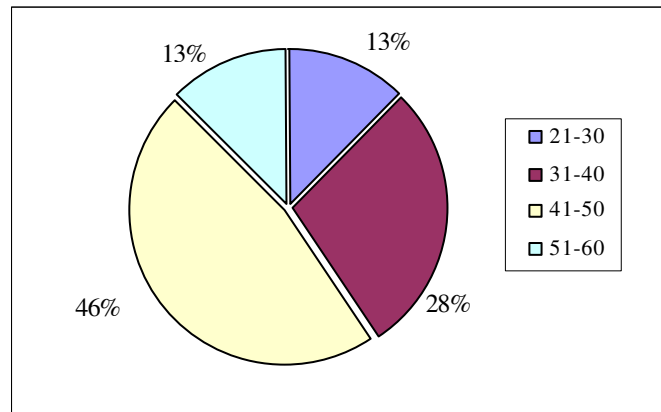


Figure 2 – Age of Respondents

All the respondents (female - 87,5%, male 12,5%) present high level of education. Almost 50% with age between 30 and 50 years old (see figure 2), have been working in organizations for the last 12 years revealing maturity of quality efforts. In generality are satisfied with process and values of organization.

Quality initiatives

Managers were asked to select from a list of nine, the quality initiatives that they had adopted. The results are presented by number relatively to the classes: A - certified/under certification B - implementing ISO 9001 and to the sector - Profit / No Profit.

Almost all the organizations have adopted employee involvement to improve quality and to have a quality service. Managers appear to have recognised the importance of involving employees to improve quality because it may be a positive consequence of ISO implementation bringing more awareness of quality issues to all employees. This may be due to the fact that the sample was selected from organizations certified and working based on ISO 9001 standard.

Table 3 - Quality initiatives adopted by organizations

Quality initiatives	Class		Sector	
	A (14)	B (18)	No Profit (25)	Profit (7)
Setting up a quality service	13	7	15	5
Process improvement	11	13	19	5
Cultural change programme	9	5	10	4
Customer satisfaction initiatives	14	12	20	6
Supplier involvement programme	6	1	6	1
Applying statistical process control	8	4	11	1
Employee involvement to improve quality	11	14	19	6
Establishing measures of quality progress	13	7	15	5
Developing strategies for total quality	3	2	4	1

Legend: A-certified and under certification; B- implementing ISO 9001

The least adopted initiatives were related to “supplier involvement” and “developing strategies for total quality”. This suggests that TQM is not being considered as the next step after gaining the ISO 9001 certificate.

General opinions about performance measurement

General opinions about the performance measurement were asked in Section III of questionnaire on “*strategy*”, “*selection of measures*”, “*implementation*” and “*results*”, as all of these are important in the process of continuous improvement. The first group of questions analysed the existence of a strategy and the alignment with the system of performance measures. The selection of these measures investigated whether the choice of measures was made according to the literature. The implementation group explored if the best practices to implement the performance measures were being followed. Finally, the perception about the extent of results achieved was assessed. Each point in figures 3 and 4 represents the average of a set of variables on each subject. This was performed after removing some variables to assure the reliability and validity of each group. An ANOVA test on the four means for each group (separately), showed no significant difference between them at the 5% level.

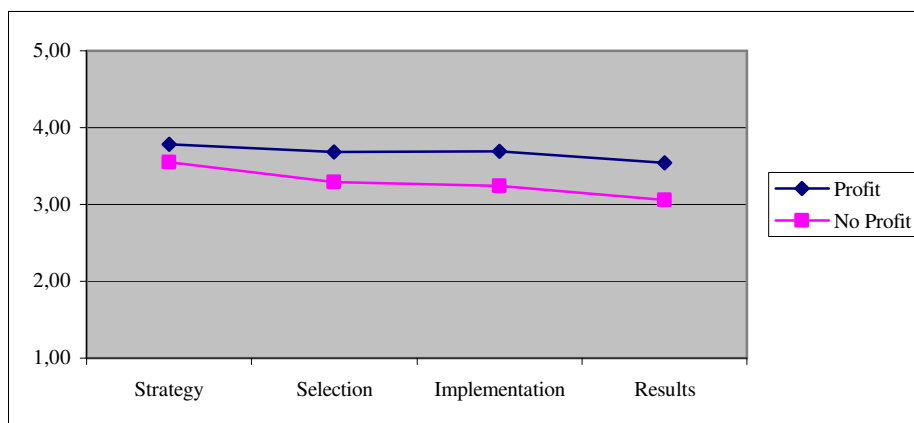


Figure 3 - General opinions about performance measurement (by sector)

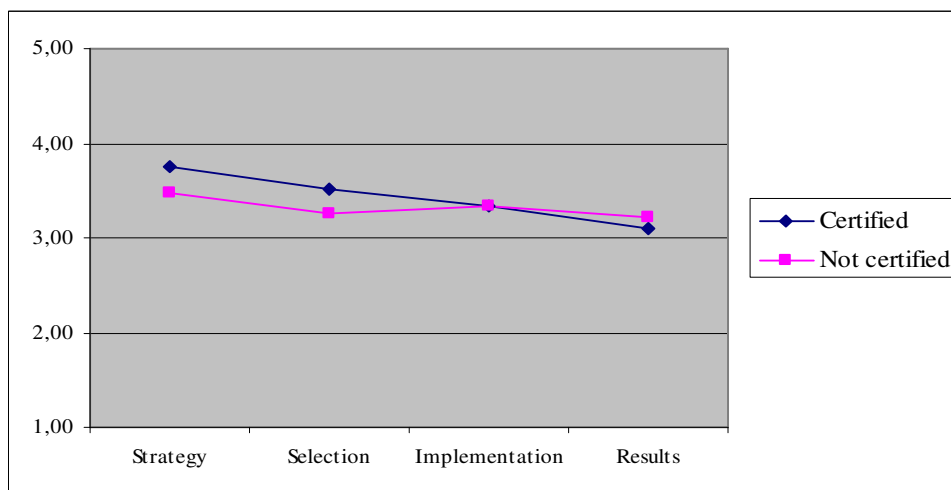
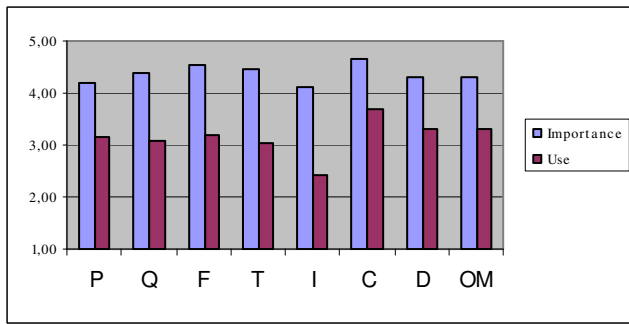


Figure 4 - General opinions about performance measurement (level of quality system)

Importance and use of performance measures

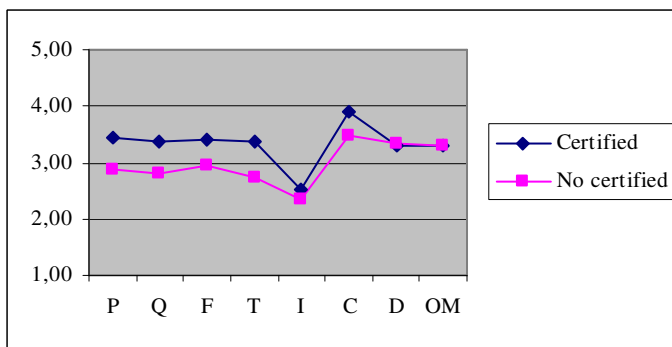
A section of the questionnaire was about the perceived importance and use of individual performance measures (PM^s). These were aggregated into sets according to the Balanced Scorecard methodology and into resulting from the reliability and validity tests. Overall there was a significant difference, or gap, between the perceived importance (4,4) and use (3,1) of PMs (see figure 5). The level of importance given to PM^s was significantly higher than that of their use.



P – Productivity measures
 Q – Quality performance measures
 F – Financial
 T – Training
 I – Innovation
 C – Customer performance
 D – Delivery service
 OM – Other Measures

Figure 5 – Comparison Importance/Use of Performance measures

In terms of the use of the specific performance measures, it was found for both groups certified/not certified, “Innovation measures” as the minimum value, and the higher use in “Customer satisfaction” (see figure 6).



P – Productivity measures
 Q – Quality performance measures
 F – Financial
 T – Training
 I – Innovation
 C – Customer performance
 D – Delivery service
 OM – Other Measures

Figure 6 – Use of Performance measures

Most important measures

Each respondent was asked to rank three performance measures according to their importance for the organization’s strategy. The results are shown in Figure 7. This shows a focus on measures related to customer (quality service), costs according to planning, and quality of products.

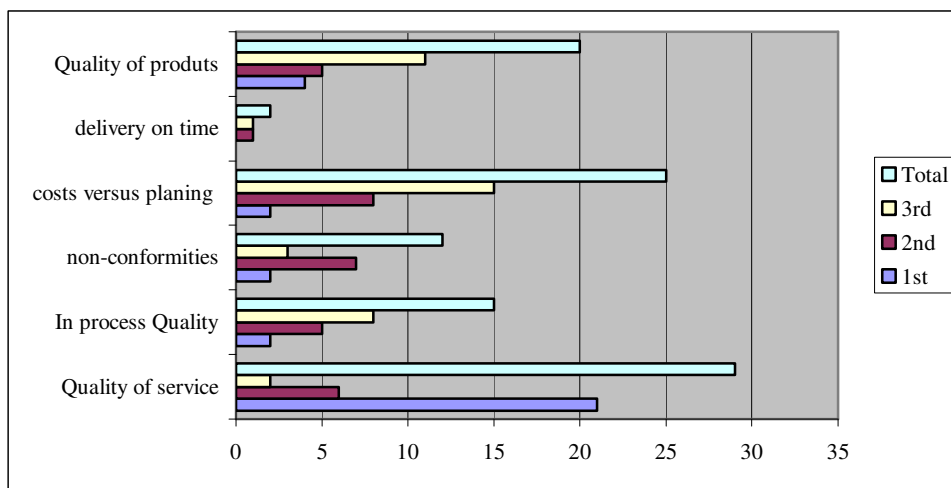


Figure 7 – Most important measures

Main Obstacles

Relatively to the main obstacles to the adoption of new performance measures, the respondents perceived “training of employees” to be the most prevalent obstacle (Figure 8) to hamper the continuous improvement approach to quality, followed by “difficulty of defining new measures”. This later obstacle could be a lack of management knowledge.

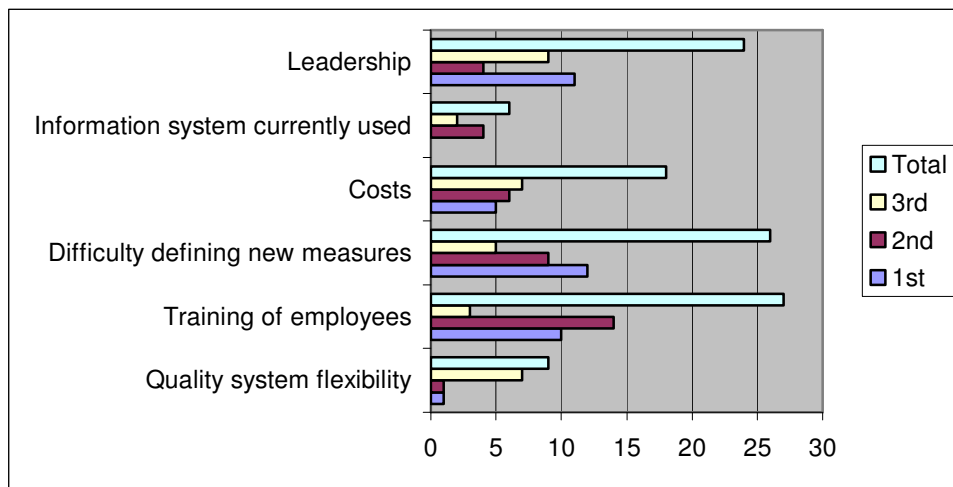


Figure 8 – Most important obstacles

Quality tools

The last section of the questionnaire was related to the use of Quality Tools. Figure 9 presents the tools that are used the most by the two respondents groups (certified/not certified). Only two of certified organizations, had an average greater than three (moderate usage).

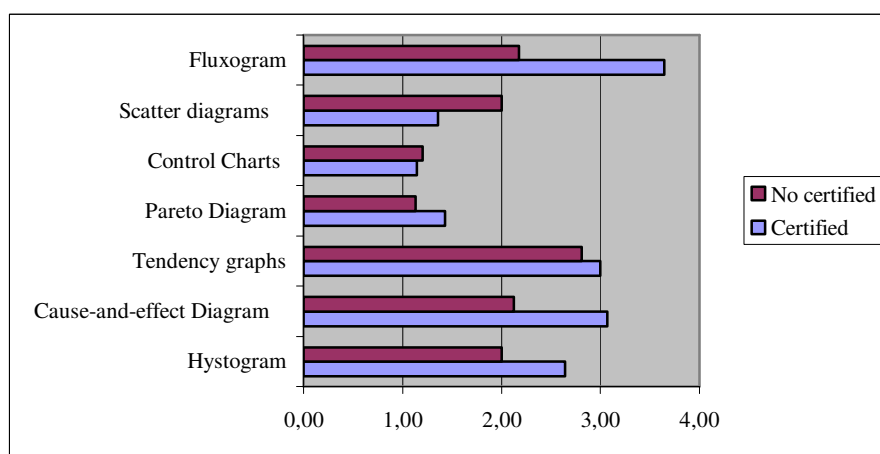


Figure 9 - Quality Tools more used

7. The framework

Quality improvement through performance measurement is at the centre of this framework. The importance of a PMS is proportional to its usefulness in achieving the goals of an organization and inversely proportional to its costs and complexity of use. As suggested by Juran and Godfrey (1999), the main objective of a PMS is to make better decisions and to perform the right actions. Based on the results, an improvement step-by-step framework was developed and tested in two organizations:

1 – Overview / Motivation / Commitment
2 – Mission
3 – Identify current state

4 – Objectives / sort objectives
5 – Performance Measurement System
6 – Planning improvement actions
7 – Improvement actions
8 – Review / Standardize / Learn

This framework is compatible with ISO, EFQM¹, Balanced Scorecard, may grow according to organization's needs, is focused, may be used to address and solve particular problems. Its main objective is to improve organizational performance ensuring that strategy is put into practice.

Brief description of methodology:

1 – Overview / Motivation / Commitment

Organization would benefit by: 1) Improving the organization and management of processes; 2) Increasing the quality of your products or services; 3) Increasing the satisfaction of customers; 4) Increasing the participation of employees in improvement activities.

2 –Mission

A mission statement is a formal description of purpose or the organization's reason for existence. An effective mission statement should contain the following characteristics: Brief – it should be easy to understand and remember; Flexible – it should be able to accommodate change; Distinctive – it should make the business stand out.

The vision should clarify where the organization is going. And then the strategy will state how to achieve that vision.

Communicate the organization's mission to all employees, suppliers and customers.

3 – Identify current state

a) Perform a self-assessment, having in mind the mission.

- Process oriented - Measure the perceived quality by identifying the partners and the processes that create value for them. Identify the key processes

- Compare against existing models:

1. Balanced Scorecard: Answer the questions associated with the perspectives of the Balanced Scorecard.

2. ISO 9001/4:2000 Quality Management System

3. Business Excellence Model EFQM

b) Use the following tools to understand the problem

Table 4 – Tools to understand the problem

Application or objectives	Graph	Pareto Diagram	Cause and effect diagram	Check Sheet	Histogram	Affinity diagram	Scatter Diagram
Understand the actual situation						v	v

¹ The EFQM Excellence Model is based on the premise: Excellent results with respect to Performance, People and Society are achieved through Leadership driving Policy and Strategy, People, Partnerships and Customers, Resources and Processes. The model has a dynamic nature showing that innovation and learning help to improve enablers, which in turn lead to improved results.

Determine the problems			v	v	v		
Look at variations over time	v						v
Stratify and compare data	v				v		
Discuss the relative importance of problems		v				v	

4 – Objectives

Define a change strategy by identifying objectives to be accomplished. Typical objectives may be related to time, cost, quality, flexibility, profitability, market share and innovation. Identify the vital objectives and make them cover all relevant process of organization. The Balanced Scorecard will provide a good starting point. If an objective is too vague, identify the critical success factors relevant to achieve that objective. Cover the following perspectives: Innovation and learning, Internal business process, Customer and Financial

5 – Performance Measurement system

Develop an understanding of each process's role in achieving the various strategic objectives. For each objective study how it will be achieved. Improve the strategy map, which represents the cause-and-effect relationships between the objectives. Define performance measures to monitor each objective. Name a responsible person to improve that performance requirement and delegate responsibilities. Use each dimension defined in the balanced scorecard (Figure 10).

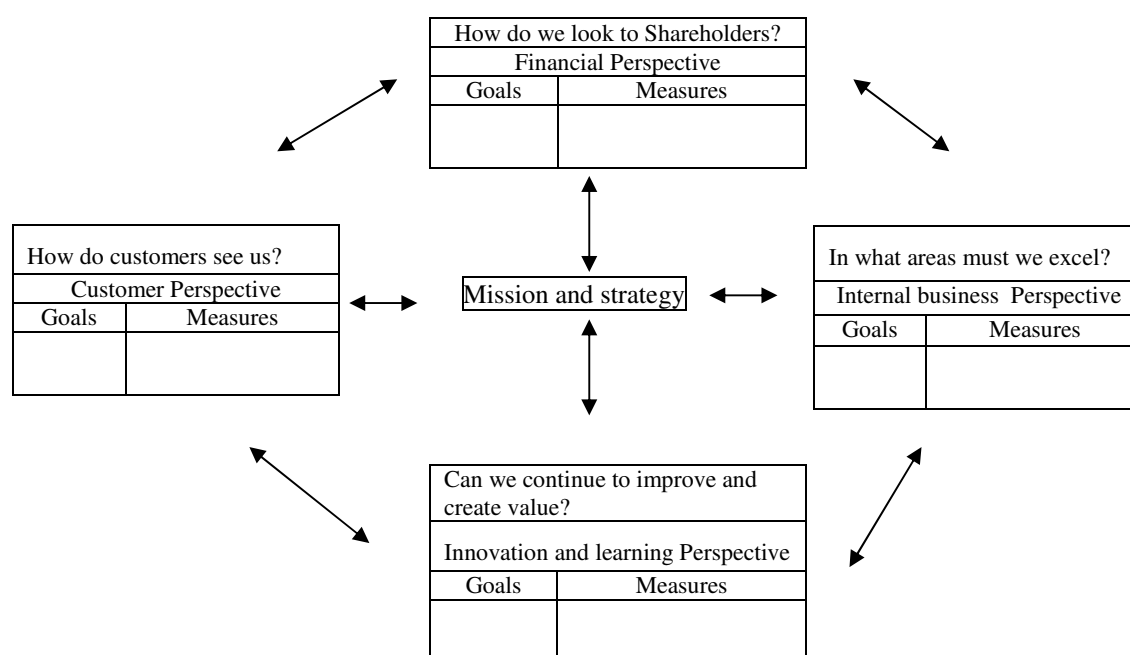


Figure 10 – Initial proposal for a Balanced Scorecard

6 – Planning improvement actions

a) Identify problems + root case analysis. Make an implementation plan with improvement actions. Based on the knowledge of the improvement plan and the current state, define performance measures. Complete the Balanced Scorecard with Objectives + Measures, targets and eventually Initiatives.

7 – Improvement actions

To control one variable of process adopt procedures to meet one fixed (over a period of time target). It is important to identify the variation allowed before deciding that a change in variable has occurred.

If the objective is to improve one variable, adopt procedures to produce a trend that will follow the moving objective towards target.

8 – Review / Standardize / Learn

Standardize successful practices and discard the unsuccessful ones. Use the performance measurement system to identify competitive position, locate problem areas, assist the organization in updating strategic objectives and making decisions to achieve them, and supply feedback after the decisions are implemented.

8. Conclusions

This study confirms that within the surveyed organizations, there is a gap between the actual level of knowledge of performance measures and their degree of implementation; it also confirmed the existence of a gap between performance measurement system and strategy.

The biggest obstacle to the adoption of new measures is “training of employees” (87,5%), which is consistent with the high importance and use attributed to “employee training” measure, which reveals the level of concern that is felt for improving. However, very little attention is paid to “innovation”. Overall, “customer performance” and “delivery service” measures were indicated to be the most important and the most used.

The tools used point to the existence of low skills to select the appropriate tools to help maximize the efficiency of the processes inside the organization. So, organizations should increase their knowledge about performance measurement and related tools and introduce them consistently with strategic objectives. If the process is systematic, it will allow results to be achieved in a short period of time and unsuccessful measures to be discarded.

Organizations for elderly are becoming more quality oriented but they have a long way to go. This study evidenced that they recognize the importance of performance measurement and quality tools. This importance has become more visible since the release of the ISO 9001 standard. The results showed that organizations are interested in determining what will delight their customers.

A dynamic use of performance measures must be explored.

The next step of this work is the application of a PMS created by own organizations aligned with strategy and associated with tools, in order to achieve the pre-determined objectives.

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MEDICATION ERRORS AND COMPUTERIZED PHYSICIAN ORDER ENTRY

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Introduction:

Patient safety has become an international priority, especially after the Institute of Medicine published in 1999 the report *To err is human: building a safer health system*¹ which identified the seriousness of the problem². One of the major threats to patient safety in hospitals is represented by the occurrence, clinical consequences and cost of adverse drug events (ADEs), defined as injuries resulting from medical intervention related to the administration of a drug³. A medication error (ME) is, according to the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP)⁴, any preventable event that may cause or lead to inappropriate medication use or patient harm. Such events may be related to professional practice, health care products, procedures, and systems including prescribing; order communication; product labelling; packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use⁵. The epidemiology of ME in hospitals⁶ is like the tip of an iceberg: reported ME are only a small fraction of what really happens and ME are estimated to occur nearly in 1 of every 5 doses of the typical site (20%)⁷. ME occur every day, and during any phase of the drug delivery process, from prescribing to drug administration. Errors resulting in preventable ADEs occurred most often at the stages of ordering (56%) and administration (34%), transcription (6%) and dispensing (4%) errors were less common⁸. The percentage of errors rated potentially harmful is a small fraction of this number, but although death or serious injury occur only infrequently, those medication errors that do have such results shake the foundation of public confidence in health care and increase health care cost. Among other organization, the Joint Commission International (JCI) has adopted patient-safety goals as part of the accreditation process, and accredited hospitals are reporting data on the quality of care, including the prevention of medication errors⁹. JCI requires health care organizations to develop a process for identifying and reporting medication errors. The goal of error reporting is to understand the kinds of errors that occur in an organization and redesign processes to prevent similar errors in the future¹⁰. It is generally agreed upon that effective risk management depends crucially on establishing a reporting culture that makes possible to learn from detailed analysis of mishaps, incidents and near misses. Physicians and nurses in general oppose reporting of information on medication errors, because of a so called name, blame, shame culture, and worries about malpractice lawsuits. Nonetheless, the greater use of information technology (the use of such solutions as computerized order entry systems, bar coding of medication, electronic prescribing) and strategies for sharing information have the potential to make care safer and therefore reporting of errors must be strongly encouraged¹¹.

Objective:

While Computerized Physician Order Entry (CPOE) is considered the new high tech solution for the old problem of preventing medication errors (ME), few studies have evaluated the effectiveness of CPOE in routine hospital practice. The purpose of this paper is to analyse and quantify ME which occurred before the introduction of CPOE and to compare the pre-computerisation situation with the current situation, in which CPOE is used on a routine basis in the Neurology Unit of Santa Chiara Hospital - Trento (Italy) since 2005

Methods:

The automated medication distribution system is coupled with a CPOE system. Forcing functions in the software help both physicians and nurses: dosage, route and frequency for all orders are mandatory allergy and drug-drug interaction checking. We defined ME a discrepancy between the medication prescribed and administered or lack of completeness and clarity in relation to: pharmaceutical form; dose; time of administration; administration route; identity of physician prescribing; recording of presence or absence of allergies reported by patient; time of start of treatment; time of end of treatment; identity of nurse administering; discrepancies between prescription and administration regarding drug, dose and time. Each medication therefore had 10 possibilities of being involved in one of the above errors categories. All medical records of patients admitted in the Neurology unit in a time period of 2 months before and after the introduction of CPOE were analyzed and compared regarding medication management process

Results

Out of a total of 5.910 possibilities of error relating to 591 drugs for 91 patients, 2.427 ME were found, namely 41% of the total possible errors (pre-computerisation period February-March 2004) and out of a total of 6.490 possibilities of ME relating to 649 drugs for 109 patients, 126 errors were found, namely 2% of the total possible errors (post-computerisation period March-May 2007). The global error reduction was significant; ME rate fell dramatically from 41% to 2% in the comparison between the two periods considered. The distribution of ME differed between the categories identified. With CPOE, ME fell to nil in 9 of the 10 categories considered. While 9 of the 10 ME were eliminated, a 19% ME rate remained in the category regarding discrepancies between the medication prescribed and administered, mainly due to discrepancies in the time of administration, but also in the dose or drugs prescribed but not administered, or administered but not prescribed. However margins for improvement exist, as the reasons why the drug was not administered could be entered in a comments section. Currently this annotation is only occasionally entered.

Conclusions

Many ME in hospital occur because of the complexity of the organisational chain, which runs from the prescription of a drug for a patient to the administration of that drug to that patient. CPOE has improved the safety of medication management in the unit tested mainly due to the introduction of compulsory steps. Further improvements are possible: appropriateness of treatment for certain disorders (by comparing current treatment with treatment recommended by guidelines for the presumed diagnosis), drug interactions (by expanding the system's database), patient identification (by generating a code to be attached to a bracelet), and drug identification (by means of its barcode). CPOE was easy to understand in principles and to adopt into practice by staff (no more transcription from illegible doctor handwriting and forcing functions correcting the more critical points of the medication process). Of course there no free lunch, but we believe that CPOE is cost-effective and should be introduced hospital wide.

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STAFF TRAINING ON BASIC LIFE SUPPORT ACCORDING TO JOINT COMMISSION INTERNATIONAL STANDARDS

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Introduction

Ensuring the competence of individuals who work in all hospital areas is key to the hospital's ability to achieve quality patient care outcomes and patient safety. Competence in general terms is considered as an individual's capacity to perform his job expectations. Cognitive, psychomotor and interpersonal skills are critical to competence and successful job performance. Cognitive skills involve the ability to analyze and "see" the true importance of observations and events. Being able to think critically – to analyze a situation and anticipate future events – enables one to be proactive rather than reactive. Psychomotor skills involve the ability to perform physical tasks that are learned from skill based training (such as CPR or insertion of a central-line catheter). Interpersonal skills involve the ability to work with others, which is of the most importance due to the interdisciplinary nature of health care. Staff qualification and education is a core problem especially in hospitals where acute and unstable patients are admitted and provided high tech care. Resuscitative techniques, when timeliness is the most critical factor, should be readily available and appropriately used by staff in every setting of the hospital as soon as needed.

Objective

The purpose of paper is to describe how we tried to improve patient safety through an ongoing education in resuscitative techniques of all staff members who provide patient care (physicians, nurses, nurse helpers, and technicians) in different areas of the hospital (wards, services and outpatient units).

Methods

Santa Chiara Hospital (Trento – Italy) is part of the Health Care Trust APSS, a very complex organization of the National Health System located in the north east of Italy, with a workforce of 7.000 employees, 11 primary care districts and 2 hubs and 5 spokes acute hospitals. Santa Chiara is the main hub hospital of the APSS and has the following characteristics: 903 beds (of which 110 Day Hospital beds), 36.000 admissions in 2007, 2.000 employees (332 physicians) and cost of production up to € 170.000.000).

Santa Chiara is accredited by Joint Commission International (JCI). JCI Staff Qualification and Education standard 8.1 requires that Staff members who provide patient care are trained and can demonstrate appropriate competence in resuscitative techniques, and the appropriate level of training is repeated every two years. Basic Life Support - early Defibrillation educational programs (BLS-D) - according to Italian and European Resuscitation Councils guidelines- have been developed by hospital trainers (8 hours basic and 4 hours retraining courses) and are mandatory for all staff (with the exclusion of intensive care units physicians and administrative staff).

Results

Staff members who received BLS-D training were: 327 in 2006 - when the program was launched hospital wide - and 199 in 2007; the target for 2008 is 618. BLS-D retraining has involved 76 staff members in 2006, 591 members in 2007; the target in 2008 is 308 members. We expect that by June 2008, over 90% of staff that provide patient care have had appropriate training/retraining in the last two years.

Conclusions

Human resources are central to managing and delivering health services and are critical in ensuring that the services are delivered effectively. Overall the effort of our hospital was very intensive and somehow stressful (staff often claimed reasons not to attend), but patience and a gutta cavat lapidem approach has helped us to achieve an organization wide target. JCI procedures are very tough on resuscitative techniques competencies and one way or the other staff member are now more aware on how to perform in critical situations and know basic skills that were long forgotten outside intensive care units or emergency departments. We believe that this effort is improving both staff competencies and confidence, and therefore patient safety.

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MASTERING PERFORMANCE THROUGH QUALITY AND NETWORKING: THE EXAMPLE OF FRENCH SOCIAL AND MEDICAL ESTABLISHMENTS

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Introduction

In France, like everywhere else in Europe, establishments for dependent elderly persons (EDEP) undergo the evolution of the demographic environment. A study published in 2002 (BONTOUT, COLIN, KERJOSSE, 2002) shows that by 2040 the ageing of the French population should lead to a big increase in the number of dependent elderly persons of more than 60 years of age. Over the 2000-2020 period, the increase would be between 16% and 32% and slightly bigger between 2020 and 2040. Globally over the 40 years, the increase could be between 35% and 80% for the most pessimistic scenario and would essentially concern people over 80 years old. In 2015, the consumption of medicines by people over 65 years old would represent 60% of the total consumption and that of people over 75 would represent a third (DURIEZ, LANCRY, LECQUET-SLAMA, SANDIER, 1999). These figures show the importance of the problem of the treatment of the dependency due to old age, in demographic terms, but also in economic terms.

The economic constraint exercised on establishments is indeed stronger and stronger. Medicine and more and more specialized and segmented accompaniment are more and more costly. Geographical disparities in the offer (COCA, 1995), together with the fractioning of treatment and uncontrolled costs, lead to a diminishing effectiveness and quality of the treatment and to a lesser efficiency of the global system (GREMY, 1997). The improvement of the quality of the treatment of elderly persons articulated with the rationalization of costs (HUARD, MOATTI, 1995) are today both strategic and financial stakes for health professionals and overseeing bodies. Finally there are many legal constraints bearing on establishments. The requirements of the legislator in matter of the evaluation of quality first affected hospitals with the ordinances of 24 April 1996 creating an obligation of accreditation for all public and private hospitals. The quality referential, upon which the accreditation procedure was based, was established by the National Agency for Accreditation and Evaluation in Health now the High Health Authority. This first referential and the following versions concern the internal functioning of the establishment and the quality of its connections with its external partners. Accreditation refers to a global approach and concerns the internal and external customer-supplier relationships. Thus it includes personnel, activities and medical, para-medical, technical and administrative services in care, administrative, catering and technical functions (BERTEZENE, 2000). Since the law on the renovation of social and medical action of 2 January 2002, it has been the same for social and medical establishments where it is now necessary to satisfy the needs and expectations of the public while respecting the budgetary constraint imposed by the overseeing authorities. This law has a triple objective: more complete information for the overseeing authorities, a greater appropriation of the quality process by the management, cadres and staff, and a greater trust by the public. The solution developed in this framework has been the generalization of an internal and external evaluation of the quality of the operations of services and establishments, permitting the development of the responsibility of actors thanks to a new articulation between the planning of equipment, authorizations, resource allocation, the

evaluation of the services delivered, the control and coordination of actors. This law has introduced quality as the touchstone of the functioning of medical and social establishments. The adequacy of the services offered and the new needs of an ageing and dependent population on the one hand, and a rationalization and better distribution of resources on the other hand, are the two major stakes of this law and research on its application is little developed. Although it is four years old, the internal evaluation is still in a phase of gathering steam and the external evaluation has not yet taken place as the legislator has not set a deadline yet.

Social and medical establishments and hospitals taking care of elderly persons are confronted with this triple demographic, economic and legal constraint. If the legislator sets requirements as to the evaluation of quality, it is the establishments' responsibility to define and implement management systems capable of improving and maintain their performance in a strained economic context and for a more and more numerous and dependent population.

In this context we will consider the elements of response brought by establishments to these three constraints by synthesizing studies led during the last three years (BERTEZENE, MARTIN, 2006, 2007). We will first specify the operational framework of establishments: an institution with limited autonomy in terms of treatment, quality and financial policy. The second part will show that, under certain conditions, the internal and external evaluation of quality can be an opportunity to develop a system of control dedicated to the performance of the establishments and that networking can bring a solution to the problems posed by the rationalization of means and resources and the demand for quality.

1. The operational framework of social and medical establishments

We will consider here the position of medical and social establishments in the sense of RHENMAN (1973), which permits to understand better the major importance of legal requirements in terms of quality.

1.1 The constraints of medical and social institutions

In medical and social establishments the management essentially defines its strategy according to the constraints imposed by the overseeing authorities and the legislator. The hierarchical line is limited, competences are standardized and medical professionals enjoy a large autonomy due to their expertise. According to MINTZBERG's typology (1998), medical and social establishments are professional bureaucracies. If we try to study the role of quality in medical and social establishments, RHENMAN's typology (1973) seems more appropriate because it permits to show the institutional mission of such establishments and quality as one of the strategic objectives. According to RHENMAN, an organization is defined at the same time by its characteristics and its goals. The characteristics group the role, the relations with internal components, financial, human and technical resources, the whole constituting the strategic position of the organization. The internal (or strategic) goals tend towards a desired future strategic position. The external (or institutional) goals represent the effects of the mission of the organization on its environment. By linking internal and external goals, RHENMAN identifies four types of organization: the marginal organization, the company, the appendix organization and the institution. The marginal organization has neither strategic goal nor institutional goal. The company has got a strategic direction but no institutional goal. Conversely the appendix organization does not have a strategic goal but pursues institutional goals. Last, the institution has strategic goals imposed from outside, a strategic direction and a distinct, or not, institutional direction depending on the situation. Medical and social establishments seem to correspond to this definition. Indeed the institutional goals are defined by the overseeing authorities and the legislator. Strategic goals

are defined by the establishment's management and can cover the improvement of the organizational quality, of care and associated services like catering.

1.2 The articulation between quality and strategy

Thanks to the 1999 reform, quality takes on its strategic dimension with the generalization of the three-party multi-year conventions between the establishment and its overseeing authorities. The first conventions were signed before 31 December 2006 for a period of five years. They contain the conditions of operation, the financial plans and the quality continuous improvement plans, the development objectives and their evaluation mode. As a counterpart the overseeing authorities commit themselves to providing the means to lead these projects. Therefore quality has become a strategic stake obliging establishments to consider the implementation of a quality policy in its strategy. To define the content of this convention and to ensure the continuity of means required for quality (FRUTIGER, FESSLER, 1991), the management needs to integrate into their analysis financial and qualitative information oriented towards strategic and tactical needs (ANTHONY, 1988 ; SICOTTE et al. 1991) essentially provided by the quality evaluation.

A quality evaluation guide was published by The Ministry for Social Affairs in June 2000. With this referential establishments can spot their strong and weak points along the following themes: expectations and satisfaction of residents and families, answers brought to residents in terms of autonomy, accompaniment and care, the establishment and its environment, leading the quality policy.

The objectives set for five years in the three-party convention are stated in the establishment's project. They can be deployed, developed and re-oriented (GOLDSCHMIDT, 1998). This convention is inspired by strategic planning (ANSOFF, 1965) which in spite of its critics (MINTZBERG, 1994) remains a present concept used by organizations (MARTINET, 1995). It operates in a logic of operational management and project management whose interfaces permit to move from project to operation (NAVARRE, SCHAAN, 1988).

1.3. Internal and external evaluations

The original law (30 June 1975) governing establishments did not deal with the question of the rights of persons and their relatives, did not organize partnerships and cooperation between the State, the "départements" (local authorities) and the establishments and did not permit, for lack of relevant tools, to adapt the supply to the needs of the targeted populations, hence big disparities between "départements" and categories of establishments. The goal of the 2002 law has been to make up for these weaknesses.

The overseeing authorities are the buyers of treatment services and the medical and social establishments (public and private) are the suppliers. The Code of Social Action and Families states that "establishments and services (...) carry out the evaluation of their activities. (...) The results of the internal evaluation will be communicated every five years to the authority having granted the authorisation to operate." The internal and external evaluations are complementary and organized on the basis of the same content. Like for an ISO certification, the external evaluation must be carried out by an independent accredited organism. The external auditors base their diagnostic on a referential in order to evaluate the effectiveness of the quality system and practices. The gaps between a recommended quality and the reality in each structure are measured and a report is written for the overseeing authorities. An internal evaluation guide was proposed on 01/09/2006, which can be also used for the external evaluation, covering the rights and participation of users, the customization of services, the relations of the establishment with its environment, the establishment's project and mode of implementation and lastly the organization of the establishment. The internal evaluation can

then be the preparatory phase for the external evaluation. The renewing of the authorization to operate, granted every fifteen years is now conditioned by the results of this external evaluation, which has become an instrument of control for the financing overseeing authorities.

1.4. The development of gerontology networks

Care units in hospitals looking after dependent elderly persons have been encouraged to inter-establishment cooperation (networks) since 1996 to improve quality improvement, care and cost control. The social and medical sector was already associated with this reform with the creation of groups of sanitary cooperation and communities of establishments. Since the laws of 1999 and 2002 establishments are prompted to participate in care networks. We can characterize the gerontology network as a formal inter-organization (BERTEZENE, 2006) where modes of financing and actors can be varied, where the portfolio of activities depends on the characteristics of the internal and external environments, where partners in spite sometimes opposed logics must develop a form of solidarity, and also where a dynamics, organized relationships, an effective articulation of resources, a balance between organizational structure, knowledge, consideration for elderly persons' needs permit coherent actions for an inter-disciplinary treatment made up of integrated activities. Yet inside this formal inter-organization, the independence of the service providers is preserved. The common project defined by the partners covers a given geographical area and is designed according to shared values and implemented in a coordinated manner thanks to a specific strategy with a perspective of continuous improvement of the quality of treatment and a reduction in the waste of resources.

Networks are decentralized systems where relationships between the different actors (CONTANDRIOPOULOS, 2000 ; 2002) permit the articulation of the resources necessary for the treatment of sanitary and social needs of a specific population (LECLET, VILCOT, 2003). The challenge of the network is to present a strategy and a functioning permitting to favour the quality of the treatment (nature, quantity, access to services) of the dependent elderly person. To do so, partners consider three types of elements: the supply of care and services available in a given geographical area conditioning the organizational structure of the network, the needs of the population targeted (socio-economics characteristics, nature and degree of dependency) which condition the nature of the services to be provided so that it is flexible and compatible with the increasing degree of dependency, finally the adequacy between network and needs which depends on the dynamics of the network and the balance between the organizational structure, a good knowledge and real consideration of the needs of the population (FLEURY, 2004). The networks' portfolio of activities results from data coming from the internal and external environments, permitting to identify the main pathologies and degrees of dependency and to define the services to provide and distribute patients among the different processes treatment (CRÉMADEZ, 1997).

In a context of cohabitation and compartmentalization of the different medical specialities the network can be "a creative solution to manage complexity" (POULIN et al., 1994) in order to treat a given population in an inter-disciplinary and inter-organizational way, based on an integration of activities. Indeed today, the challenge is to move from a network of establishments to a network of services in order to break barriers between health professionals, favour innovation and quality improvement, stimulate the recognition of the person treated and play on mutual and complementary resources.

The collective intelligence created by the network permits to offer quality care and services adapted to dependent elderly persons while mastering costs thanks to multiple factors (BÉJEAN, GADREAU, 1997 ; CLAVERANNE., 1999 ; BRAMI, 2000 ; LECLET, VILCOT,

2003 ; DENANCIER, 2004): distribution of activities among organizations and hence optimization of the supply, mutualisation of practices and knowledge permitting continuous improvement and better mutual knowledge of professionals and organizations, improvement of communication and relationships between organizations thanks to the use of a same language by different professionals and thanks to shared and common tools, clear work processes favouring shorter times of treatment and a better traceability of actions.

2. New opportunities to ensure the survival and development of EDEPs and face the threats of the environment

Basing ourselves on the elements studied in the first part, we propose in the second part ways of establishing a control system and developing networks in order to answer the economic and legal constraints of the external environment.

2.1 Continuous improvement of quality, evaluation and control

We will consider the limitations of quality approaches, evaluation and control and then identify three risks inherent in control and make propositions to meet the challenge: the frequency of reforms creating stress and strain at work, the weak propensity to change of professional bureaucracies and the financial sanction implied by the law.

2.1.1 Limitations of quality approaches, evaluation and control

Establishments engaged in policies of continuous improvement of quality know certain limitations such as the difficulty of implementing the delegation of power without threatening the classic hierarchical control (HACKMAN R, WAGEMAN, 1995), the lack of commitment of employees, the absence of improvement of social relationships, productivity and creativity (IGALENS, 1998). Finally the improvement of quality over the long term meets implementation difficulties as, with time, other objectives become priorities and the personnel loses their motivation (JUBAN, 2000)

These difficulties found in most economic sectors combine with difficulties specific to organizations in our field. Indeed, in the three-party convention defining the choices made or to be made as regards the internal organization and the services offered, the quality objectives, the financial and budgetary conditions (BRAMI, 2000), there is risk to see 'surrealistic' objectives without a real meaning for the actors of the organization, in the name quality management rules based on a normative referential (PESQUEUX, 1999).

Since the 2002 reform, the evaluation guide has proposed tools and methods favouring a constructive questioning thanks to regular evaluations of quality indicators, practices and sub-contracted services (catering, cleaning ...) but also thanks to an evaluation system of dysfunctions, analysis of incidents and accidents permitting preventive actions, satisfaction questionnaires for patients and their families. Inside EDEP these different missions are generally monitored by the management and coordinated by a quality manager. However establishments rarely have a full-time quality manager. This function is exercised by an existing administrative or medical member of the personnel. As a result there is overwork, and sometimes lack of training, hindering the evaluation of internal quality and control.

The external evaluation could become a control tool for the organization of the medical and social sector in a geographical area. It could help to eliminate the least performing establishments and services. But the law gives no indication as to the sanctions (positive or negative) linked to the results of the external evaluation. We can nevertheless wonder what would happen to establishments with a bad evaluation: closure or allocation of supplementary budgets to improve? Since establishments have been obliged to sign a convention with

overseeing authorities, some of them have already signed their second convention without any impact on the recognition of achievement or non-achievement of their objectives.

The external evaluation could allow a better allocation of resources. The overseeing authorities could have the establishments with non-satisfactory results bear the financial effort. But they could be forced to finance badly rated establishments where capacity is limited.

The underlying question is that of the financing of establishments and services according to the results of the evaluation. But there is a risk that political decisions override managerial decisions.

2.1.2 Favouring continuous improvement, evaluation and control

a. Considering quality evaluation as a component of control

Since 1999 the obligatory preliminary phase for the signing of the convention is the evaluation of the quality level of establishments. According to COUIX (1997), the evaluation aims at interpreting data, actions, facts, etc. Evaluating is giving a judgment on a value. Evaluation is then assimilated with control, which entails for the actors a fear of questioning. Control is destined to measure results and permit “managers to conduct their enterprises effectively” (BENEDICT, KERAVEL, 1990). Control and quality evaluation will then allow the management to carry out measures and to make choices thanks to the production of information. Quality evaluation also constitutes a tool of strategic decision (BOUVIER, 1994) of the overseeing authority to grant or not establishments resources and authorization to function. This decision depends on the production of an evaluation of the strong and weak points of the organization and the definition of improvement and change objectives formalised in the three-party convention. For the establishment, the follow-up of the objectives after the signing of the convention requires the analysis of other information obtained through relevant indicators for the different quality criteria recommended by the overseeing authority. The objective is convergence between the expected and the real functioning, between the norm and the reality observed (MORIN, 1997). In this perspective we follow BOUQUIN (1997) who makes of evaluation and control two complementary instruments necessary to define the objectives to achieve and to monitor corrective actions. In our field, the recommendations about quality, evolution objectives and their evaluation go in the sense of the concept of total quality (WEILL, 2001) for whom the quality concern should be present everywhere in the establishment thanks to an open mind to this idea and not imposed by a hierarchical structure. Everyone is responsible within the framework of a continuous improvement policy which can be for the overseeing authorities a tool of external control to which the evaluation is closely linked. This approach of control is similar to that of the ‘modernists’ for whom control is a process permitting to identify behaviours and orient them so as to reach the objectives of the organization (CHIAPPELO, BOURGUIGNON, 2005). That is why establishments could build a dynamic system of control. The control function consists in ordaining and coordinating the interests which influence behaviours (HATCH, 2000).

The cybernetic model of control identifies the differences between the real level and the desired level of performance and triggers the adjustments depending on the gaps observed. The result to reach is one objective of the control (e.g. a maximum rate of non satisfaction for residents and families or an occupancy rate to respect). For other more difficult aspects to measure such as the quality of reception of a new resident or the effectiveness of his/her individual project, indicators are chosen to control the practices leading to the level of performance targeted. Consequently the practices permitting a high level of performance become standards. In the external control just like in the continuous improvement of quality

(DEMING), the performance of practices is compared to the standards and the gaps are used to create a feedback and corrective actions. The feedback at the level of the individual (or groups of individuals) and the organization, thanks to processes and indicators, permit to appraise the organization, to identify the elements to improve and to choose the relevant adjustments of the global strategy and the quality policy and then to deploy them inside the organization.

b. Developing trust to reduce stress at work due to the intensity and recurrence of evaluations

In a few years establishments had to face the law on the reduction of working hours, the reform of tariffs and the obligation of internal and external evaluations. These evolutions in the legal environment imply participation and questioning which can be sometimes hard to live for the personnel in a context of rationalization of financial resources, shortages of qualified staff and professional stress linked to being in constant contact with dependency, diseases and death. This feeling can be reinforced by the absence of criteria about professional relationships, working hours, various nuisances affecting the personnel in the evaluation guide. In these circumstances the trust of the personnel towards the overseeing authority can be reduced.

If we refer to the theory of agency, personnel operating in a stressing environment at work tend to shun responsibilities and dodge control systems. It then seems to be difficult to evaluate quality and the performance of the services and establishments without developing trust (BORNAREL, 2005), notably thanks to norms or values shared by the actors (FUKUYAMA, 1997). These norms and values could arise from the development of a culture oriented towards control so that the personnel conform to the behaviours accepted by the establishment in a conventional way (BIDAULT, 1998, GOMEZ et MARION, 1995). Trust manifests itself by an acceptance of rules which can be stimulated by a collective as well as an individual interest. In that latter case, we can mention the regular individual evaluation to reward the efforts made through promotion and remuneration. But this practice unfortunately remains limited because of statutory, cultural and financial reasons.

c. Encouraging participation to reduce resistance to evaluation and control

If usually incentives entail dynamic behaviours and stimulate initiatives, regulations tend to freeze them, to de-motivate actors, and so be ineffective. That is a risk linked to evaluation. Moreover the obligatory character of the evaluation could give it the image of a normative tool for planning instead of a tool for continuous improvement. According to MINTZBERG, medical and social establishments are professional bureaucracies where the culture contributes to control behaviours. These behaviours seem to be more controlled by norms and values coming from the medical professionals (OUCHI, 1980) than by rules and procedures monitored by the technostructure. In this context evaluation and control cannot develop without resistance in spite of the legal obligation. In order to reduce this constraint the evaluation defined by the guide could bring health professionals and managers closer as it highlights shared interests and favours responsibility. Indeed the methodology requires the participation of all the departments in the evaluation for the implementation a structured approach to continuous improvement, with the setting-up of thematic and multi-disciplinary work groups devoted to the evaluation, control and improvement of quality.

The participation of the personnel favours communication between jobs and hierarchical levels and reduces the gap between those who define projects and those who implement them. On the one hand establishments could move from an organization founded on the definition of tasks to an organization favouring the definition of objectives to reach (ZARIFIAN, VELTZ, 1994); on the other hand participation and de-compartmentalization would permit a

synchronization of actors (SAVALL, ZARDET, 1995) along different processes with a reduction in communication and coordination dysfunctions and consequently in the hidden costs they entail.

2.2 Creating gerontology networks to answer the resource constraints and quality requirements of overseeing authorities and the public

We will first show some limitations of gerontology networks and then make propositions to identify needs and aptitudes to work in a network, and also to define the monitoring system and the coordination modes.

2.2.1 Limitations of gerontology networks

Some organizations and professionals find it difficult to integrate into a network first of all because the stakeholders know each other little. For example EDEP are little or badly known by the actors traditionally working around elderly persons, such as social workers, physicians in hospitals, municipalities, etc. (BRAMI, 2000). We also observe sometimes the fear that one member of the network takes control of the others precluding the possibility of translating divergent interests into a coherent whole (VAN RAAK et al., 1999). There can also be a certain rigidity in personal statuses (notably between the public and the private sector) making cooperation difficult (CLAVERANNE, 1999). There are also sometimes failures in the transmission of information between the partners in the network finding its roots both in the organizational and technical domains (SOULIE, 1995), which can result in the use of documents with little information about the working mode of physicians (GRENIER, 2004). Difficulties also come from diverging values, representations and norms (DAGENAIS, 2000), or barriers between organizations and professionals hindering the necessary federation of multiple health partners around a new organization and new practices (STRAUSS, 2002).

In this latter case, consequences can be many: imprecise role of the coordinator, minimized by physicians, networks more considered as legal entities to the detriment of its 'structure' dimension, which reduces the richness of the treatment of cases and finally a lack of systematic follow-up of recommendations by professionals (GRENIER, 2004).

2.2.2 The preliminary stages in the implementation of the network

a. Identification of the services already available and the needs of dependent elderly persons in a given geographical area to guarantee the adequacy between supply and demand.

This first proposition is formulated on the basis of the surveys conducted by FLEURY et al. between 2002 and 2004 (2004) destined to design a model of network for mentally disabled persons. This model presents an organizational side comprising the determinants of health (unemployment rate, single-parent families, use of resources, etc.), the factors hindering or facilitating the networking of services, the degree of integration, the density, the centre and the scope of the network. Our proposition relies on the idea that the success of the network would depend first on a good knowledge of these different elements in order to propose care in adequacy with the real needs of a particular population in a given geographical area. The partners in the network will decide about the distribution of resources (equipment, beds, number of professionals, competencies) in the geographical area. The scope of the network can then be rural or urban, dense or not, depending on the number of partners and their resources.

b. Diagnostic and improvement of aptitudes to work in a network of the partners.

This proposition supports the idea that, before joining a network, establishments and other potential partners would have an interest in evaluating their aptitude to work in a network

(openness, degree of rigidity of the organization, teamwork, communication modes, etc.) as well as their needs (DENANCIER, 2004). This diagnostic could permit, if necessary, to delay the participation in the network until actions have been implemented to maximize the chances of success of the partners and of the network.

c. Inter-organizational de-compartmentalization to bring together relevant actors.

Here our proposition relies on the works of BREMOND (1997) and SAINT-PIERRE (2003). It assumes that the network should include all the actors concerned, including the financing actors, the customers or users, which would require breaking barriers between the partners, but also between the partners and their environment. Our proposition then implies that in the absence of inter-organizational links, there would be resistance to the network and a loss of legitimacy among professionals and the public.

d. Appropriation of the network's objectives by the actors.

Working in a network implies many changes for organizations: global approach of the patient and his/her pathologies, phasing out of the centralized organization in favour of inter-organizational and inter-professional work. In order to avoid traditional resistance by the actors, time should be granted to the definition phase of objectives so that they should be clearly established, understood and accepted by all. A number of experiments (SOULIE, 1995) show that saving time during that phase to try and obtain immediate results, very often leads to a massive rejection of the network, jeopardizing its potential in the medium and long term.

e. Sharing of resources and redefinition of remuneration modes

Our proposition is derived from the principle that the sharing of resources should be led without being detrimental to any of the partners in order to guarantee that collaborations are lasting (WIMPHMEINER, BLOOM, KRAMER, 1990). An equitable sharing of resources raises the question, among others of remunerations. We believe that to ensure adequacy between objectives of the network and professional practices, a mix of remuneration modes could be a lever to prompt professionals to work together harmoniously (SHORTELL et al., 2000).

2.2.3. Defining the monitoring system

a. Establishment of an information system for decision-making.

The objectives of performance should be reached thanks to the establishment, the feeding and the monitoring of an information system permitting the link between decisions and actions for the different actors (LECLET, VILCOT, 2003). The information system could be materialized by simple paper documents or a sophisticated computerized system depending on the size and complexity of the network. The main thing is that all the actors in the network should have access to the information they need. This information system would also permit to monitor the elderly person's life as well as the strategy and operation of the network by coupling social and medical information with management information.

b. Definition of expected results and relevant evaluation indicators.

This proposition stresses the importance of the definition of expected results of the network with specific indicators for each mission. The results from these indicators together with the findings of elderly persons and their families' satisfaction surveys and surveys about the roles, missions and functions of health professionals inside the network, would permit to evaluate the network's performance. This proposition relies on the assumption that the actors would

like to know their results in order to act in a better way. The evaluation then would be an integral part of the process of continuous improvement of quality.

c. Autonomy, responsibility and trust.

The autonomy of physicians and other professionals seems to remain the best option in a network (SOULIE, 1995; GREMY, 1997). This proposition means that the network should be balanced (LEVINE, WHITE, 1961; COOK, 1977) (i.e. no partner should exercise a control on the other partners, or detain a superior power in terms of regulation and exchanges in the network). The network can only function if everyone enjoys their full autonomy and competency. However this autonomy should not mean a lack of coordination but be a sign of trust (BRADACCH, ECCLES, 1989; POWELL, 1990).

2.2.4. Defining and coordinating the action framework, a common system of reference and the clinical organization

a. Appointment of a coordinator and clear delegation to coordinate the components of the network.

On the basis of the works by CLAVERANNE (1999), this proposition implies that a viable and performing network should share information, would have a regulating coordinator and would render the medical body more responsible thanks to a greater commitment in the everyday management. The network should be organized at the different organizational levels starting from individual competencies.

b. Training of the actors in the network to develop a common system of reference.

The training of the actors in the network would permit to make more stable the state of professional knowledge used as the basis for common action (CARLILI, 2002). In this perspective training in the network should be multi-disciplinary in order to widen collaborations between organizations and jobs, favour the continuous improvement of care and services while encouraging the commitment of the actors in the routine and strategic management of the network thus ensuring its survival and development (CLAVERANNE, 1999). The common knowledge would bring flexibility and openness to the network while reducing uncertainty as to the impact of the decisions of the actors (CREMER, 1990).

c. Production of customized services according to common procedures and protocols.

The clinical organization should be oriented towards a global treatment of elderly persons according to common rules, procedures and protocols without leading to a standardized production but to a customized, albeit controlled, one guaranteeing good results (EDDY, 1999). Each person should benefit by an only referring person in the network able to lead him/her through the different aspects of the treatment. A simultaneous and coordinated intervention of the different actors, and a global follow-up in accordance with the evolution of the degree of dependency should be possible (GREMY, 1997).

Conclusion

The study presented in this article whose goal was to find managerial modes for homes for dependent elderly persons answering demographic, economic and legal constraints in their environment, shows that these institutions have little autonomy as to their strategies and policies. It evidences that the external and internal evaluations required by the legislator can be the opportunity to develop a system of control serving performance. The implementation of the different methods of structuring and management reviewed seem to us to favour the emergence, the survival and development of networks as the more apt organizational mode to ensure effectiveness and efficiency and meet the expectations of the stakeholders.

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RISK MANAGEMENT AND PERFORMANCE MEASUREMENT: EXCELLENT EXPERIENCES IN ITALIAN HEALTH CARE INSTITUTIONS *

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1. Outlook and literature.

The increasing attention toward the analysis and the re-planning of the business trials allows to emerge a change of approach, from a typology of indirect intervention that tries to engrave “top-down” on the processes of healthcare services production (institutional order, organizational structure, operational systems), to a direct typology, centred on the relief trials with finality of clinical *governance* and risks control with redefinition technical-logistic layout, definition PDTA, *outsourcing*, *project financing*, etc. (Secker-Walker, Lugon, 2004; Wright, Hill, 2005).

With this premise, the risk must not be lived as economic but structural phenomenon, not as element of trouble but as characterizing element of the company activities that, if correctly managed, it permeates the value creation processes.

In this context a global afterthought of the strategies is needed, the business performance processes, that pressures to reduce costs, to improve quality, to maximize effectiveness, efficiency and empowerment, have to be reprogrammed in order to give them a patient centralization (Porter, Teisberg, 2006).

Although many contributions have been proposed analyzing performance management, less attention has been focused on interrelation with the risk management. Particularly, the empirical validation of the risk evaluation is represented in the international literature (Williams, Smith, Young, 1995), especially regarding the health care system (Holly, Roberts, 2002; Carroll, 2005), but these studies are less represented in the Italian contributions (Bertini, 1987; Del Vecchio, 2003; Borghesi, 2004).

In fact, the discipline of the Risk Management has lived, in the last decades, a gradual but consistent revaluation, to the point that different authors are assembled on the study of the risk attributing him a central role and recognizing him as key element of development to which to render the correct attention (Bayerische Ruck, Knesebeck, 1993; Borghesi, 1993; Carter, 1974-1984; Deloach, 2000; Doherty, 1985; Gordon, 1992; Haller, 1976; Head, 1982, Lore, Borodovsky, 2000; Mcneil, 2004).

This elevation of “rank” has brought during the time to untie the concept of risk management from the study of mere technical tools, valorising the importance of the strategic risk management in decisive way for the company’s corporate governance (Borghesi, 1994).

If in international circle, the risky dimension of the firm finds a first position in the literature of the years ‘20, in Italy, it has been rediscovered in the first years ‘60, what direct consequence of the continuous evolution of the tied up competitive context of the enterprises to the economic boom, with a fervent scientific production actually persisted to our days (Di Cagno, 2002; Timidei, 1994).

Following these ways of thinking, we come to define the risk management what characterizing element the management of any enterprise (Andersen, 1980): to know how to

* Although this paper is based on a combined effort, par. 1, 4.1 and 5 by Francesco Bifulco; par. 2, 3 and 4.2 by William Brognieri.

adequately manage all the risks which an entrepreneurial activity is exposed, represents therefore the essential element of the success (Marsella, Sironi, 1998). Such conception finds justification in a punctual definition of the delicate existing bond among risk management and enterprise¹.

The final target is to furnish more correct visions of the proper action to the management, allowing to effectively interpret the real condition of the company, its strategic perspectives and supporting him in the formulation of the actions in operational phase.

These reflections have conducted to a deep reconsideration of some main concepts of economic activity. The fundamental point resides in the need of a best understanding of the conditions and the reasons that are subtended to the modern risks and uncertainties economic so that to make possible to the entrepreneurial talent and creativeness to find the best way of success (Giarini, 1994).

The world development of the *Risk Management* is a sign of this trial, what great demonstration of reaction to the true risks nature and dimension that influences economic and social context (Baglinin, 1976). Considering the evolution of the interpretation of the risky phenomena is set us as objective the formulation of a conception of the risk that is able to associate the risk to the uncertainty, rereading it in subjective terms in relationship to the enlargement of the range of risky factors that the firm wants and must appraise and to the meantime to jointly treat the negative and positive dimension of the risk recognizing the strategic value (consonance and resonance) of such reflection (Golinelli, 2000).

The problem of the risk in healthcare context has underlined the difficulty, from the modern health care systems, to govern the deep complexity of the numerous elements of human nature, organizational, technological that characterize them, soliciting them to the attainment of elevated standards of quality, in coherence with what attended from the patients and the health operators.

In this context, the risk represents, for the health care system, the principal object of study, both from an epidemiological point of view and of action-prevention. The principal difference among the conception of risk in other categories of enterprises and its consideration in health circle concerns to the particular attention to the health and the safety of the patients and the operators (Bosk, 2005; Leape, 2000; Vincent, Adams, Stanhope, 1998; Vincent, 2002).

Following this way it is clear that they cannot exist a general company politics and a risks politics considered in separated way (Bertini, 1987), but the subject-object that have to be managed is the company, while the risk represents a phenomenon, that having abstract nature, it exists in autonomous way and independent from the human actions for which the company with its strategies, its positioning, its particular operations it avoids it, it exploits it or it tries to limit it.

The assignment of the Risk Manager is to manage risk in relationship to all the multiple and complex business both strategic and operational perspectives. The strategic level imposes to the firm to assume conscience that its own long term programs, and the related initiatives that have to be realized, represent tools of business risky dimension management².

¹ The traditional practice of the risk management, passing for Knight (1921) thin to Arrow (1974, 1976), it respectively focused him on the theme of the business risk sand then on the coverage of the pure risks and on their possible consequences (Giarini, 1994).

The new paradigm, with reference to the most evolved economists, taking more and more what stings of natural reference the field of the insurances (Giarini, Stahel, 1993), is focused on a larger perspective, considering the entrepreneurial action exposed to risks in order to reach results (Crockford 1982; The Geneva Papers on Risk and Insurance, 1992; Greene, Trieshmann 1981; Herliner, 1992; Lupton, 2003; Vaughan, 2003).

² The element to be deepened concerns the thresholds of the strategic management of the risks (Scott, 2004). The company's perspective must focus on the opportunity to structure own activities so that to gather the

The company, therefore, has to check the fundamental variables of the proper business model and the risk perspectives that it determines in relationship to the context evolutions, modifying the effects that could be produced on own processes and performances (Stampacchia, 2007).

2. Objective and model of reference

This work tries to explore the existence of the relation between risk management and performance measurement in Italian health care systems, regarding managerial processes in order to give them a customer/patient satisfaction orientation.

The final target is to build a theoretical framework in order to represent this kind of relationship in a logic of patient centralization. For this, we need to use the Enterprise Risk Management (ERM) model produced in 2004 by the Committee of Sponsoring Organizations of the Trade-way Commission (CoSO).

The underlying premise of ERM is that every entity exists to provide value for its stakeholders. All entities face uncertainty, and the challenge for management is to determine how much uncertainty to accept as it strives to grow stakeholder value. Uncertainty presents both risk and opportunity, with the potential to erode or enhance value. ERM enables management to effectively deal with uncertainty and associated risk and opportunity, enhancing the capacity to build value.

Value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploys resources in pursuit of the entity's objectives (CoSO, 2006). Within the context of an entity's established mission or vision, management establishes strategic objectives, selects strategy, and sets aligned objectives cascading through the enterprise. This enterprise risk management framework is geared to achieving an entity's objectives, set forth in four categories: strategic, operations, reporting and compliance.

This categorization of entity objectives allows a focus on separate aspects of enterprise risk management. These distinct but overlapping categories address different entity needs and may be of direct responsibility of different executives. ERM consists of eight interrelated components. These are derived from the managerial way to run an enterprise and are integrated with the management process. These components are:

- *Internal Environment*
- *Objective Setting*
- *Event Identification*
- *Risk Assessment*
- *Risk Response*
- *Control Activities*
- *Information and Communication*
- *Monitoring*

ERM is not strictly a serial process, where one component affects only the next. It is a multidirectional and iterative process in which almost any component can influence another. There is a direct relationship between objectives, which are what an entity strives to achieve, and ERM components, which represent what is needed to achieve them. This relationship is depicted in a three-dimensional matrix, in the form of a cube (Fig. 1).

opportunities that come from the competitive context and to defend from the possible negative factors, as well as to define the drive lines for managing the risky dimension in all the manifold business partitions (Shimpi, 1999).

Figure 1 - Enterprise Risk Management (ERM)

Source: CoSO, 2006

The four objective categories are represented by the vertical columns, the eight components by horizontal rows, and an entity's units by the third dimension. This depiction portrays the ability to focus or on the entirety of an entity's ERM, or by objectives category, component, unit, or any subset thereof.

The model is very flexibility because the eight components will not function identically in every entity. Application in small and mid-size entities, for example, may be less formal and less structured. Nonetheless, small entities still can have effective ERM, as long as each of the components is present and functioning properly.

3. Methodology and empirical check

The descriptive nature of the research (Sellitiz, Wrightsman, Cook, 1976; Gummesson, 2000) has been induced from the consideration of manifold factors: the nature of the problem of search, the objective of the theoretical generalization and the level of the topic knowledge got through the theoretical exploratory study³.

Empirical way has been realized by analyzing two Italian excellence realities: the Clinical Institute Humanitas in Milan and the Children's Hospital Bambin Gesù in Rome.

The selection of the enterprises has been effected through a progressive screening, as following described.

The first choice has been focused on a particular category of Health care Italian companies, the IRCCS, that have, also from a normative point of view, a high degree of managerial autonomy, and represent in the national health care outlook, the excellence structures.

The field of analysis has subsequently been narrow considering, among the 42 IRCCSs on the national territory, the 24 having private juridical nature in order to describe realities managed with business approach efficiency and effectiveness oriented and to the meantime most distant from logics of managerial bureaucratization that, as known, they characterize the greatest part of the public structures. Among these selected companies has been chosen those one that have got the JCI (Joint Commission International) accreditation, that represent the most important certificate for Health care companies, relating to quality level and great attention to risk management.

Crossing the database of the private IRCCSs and that one of the Italian companies JCI certificated (in total 9) we have got 3 firms: the Clinical Institute Humanitas in Milan (ICH), the Children's Hospital Bambin Gesù in Rome and the European Institute of Oncology (IEO)

³ The choice of the investigation "on field" by a qualitative method (multiple cases study) finds justification with the objective of study and with the nature of the phenomenon investigated (Yin, 2003).

in Milan. In strength of the considerations that OPBG and IEO have same performance measurement and management model, connected with the Balanced Scorecard, while ICH uses different configurations and that the first one has centre in the Region Lazio, while the others two are situated in the Region Lombardy, the final choice has reverted on the OPBG and on ICH, so that to respect all the criterions already mentioned.

The information collected during in-situ interviews was based on a semi-structured questionnaire.

4. Main results

4.1 *The case of Children's Hospital Bambin Gesù*

The OPBG, the first Italian children's hospital, is born in 1869 with an action of beneficence of the family Salviati. In 1985 it has got the recognition of IRCCS. Currently OPBG is the greatest Children's general hospital in the Centre-Southern Italy and among the most modern and equipped one of the Country, with 800 beds with almost a million out-patient performances for year, and around 35.000 total admissions.

The institute work on three centres, Rome (the main place), Palidoro and Saint Marinella, it articulates in 13 departments, 58 clinics and 7 services and it develops activity of ER, Ordinary Admissions, Day Hospital and Day Surgery, Clinic and Domiciliary Medical Care.

The objective of the OPBG is the excellence in health care children's medical care. In order to get this purpose, OBCG has decided to undertake in the years different projects, among which the JCI certification and the implementation of the Balanced Scorecard management performances measurement tool.

The JCI certification, in order do confer orderliness to the numerous initiatives of health care quality improvement, is the last step toward the continuous search of the quality of the trials, started with the certification of the structure following the normative UNI EN ISO 9001:2000.

Among the objectives for the Quality we find two of them particularly interesting:

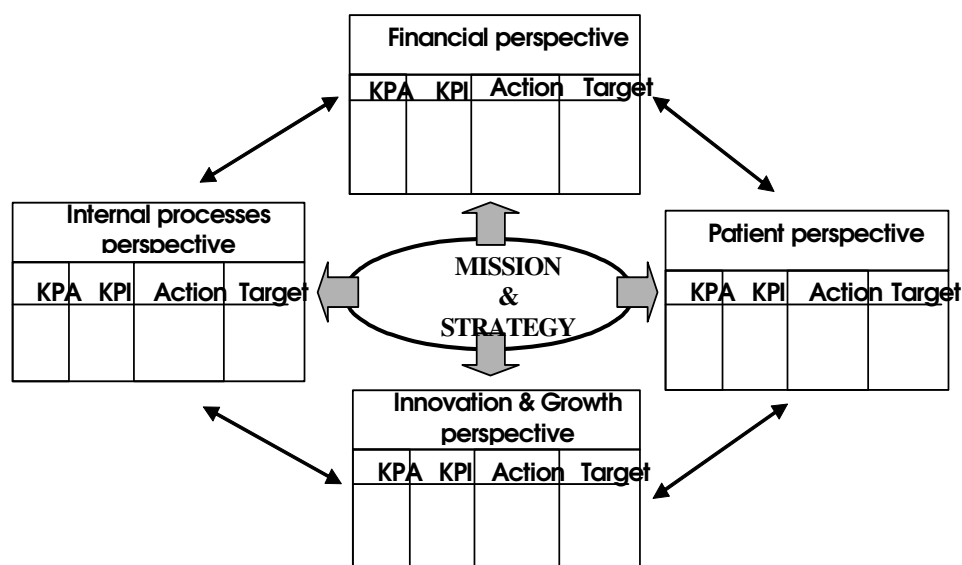
1. to reduce sensitively the anomalies found during the processes of institutional functional interconnection;
2. to improve the skills of control and verification of the critical trials.

In such optics the necessary resources (both in terms of personnel and of means) has been identified of such activity and consequent optimization of the relationship cost/benefit.

For getting these purposes it has been constituted a Quality Committee composed by Top Management, by a representative of the Quality Management, by people responsible of the Directions (Sanitary, Administrative, Personnel, Scientific), by people responsible of the certified Services, by the staff Insurance Quality of Institute and by the responsible Insurance of the certified Services.

According with the constant and continuous trial of change management, since 2003 it has been started a project of introduction of the Balanced Scorecard methodology. Respecting the native model by *Kaplan & Norton* (1990), suitable to the health care sector (Baraldi, 2005), the BSC is organized around four separate perspectives of improvement: economic-financial, clients/patient, internal processes and innovation-growth (Fig. 2).

Figure 2 – Balanced Scorecard applied to Health Care



Source: Baraldi (2005)

The BSC methodology allows to fill a gap for a long time existed in the firms: the discrepancy between the formulation of the strategy and her realization. *Balanced* is to point out the need to find an equilibrium of measurement and to individualize various objectives of long and brief term.

The run of application of the BSC to the OPBG happened through a project that has expectation a gradual use of such methodology. The first phase of development has been on its way through a project pilot that has involved only the Directions, subsequently, in consideration that the got results, especially in terms of interest, of common language and of team building, has been extremely convincing, has been decided, during 2004, to also extend the methodology to the Operative Units.

BSC, constitutes today a cultural patrimony of the OPBG and of all the members of the structure, what flexible and multi-dimensional tool able to assure the performances management in coherence with the objectives and the business mission.

4.2 The case of Clinical Institute Humanitas

ICH is an accredited private general hospital born in 1996. At December 2002 Humanitas becomes the first Italian general hospital to get the accreditation of excellence released by Joint Commission International, reinstated in February 2006. To less than ten years from his foundation, ICH recognized by the Office of the Health as IRCCS (2005).

Today the structure, wide on 180.000 ms. surface (of which 79.000 covered ms.) it counts 800 bed places of which 525 SSN covered by the insurance, 40 Operative Clinic Units (UOC), 24 surgery rooms, 120 clinics, 2 connected pharmacies online for booking visits, examinations and withdrawal reports and an EAS (Emergency of tall specialty) of III level.

The centre employs 450 physicians, 300 researchers, 857 busy operators in the clinical activities and of medical care, of which 516 nurses, 143 employees to the client service and 139 of staff.

This review of numbers to make to understand the dimension of the realty object of study and the rapidity with which the same one him affirmed what centre of excellence in national and international circle.

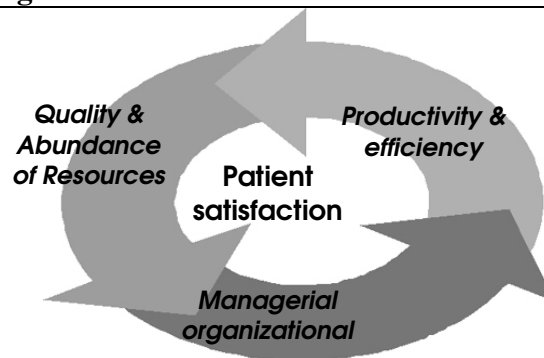
It is important to notice that ICH, having centre to Rozzano, near Milan, belongs to the industrial group TecHosp, that manages other 4 structures in Italy, Lombardy (1), Piedmont (2) and Sicily (1), counting over 1800 employees today, around 700.000 out-patient performances and 60.000 admissions for year.

The Mission of Humanitas is to furnish elevated quality and highly specialized diagnostic and therapeutic services to the community with the purpose to continually improvement.

This mission is fully reflected in the managerial model of which the structure him gifted (Fig. 3) that three priorities is essentially established:

1. patient's centralization, in a customer satisfaction approach;
2. efficient use of the resources: human resources (physicians, nurses, etc.) structures (read, salt operating, ambulatory, etc.), equipments (laboratory analysis, radiology, etc.);
3. effectiveness of the cares.

Figure 3 – Model Management ICH



Source: Health care Management ICH

The managerial model of ICH is a transaction of the industrial model: the hospital governed for trials with a detailed planning of the productive factors: the human resources, those structural and technological.

All the hospitalizations of Humanitas are shaped as unit multi-specialized: every hospitalization has a number of bed places assigned to more UOC and a number of beds not assigned defined *pool*. The attributions of bed places to the UOC they vary every year, through a defined tool lay out.

The true innovation is represented by the operational break-up of the binomial unit/department, that allows a great flexibility in the planning of the admissions allowing both to maintain very low the waiting lists, both to absorb admissions not programmed by EAS during the woodpeckers of urgencies (epidemic influence in winter). Inside of ICH we find a system of job typical of the horizontal organizations, for which essentially directed for trials, with the constitution of committees, nucleuses operational groups.

Particularly, the Net Quality of Humanitas is a system structured of connections that it interests all the professional categories (physicians, nurses, researchers, staff) that are key knots of the Quality Committee, Quality Nucleus and Representatives for the quality.

This apparently complex system of quality management allows the structure to hold under control all the indicators and to prevent and to appraise the presence of possible adverse events.

Humanitas since his opening him endowed with systems of Quality and Risk control founded on the approach PDCA (Plan, Gives, Check, Act). This method represents the synthesis of the virtuous Quality circle and allows the continuous verification of the trials and the outcomes.

5. Towards a health care risk “holistic” framework

It is important to premise that the condition of homogeneity to the risk approach is not casual, on the contrary it is the necessary premise to understand “what relationships”, in two different managerial configurations and performance management under many profiles, get similar results regarding the qualitative standards, and particularly, the risk management approach.

The empirical study shows the existence of the relation investigated by the presence in excellence experiences of the same risk management approach, different performances and managerial configurations, but the same processes management approach oriented.

The key reading of the empirical analysis is understandable making a parallelism among the two entrepreneurial realities: absolutely different health care firms for history, institutional order, territorial position, physical-structural connotation, performances measurement management, medical specialization and managerial configuration, are united only by the risk management approach and by the vocation of the business management to processes logics.

In such way, it finds justification and confirmation how much affirmed in literature that they cannot exist a general politics of the firm and a risk management politics thought in separated ways.

Defined the existence of the direct relationships between the risk management and the managerial approaches of the health care enterprises, here we want to build an up-graded framework (Fig. 4), that tries to explain as the risk business approach cannot be understood only as an operative step or tool, but like a “holistic” paradigm, in degree to permeate all managerial performances and processes.

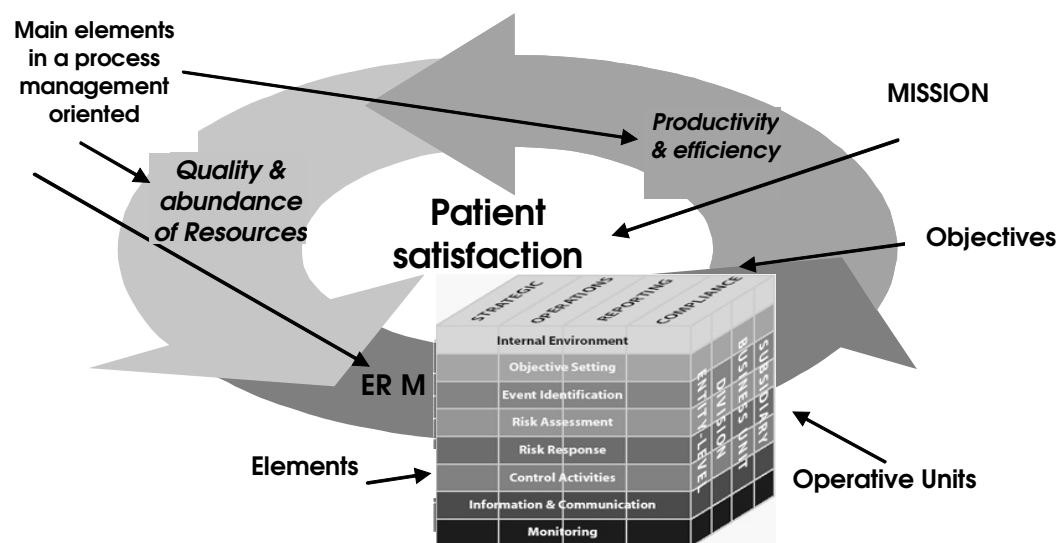
This framework assumes as base of departure the ERM model identified like a founding element in a business logic for trials, directed to the optimal and qualitative management of the resources. In such way it proposes, in the respect of the conditions of efficiency and effectiveness, a mission centered on the patient satisfaction.

This conceptual experiment aim to make to understand as a system of risk management should be structured to be able, coherently with the logics of clinical governance, to drive the managerial behaviours toward the “excellence”.

In fact, the management for trials as possible the only one shapes if they are wanted to potentially hold under constant control all the activities generating adverse events.

Besides, the elements that constitute the ERM model, connected through the three-dimensional matrix to the objectives and to the operational units of all the organization levels, guarantee the winning match among the definition of the strategies and the contextual pursuit of the formulated objectives.

Figure 4 – A “holistic” framework



Source: our elaboration

This type of framework allows besides to operate in the respect of the logics of a correct and efficient resources management, scarce for definition. In such sense, it becomes essential to optimize the use of resources, guaranteeing the maximum quality performances disbursed to the patient. The perspective of productivity and efficiency go in according to a good performances produced in rapid times regarding also their costs.

The *framework* here represented for its flexibility could also be used for further empirical experimentations in pilot units of health care firms that present meaningful gap both from the managerial point of view and from the risks evaluation approach.

In such optics, it shows the opportunity, for example, to use this type of framework, to implement the construction of Balanced Scorecard tool (already processes oriented instrument and compatible with the same framework), transposing the base elements of the framework in the definition of the BSC “perspectives” and using the ERM’s components for choosing of the KPA, of the performance indicators, actions and target (necessary elements for the BSC construction).

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ACHIEVING QUALITY IN A GOVERNMENT HOSPITAL: DEPARTMENTAL RESPONSIBILITY

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Introduction

The Western Galilee Hospital in Naharia is a 700 bed tertiary health care center that serves a demographically mixed Israeli population of 450,000 - the Galilee's mosaic of Jews, Moslems, Christians, Druze, refugees from southern Lebanon, and large immigrant populations from the former Soviet Union and Ethiopians.

The hospital consists of several sections: Internal medicine departments, including neurology, nephrology and intensive care units; A Surgical Wing with an Imaging Center, and eight state of the art operating rooms are fully protected from conventional and non-conventional warfare; Women's Health Center (approximately 6000 births per year); A Health Education Center; A Department of Ambulatory Medicine including 49 different outpatient clinics for diagnosis and follow-up treatment (122,000 annual visits); Pediatrics wing includes neonatal intensive care, Pediatric Intensive Care, pediatric Development Center, and a child psychiatry. The emergency room receives an average of 115,000 of visits/year.

Necessitated by the hospital's proximity to the Israel's border with Lebanon and having been the target of enemy fire in the recent past, the entire staff participates in preparatory drills for mass casualty events.

A forerunner in quality of medical care, Western Galilee Hospital is the first Israeli hospital to fully meet the stringent criteria of the International Standards Organization. Having been awarded ISO 9001 certification attests to a commitment to high quality, efficient medical service.

Quality management system in the hospital

The development of a quality system is complex and takes several years. In conformance with innovation theory, many provider organizations choose a step-by-step strategy (Wagner, 1999). The experience of our hospital confirms this approach: In 1993, we created the conditions necessary for systematic quality assurance and improvement activities such as education programs and ongoing courses on quality management methods. Approximately 100 professional members at the hospital participated in courses with the purpose of developing guidelines and standards emphasizing health care processes (Shasha, 1997).

The graduates of this program have acted as internal quality audit assessors in all departments and units of the hospital. The purpose was to cross the boundaries of separate disciplines using quality cycles and to be ready as an organization for external quality audits.

In 1996, we were certified by the Israel Standards Institute as having a quality assurance system fulfilling the requirements of the international standards, ISO 9002.

Today, in the hospital, the ISO 9001 standards (International Organization for Standardization) system relies mainly on regular staff members, including physicians, nurses, secretaries and directors. All of these are involved in the ISO system in addition to their regular work responsibilities. Hospital management appointed one ISO position, a nurse who devotes her time

exclusively to the ISO. Her responsibility is to re-assess all clinical indicator forms and cross-checking with the respective files, organization of ISO meetings and co-ordination of task forces. Recently our hospital has adapted the EFQM model. The first department to assimilate the EFQM was the Pediatric Department. In addition, self-assessment methods have been used in our hospital with the purpose of assessing the hospital as an organization with quality system experience. Our hospital is the first general hospital in Israel to have adopted the EFQM Excellence model.

In 2007, the Division of Quality and Excellence in Civil Service in Israel developed a concept to improve quality management in governmental institutions throughout the country. In order to put this strategy into practice, Western Galilee Hospital, a governmental hospital, developed a plan to advance the quality management system where each department and unit is autonomously responsible for its own quality and excellence. Moreover, since our hospital has been certificated by ISO 9001 for more than 10 years, (the only hospital in Israel), our main challenge now is to increase the quality and excellence system in every department.

Most health care organizations struggle with the design and implementation of effective, system wide improvement programs.

The aim of this article is to describe implementation of a comprehensive program in order to raise awareness of directors and employees of the need to address all the government's requirements for quality and excellence in service in Israel.

Quality management department- based method

Implementation and evaluation of quality in departments/units level according to criteria of the division of quality and excellence in civil service in Israel, were included:

1. A quality management committee in each department, including periodic meetings and written protocols
2. A qualified quality assurance coordinator in department
3. An Annual improvement plan and quality assurance actions in department.
4. Identification and mapping of customers, their needs and requirements.
5. Use of customer satisfaction surveys systematically for the purpose of improving service and care.
6. Use of representative indicators and clinical measures that fit the quality of care of the department.
7. Publication of the department's quality service covenant for the information of customers and the general public.
8. Participation and involvement of workers in quality improvement activities.
9. Use of employee satisfaction surveys systematically for the purpose of improving service and work environment.
10. Use of periodical self-assessment methods for quality management and excellence status in departments.

As a result, QA coordinators are becoming increasingly important within the departments and units in every governmental organization in Israel. Thus, in health care, the position of the QA coordinator is pivotal in facilitating organizational compliance with standards and governance regulatory requirements.

In Western Galilee hospital, since a quality management system has been emphasized at the macro level (hospital as organization), the decentralization of quality management has

become essential to achieved leadership, planning, flexible resource allocation practices and well functioning management systems at the department/unit level.

Table 1: New directions for quality management in Western Galilee Naharia hospital

From	Toward
Centralized planning	Department level planning
Central decision making –forum of managers and directors in hospital	Shared accountability and responsibility of department staff
Focus on general hospital quality issues	Focus on specific department quality issues
Focus on heterogeneous quality indicators	Focus on clinical quality indicators that represent the medical care in department
Split data or information related to quality management	Integrative data or information related to quality of care in departments

In this new era, department/unit quality coordinators are responsible for assessing, planning, implementing, and evaluating the ongoing comprehensive program that ensures quality and efficiency of care in their departments. The duties of the QA coordinator include leading the quality plan in their department, and writing a report detailing activity in their department/unit during the past year, based on ten evaluation criteria.

Although the importance of the quality assurance coordinator role is well established in many health care organizations, there is little written about the actual role of this position.

In a health care organization, the physicians, nurses and other hospital staff often do not understand the importance of the role and may believe that the QA coordinator may in some way interfere with their routine work (Crane 2000).

QA coordinator, typically a management position in the department may, as a leader is the person who can conduct activities and workshops and plan projects dealing with QA matters. As such, the course as a prerequisite was viewed as essential in our hospital.

The aim of the course was to help the newly appointed QA coordinator recognize and understand the development of this new role. Criteria in choosing the coordinators in every department were based on previous experience and knowledge of the hospital management, the participants of the course had to be in management position or involved in quality activities at the hospital level in some way. Qualified individuals from units and departments were eligible to apply for acceptance into the course. In total, thirty-four senior physicians, nurses and heads of departments in our hospital have participated in the program.

Formal QA coordinator role preparation creates feelings of anticipation, challenge and excitement, although the concept of it was not new for most of the employees of Western Galilee Naharia hospital.

The curriculum covers several domains of knowledge related to quality management and particularly quality improvement in health care; clinical indicators and measurements of quality of care (medicine and nursing) in the hospital setting, leading changes, self assessment processes and EFQM Excellence model, customer/beneficiary knowledge, social context and accountability. The Division of Quality and Excellence in Civil Service in Israel approved the curriculum of the course.

Developing a continuous learning environment

We have found it helpful to focus on developing a continuity of this program. Coordinators should engage in continuous professional development through ongoing training and participation in organized societies that support and enhance their position.

We established a framework of monthly meetings of QA coordinators focused on quality management issues common in departments. Active participation in the monthly hospital meetings encouraged sharing of ideas among unit coordinators, networking, and fostered team building. For example, certain members shared successful activities, which provided them with positive feedback from their peers. This formal framework for the QA educational process is important for ongoing collaboration among the unit QA coordinators and to establish a team effort directed to ward improving patient care. During this time, all the hospital employees were exposed to the new role.

In addition, presenting information at the annual meeting of the steering quality committee is an opportunity for the coordinator to present his or her program in a positive way.

Since the role of coordinator interfaces with nearly every aspect of the clinical and administrative; it is vitally important that the department director and coordinator have a close and mutually respectful working relationship and a clear understanding of each other's role. Through such activities, a coordinator becomes equipped with the skills needed to initiate actions that improve the efficiency of work, reduce cost, and/or improve the quality of service to all they serve.

The conceptual framework of departmental responsibility encourage the department directors to fully comprehend quality management, and help them as a management tool to lead the department towards excellence.

Staff and managers are ready to accept personal responsibility for areas of performance, which they believe, let them down, and to understand their part in those under-achievements so that improvement actions can be designed and implemented.

There can be no doubt that use of a departmental responsibility model has helped significantly improve the attitude towards quality management and the delivery of excellent of quality service in our hospital.

Conclusions

Results of recent studies have demonstrated that dedicated, highly skilled and experienced coordinators are valuable asset to the unit (Collins 2005).

In particular, the departmental model has ensured that the practice does not just examine the work of coordinators, but the team as a whole (Beholz 2003, Levy 2006).

One of the elements that predict a successful performance improvement program in health care organizations is active involvement of staff and managers (West 2001, Barron 2005, Curtis 2006).

In addition, a decentralization approach to quality management in the departments may help generate a consciousness of quality on the way to adapting the EFQM excellence model (Jackson 2002). A further benefit of using the departmental quality management in Western Galilee Hospital has been to catalyze a keen interest in improvement among all the team members within the departments. The main ingredients of such a system are for instance, the data collection and analytical systems that now identify the views and needs of customers and staff at the departmental level in addition to measuring clinical and process outcomes.

In a complex health care organization such a hospital, the framework currently in place has equipped the practice with an overarching data system that can support future benchmarking activities in the interest of improving care for patients and the work environment of hospital staff. We believe that an important achievement of our quality management system is the development of an overall positive attitude of our staff towards quality management. During 10 years of activity, we developed a comprehensive system in which virtually every staff member has participated on equal terms. Naturally, this is difficult to achieve since not everyone wants to participate in the system (Kunkel 2005). Today, the activities of the Steering Quality Management Committee, and the continuous patient satisfaction surveys in departments are perceived by all staff members as an integral part of day-to-day activities and no longer as part of a separate and distinct quality program. The main perception of quality as a direction and not as a goal reflects the dynamic character of the program.

Using this concept in the current stage of quality management in our hospital is possible without any great additional effort. The departmental level of quality management does not replace the ISO certification of the hospital and the efforts for continuous improvement of quality management system at the macro level, but represents a milestone for further motivation of all of the hospital team's members. Further effects of this approach will be *visa versa* of both directions, macro and micro level of quality management system in our hospital.

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CREATIVE INTEGRATION OF DIFFERENT ASPECTS ON QUALITY

Marko Kiauta, Biserka Simčič:

Key words: Systems, organizational culture

1. INTRODUCTION

Quality aspect in a hospital is no doubt one of the most important aspects. But which concrete activities is management systematically performing on all levels to assure the highest possible quality of processes and services?

For a public sector hospital demands for systematically management of quality from outside are present more and more. Let us see, which one are relevant for our case study—**General Hospital Novo Mesto – Slovenia**. There are demands:

OBLIGATORY

- demands of Ministry of Health (MH) for measuring and reporting on medical and business quality indicators
- demands of Ministry of Health to have a formal structure for leading quality (Board for quality, Commission for quality)

VOLUNTARILY

- Demands from Slovenian Quality Institution, based on obligations for ISO 9001 certificate. Each year demands for corrective and preventive measures are defined on the base of the external audit.
- Demands from Slovenian Metrology Institute of the Republic of Slovenia at Ministry of Higher Education, Science and Technology in the basis of evaluation on EFQM Excellence Model.

2. THE PROBLEM

Each of all demands is followed by a series of actions and documents. All those actions and documents are **mainly focused on the same objects**, but:

- by different terms (Board for quality<>management representative, ...)
- by different actions (accreditation<>certification<>recognition, ...)
- by different documents (reports for Ministry of Health - MH, Q Manual and other related ISO documents from certification demands, Application for Excellence model self assessment)

The same subject is addressed by different documents on different manner but often by the same people. There is some synergy of those different autonomous subsystems, but there is also a lot of duplication and an-adjustment.

3. THE WAY TO SOLUTION

On the basis that the same leading team is dealing with these different subsystems, many efforts are done, to adjust and integrate more and more elements of these different approaches. The idea is, that creativity is not to make something new from nothing, but to see broader and to combine already present elements into a new more effective combination, by developing higher integrity.

CREATIVITY

We can not create something from nothing! So Creativity is nothing else but putting together already existing elements or redesign already existing combination (dr.France Bučar)¹. To be able to do this, we must have perspective broader than each element that is included in new combination. “If you are on the top on the mountain, you should not look down where you stand, but you should see the whole view-the whole panorama. It is time that creativity is no more the privilege of art and that people develop from owners to “artist”. (Ddr.Matjaž Mulej)². The process of creativity (HBS)³ needs to find right answers to:

WHY is new idea/product/process/concept needed

WHAT is new idea/product/process/concept

HOW is new

idea/product/process/concept to be realized with available resources, WHO is with new idea/product/process/concept getting or loosing; Some innovations destroy existing solutions – for example light airplanes eliminated motor dragons⁴

The foundation, on which we stand on, is knowledge. Knowledge gives us freedom inside existing solutions, but paradox is that existing knowledge is also the cage in which we are locked. So the creativity demands to be also doubtful on existing situation (knowledge, concept, solutions,...). Knowledge contains a certain degree of discrepancy with reality. So we must respect and use knowledge but not without doubt. To be critical is today more difficult than ever. We must overcome the burden of authority, which is because of growing complexity today bigger and bigger. More and more things are to be trusted without having time, to understand. To be capable to unlearn is not so easy starting point of creativity⁵. This is very good explained in the book of Lateral Thinking⁶.

CREATIVE APPROACH

IN QUALITY MANAGEMENT SYSTEM DEVELOPMENT

If we like to make better combination on the field of quality we need to have clear picture about different term on quality field. There are different possible meanings of terms Quality, Quality management and Quality Management System. Let me define my understanding of these terms. There are many definitions. We agreed on the following definitions.

Quality – the state of some activity or its result in the aspect of the person, which is getting the results of that activity

Quality Management – is managing all needed activities, that the result fulfill the definition of quality

Quality Management System – is an organizational system with integrated all needed activities of quality management

More concrete meaning of each of these three terms depends on development of the relations between supplier/provider and buyer/user. We can say that this depends on **Development of the Market:**

- from product economy (market of suppliers/providers),
- via solution economy (market of buyers)

¹ Dr. France Bučar, first president of Slovenian parliament; on Slovenian Quality Association Conference – Portorož 2007

² Ddr. Matjaž Mulej, president of IFSR – International Federation on System Research; on Slovenian Quality Association Conference – Portorož 2007

³ Managing Groups for Creativity & Innovation; 1998

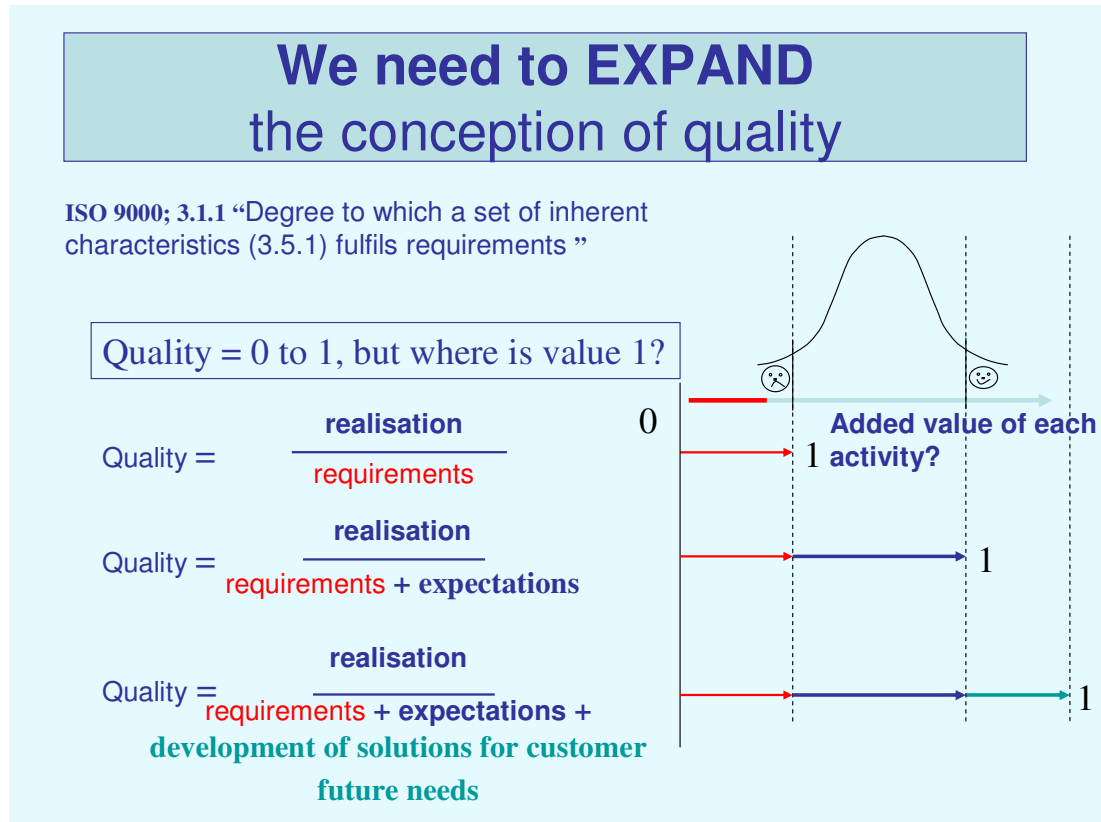
⁴ Ivo Boscarol, owner of Pipistrel; light aircraft producer; on Slovenian Quality Association Conference – Portorož 2007

⁵ Don Miguel Ruiz: The Voice of Knowledge; 2004

⁶ Edvard de Bono: Lateral Thinking, Fast Track to Creativity; 2006

- to experience economy (market of partners which integrated their development efforts, to be able to follow quick changes)

The meaning of Quality is changing in accordance to that process of market development. The starting idea is from Noriaki Kano⁷ theory of attractive quality (from must, via competitive to attractive quality). We tried to define each of these three deferent qualities we defined⁸



⁷ Noriaki Kano was the 1997 recipient of the Deming Prize for Individuals; Kano, N. (1984), Attractive quality and must-be quality, The Journal of the Japanese Society for Quality Control, April, pp. 39-48

⁸ Kiauta, M. (2006), Approach Toward TQM In The Slovenian Healthcare, 9th Toulon-Verona Conference; Paisley - Scotland

The meaning of **Quality Management** is changing in accordance to process of market development.

Development of the Market	Development of the meaning of term Quality	Quality Management Development	Quality Management System Development
<p>Product Economy market of suppliers/providers</p>	<p>Must be Quality is REALISATION / - requirements</p>	<p><u>Must be Quality Management is</u> NEGATIVE APPROACH - defining requirements for result - defining requirements for testing - executing testing and separating nonconformities - executing corrective measures, to prevent repetitions of nonconformities</p>	<p>Quality Management System is a system for <i>discovering and eliminating</i> nonconformities – <i>is focusing on</i> MISTAKES</p>
<p>Solution Economy market of buyers</p>	<p>Competitive Quality is REALISATION / - requirements - expectations</p>	<p><u>Competitive Quality Management is</u> POSITIVE APPROACH - Must be Quality Management + - finding best practices, which fulfill all expectations, and deploy them in all processes</p>	<p>Quality Management System is a system for <i>discovering and deploying</i> BEST PRACTICES <i>System to discover and eliminate of non-conformities – mistakes is already integrated in processes</i></p>
<p>Experience Economy market of partners They integrated their development efforts, to be able to follow quick changes</p>	<p>Attractive Quality is REALISATION / - requirements - expectations - customer future needs</p>	<p><u>Attractive Quality Management is</u> (proactive approach): - Competitive Quality Management + - defining non solved problems of customer and problems expected in future - defining requirements for future solutions - executing testing of developed future solutions</p>	<p><i>System to discover and develop solutions for</i> CUSTOMER FUTURE NEEDS</p>

These three levels of development are followed also with the development of values system.

The highest value is changing:

- from knowledge - legality
- via respect – responsibility
- to trust - sustainability

We all know that there is more complicated – non transparent situation in public sector. But we can estimate, that, for example in (public) HC, we are still in the first level of market development. There is more or less negative approach in public communication. This can be also understood by the fact, that safety is more used term than quality in the HC quality discussions. For my understanding that means, that quality management philosophy is still in the level of negative approach. There is no clear awareness of the importance of efficiency development and less of creative thinking, trying to find solutions with **different** and not only with **more of the same** (money, people, time, and place).

But fortunately, there are some examples, which are ahead. We will speak about the General Hospital of Novo Mesto. They practice Quality management for more than ten years, so on the level of hospital with applying EFQM Excellence Model for self assessment and improvements as on the level of processes with the ISO 9001 quality system management. The focus of findings and improvements on the basis of internal audits can demonstrate the development of Quality Management in the direction from negative to positive approach.

4. THE RESULTS

Big step forward positive approach is done in medical chamber. From 1999 till now a project of Quality in HC in Slovenia collected 220.000 questioners about some quality indicators. Focus was to compare quality of different hospitals and also different doctors. In the review number from May 2008 some results are published. I am very pleased, that there are lists of doctors (names) with over average results. The main finding is that person or organization with over average results in some parameter usually has good results also in other parameter⁹. The suggestions in the article are in the direction of recognition and compensation. But there is big potential of spreading good practices. These individuals are excellent potential standard setters.

Let us return to our *Case of GENERAL HOSPITAL NOVO MESTO*. It is the regional hospital with 363 beds, serving approximately 132,000 inhabitants of the region.

The current situation in healthcare is compelling them to think innovatively. They started with conviction that quality can only be achieved by appropriate cooperation of all employees in the organization and that in healthcare the basis for ensuring quality is the cooperation of multidisciplinary skills of various specialized groups. The job of the management is to create a favourable environment. In 1997 hospital management adopted the vision and strategy of hospital development, with a definition of its values and objectives.

Their mission

The General Hospital Novo mesto is the central health institution for the inhabitants of Dolenjska and Bela Krajina, offering medical services on the secondary level.

⁹ Prof.dr.Marjan Pajntar, leader of Quality project: »Quality of individual doctors«, ISIS, maj 2008

Their Philosophy

The starting point of our medical treatment is a consideration of man as a whole of physical, mental, social and spiritual aspects. Our most important guidance is effective co-operation with all participants in the process of treatment, healthcare and rehabilitation, and successful business operation of our institution.

We encourage and foster the feeling of belonging to the hospital and we are proud of its century-long tradition.

Their Vision

In the coming years, we wish to become the best regional hospital in Slovenia. We wish to endow our hospital with the creative spirit that will surely give way to a universal satisfaction.

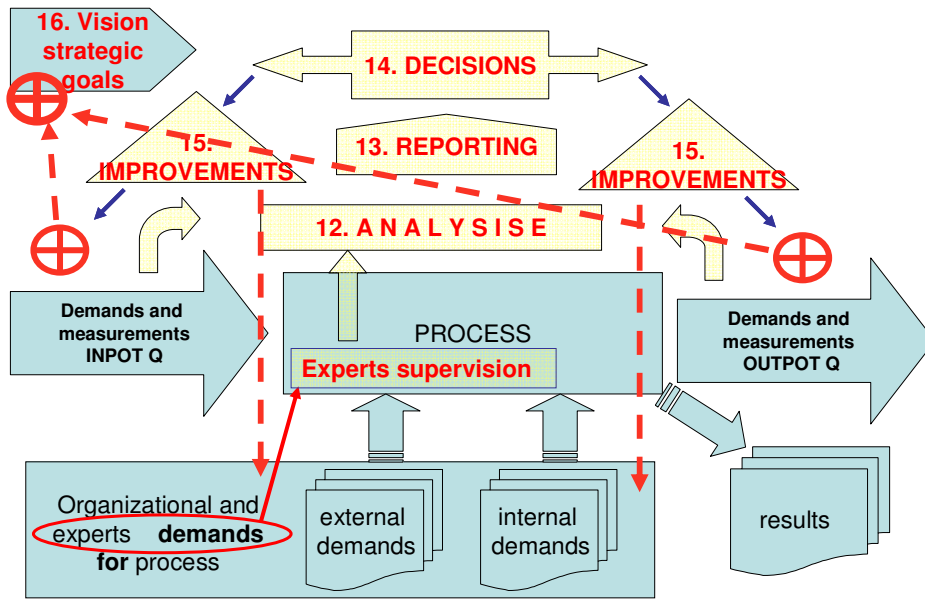
In 1999 they performed the first **self-assessment** according to the criteria of the **Business Excellence Model** and in the years 1999, 2000 and 2001 they participated in the in the pilot competitions for Business Excellence Award of the Republic of Slovenia (BEARS). In 2004 and 2005 they repeated the self-assessment according to the BEARS criteria and reapplied for BEARS award for the public sector; in 2005 they were the first finalist for the BEARS in the public sector. In 2005 they were got the ISO 9001:2000 certificate.

As the quality awareness become bigger and bigger, the focus of internal audits from 2006 to 2008 spread from only documentation elements, over resources to improvement elements. First year internal audit was focused on conformity of practice and rules. In second year the focus was also in finding examples of good practices to spread them. Approach in 2006 was to support use of new documents designed in developing QMS. 60 employees were trained for auditors (superiors, doctors, nurses, chiefs of departments). 120 recommendations where recorded. Only 30 were concrete enough to use them for concrete action. Focus was on what we must and not on what we wanted. There were no big success stories.

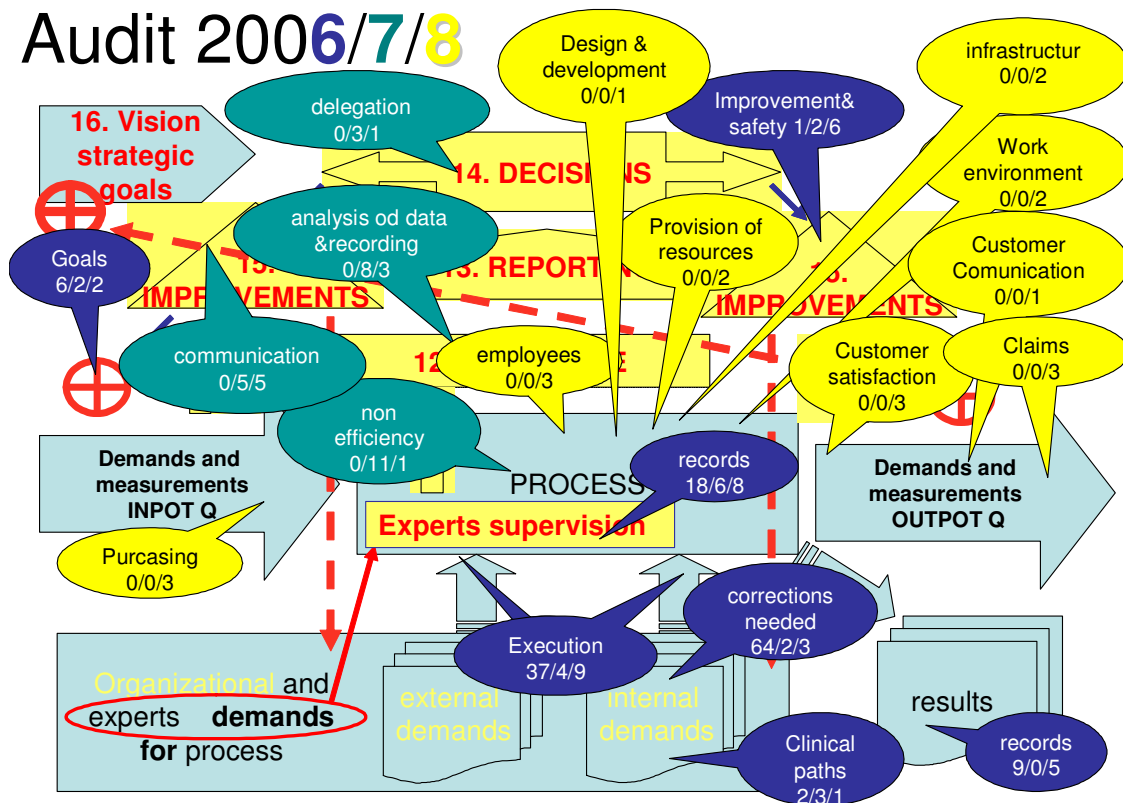
Approach in 2007 was to reinforce positive self perception, recognition of best practices, supporting to best practice deployment, supporting positive communication and support to deployment of positive approach. They performed training with workshops going from precedent year findings. 80 of employees invited. Participation was nearly 100% of invited. The result was already also in the field of quality improvement elements. In the year 2008 training was repeated with 79 participants. Auditors were oriented into findings of EFQM model recognised opportunities for improvements and also findings of external and internal audits of previous years.

We can see what areas were covered by finding of internal audits over the three years. Green areas were recorded already in 2006, blue ones in 2007 and yellow ones in 2008. And in each, there are numbers of findings in different years: 2006/2007/2008. We are pleased, that focus over years spread also on more important elements.

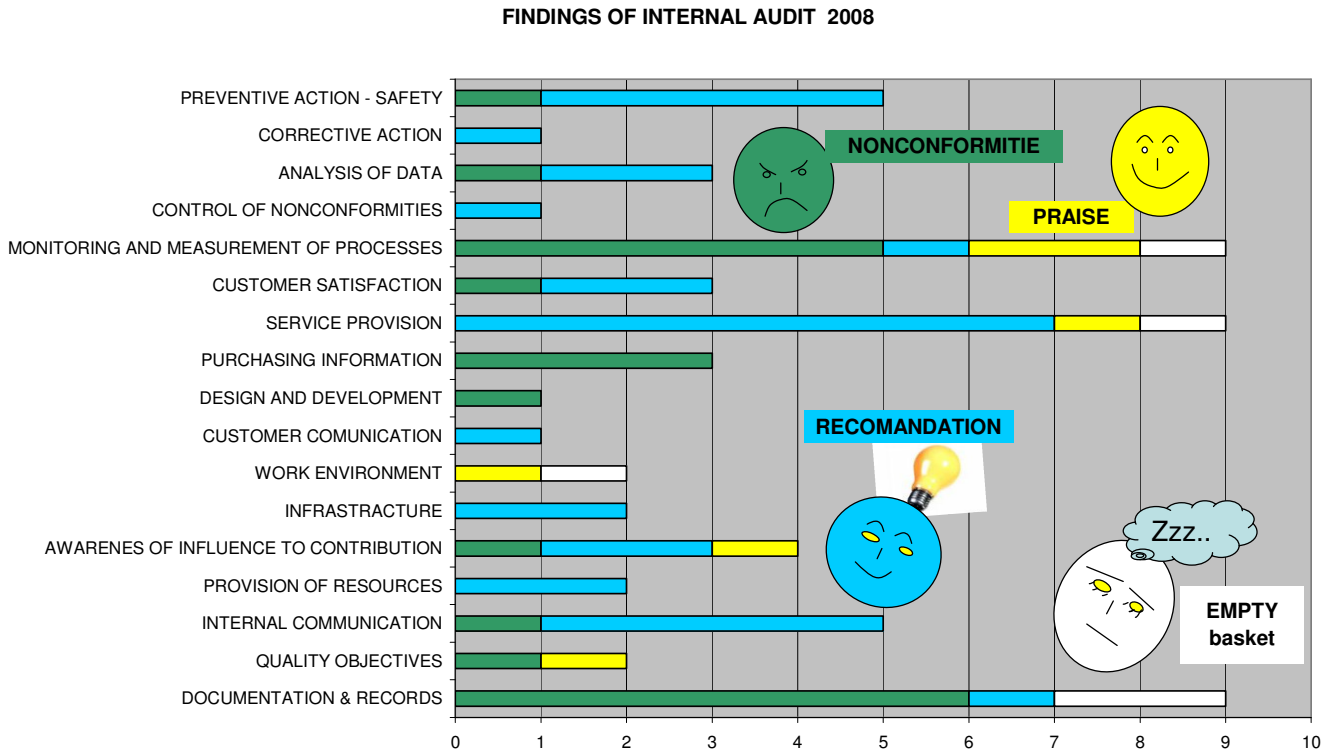
Process QM elements



Audit 2006/7/8



On the last diagram we can see also, how difficult is to get focus and data on best practices. There are also some findings without any value, like: there are no nonconformities No examples, no ideas for improvements or examples of good practice. We believe that those auditors demonstrated their lack of competences for auditing and/or lack of motivation.



So, what can we say as conclusion? We saw the problem in different not harmonized demands for quality from outside of the hospital. So the same leading team is dealing with these different subsystems. Many efforts were done, to adjust and integrate more and more elements of these different approaches. In this paper was presented one ensample of integrated approach on the element of internal audits. We believe that is one of the right courses.

PERCEIVED DOCTOR-PATIENT RELATION QUALITY AND REPUTATION BUILDING IN DENTAL SECTOR¹

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1. Introduction: doctor-patient relation as the pivotal element of customer satisfaction in healthcare services²

Since 2006 the so called “Law on liberalization” of professional services in Italy allowed each dental practitioner to define autonomously treatment fares and to advertise his services, fares, and medical specializations. The aim was to increase the opportunities for customers to compare different offers and to freely choose the seller. From the dentists’ point of view, this implies a higher competition than in the past and a greater attention to services quality and communication activities.

After two years since the liberalization, it emerges that advertising campaigns and others communication instruments had not developed as one can expect, probably because the choice of a doctor is hardly influenced by commercial advices. This research argues that *customer satisfaction and medical practitioner reputation are the two main elements in order to gain the patients trust and make them loyal*. For dentists it means that dental service quality and practitioner’s reputation are the main factors to attract new patients with dental disease and to become their trustworthy dentist for their own and their family future needs.

Up to now, even if in international literature customer satisfaction and corporate/professional reputation have been studied by different scholars, the linkage between the two of them has not been yet explored. This research aims at *revealing and deepening this linkage, arguing that it exists a mutual influence between customer satisfaction and reputation*, in particular in hospital and dental practitioner sectors.

In fact, reputation has a key role in order to set expected service which, among other factors, influence customer satisfaction (Zeithmal, Bitner, 2006). Reputation is a social evaluation concerning a company or a service/product, and comes from an amalgamation of communications, experiences, word-of-mouth, images at any points of contact between the seller and the customer. This is the reason why reputation affects expected service. On the other hand, customer satisfaction is one, if not the most, important element that impacts on the evaluation about a company because it is based on customer experience. Therefore, the two concepts are mutually interdependent.

¹ The research was jointly developed by the authors. Nevertheless, the final draft could be ascribed as follow: to Alessandra Mazzei paragraphs 1, 2; to Vincenzo Russo: paragraph 4; to Alberto Crescentini: paragraph 3; to all authors: Conclusions.

² The research here presented is part of the research project “Customer satisfaction and healthcare system of Milan” directed by professor Vincenzo Russo on behalf of IULM University Foundation. The project comprehends two researches: the first on customer satisfaction in public hospitals and the second on customer satisfaction in dental sector. This paper presents the research on dentistry, while Russo, Mazzei, Olivero, Castelli, “The role of Customer Satisfaction Data for improvement of health service quality and organizational reputation” contains the results of the research on public hospitals.

In the first paragraph a conceptual model about the mutual influence between customer satisfaction and reputation building process will be presented. Furthermore, its application in dental sector will be discussed.

Afterwards, the main findings of a field research on perceived service quality in dentistry will be illustrated. In the second paragraph the method of the research will be clarified and in the third one main findings of the research will be presented. The most relevant evidence is that perceived *doctor-patient relationship is the key element for patient satisfaction*. Finally, some managerial implications and insights for future research will be suggested.

2. Reputation and customer satisfaction: two mutual interdependent variables in dental healthcare services

Reputation is the “overall estimation in which a company is held by its constituents” (Fombrun, 1996:37) based on “an amalgamation of all expectations, perceptions and opinions of an organization developed over time in relation to organization’s qualities, characteristics and behaviour, based on personal experience, hearsay or the organization’s observed past actions” (Bennet, Kotzas, 2000). The same definition of reputation can be applied to professional services such as healthcare.

According to this definition, reputation is affected by the personal experience a customer, or in general a stakeholder, does when in contact with the company. Among the so called “experience providers” there is the product or service (Schimtt, 1999). More precisely there is the perceived quality of the product or service and the consequently customer satisfaction, so one can argue that perceived quality and customer satisfaction are determinants of reputation.

The most quoted method for measuring reputation (Fombrun, 1996) identifies six dimensions that determine stakeholders’ perceptions: emotional appeal, products and services, vision and leadership, workplace environment, financial performance, social responsibility.

Reputation is a key concept in medical services in order to reassure patient before and during the treatment because this kind of services belongs to the “credence goods” categories (Darby, Karni, 1973; Nelson, 1970). Credence goods are products or services which “have high pre-costs and high post-costs of quality detection; as a buyer has to rely on third-part judgments or on the seller’s credentials” (Andersen, Philipsen, 1998:2).

Customer satisfaction is influenced by perceived service quality, price, situational and personal factors (Zeithaml, Berry, 2006) and by the comparison of expected service with perceived service performance (Zeithaml, Parasuraman, Berry, 1990). In healthcare services, patient satisfaction has been defined as “positive evaluations of distinctive dimensions of the health care” (Baldwin, Sohal, 2003: 208).

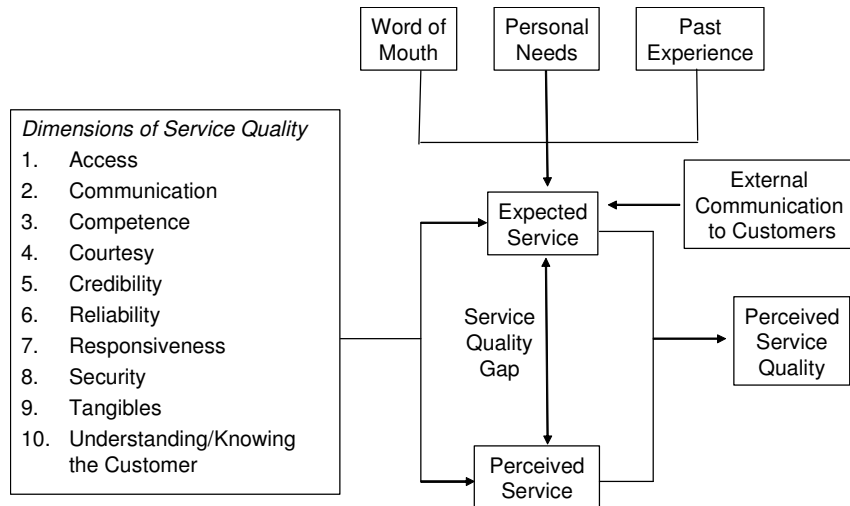
According to the SERVQUAL Model (Parasuraman, Zeithmal, Berry, 1990; Zeithaml, Berry, 2006), expected service is influenced by word of mouth, personal needs, past experience and external communication (Exhibit 1). The dimensions that influence service quality are access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles, understanding/knowing the customer.

Matching the definition and dimensions of reputation with the definition and dimensions of service quality, it emerges first that three dimensions of service quality, that is credibility, reliability, and competence, are key concepts also in reputation management studies (Gary et al., 2003). Second, it is evident that past experience, external communication, and word of mouth determine both expected service quality and the social shared evaluation of a company called reputation. By means of expected services, reputation influences customer satisfaction

and the latter, vice versa, influences reputation by means of the evaluation of the direct experience and the sharing of opinions and information with other potential customers.

Service quality literature and corporate communication literature converge on the antecedents of perceived service quality and corporate/professional reputation: past experience, communications and word of mouth. The aim of the following pages is to go more in depth into the process of reputation building and to discover how it is generated.

Exhibit 1: Determinants of perceived service quality: the SERVQUAL Model



Source: Parasuraman, Zeithmal, Berry, 1990

Literature provides many studies dedicated to the communication levers that enable reputation building. Most relevant academic contributes distinguish:

- primary communication, secondary communication and tertiary communication (Balmer, Gray, 1999);
- company's behaviour and company's communication and symbolism (De Pelsmaker, Gevens, Van De Berg, 2001; Gotsi, Wilson, 2001; Van Riel, Balmer, 1997);
- behavioural relationships, symbolic relationships and reputational relationships (Grunig, 1993; Grunig, Grunig, 2002);
- prior experience, personal contact, word of mouth, advertising, media comment, price points, direct mail, design (Gary et al., 2003).

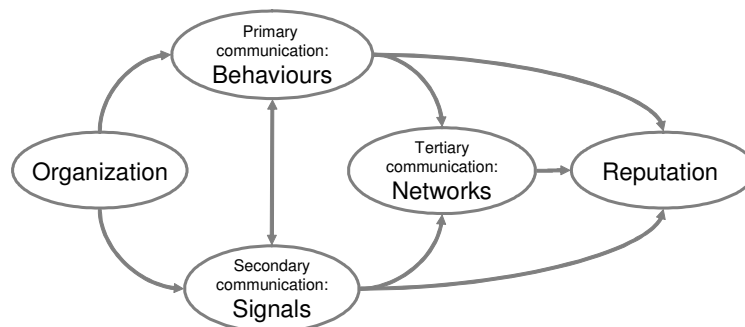
Based on this review, it comes out that the process of reputation building relies on (Mazzei, 2004 e 2007): 1) primary communication, which consists of the *company's behaviours* experienced by customers and stakeholders as service quality; 2) secondary communication, which includes *explicit communication signals* that make value for stakeholders transparent as an advertising campaign; 3) tertiary communication, carried out through *networks of relationships and independent sources of communication* and which gives evidence to previous and current stakeholders' experiences, opinions, information (Exhibit 2).

1) *Company's behaviours* are the primary communication lever because it's impossible not to behave. This implies that company actions communicate without words. Most of the available studies state that "what an organization does (more than it says) has a strong influence on what people think and say about it (its reputation). (...) The behaviour of the organization is the critical component of reputation" (Grunig, Hung, 2002:14). Company's behaviours

coincide with the customers or stakeholders experience, as the second face of the same medal. Experience has high emotional involvement, requires customers' participation and then is memorable (Pine, Gilmore, 2000; Schmitt, 1999).

Company's behaviours consist of any visible actions or events such as company products, employee actions, social and environmental policies.

Exhibit 2: Communication levers for the reputation building process



Source: Mazzei, 2007

In the dental industry, behaviours at the basis of reputation are: practitioner competence, effective and leading-edge treatments, practitioner and staff empathy, well-functioning and up-dated equipments, in-house diagnosis services, cleanliness and hygiene of the offices, surgeries and reception areas, minimal pain, prompt service, keeping scheduled appointments, punctuality, keeping estimated costs, adequate fares for treatments, customization of payment terms, privacy respect, high qualified staff.

Behaviours are a very relevant communication lever because actions communicate more than messages as pointed out by the signalling theory (Reley, 2001; Spence, 2001). According to this theory, a signal is credible only if guaranteed by a visible and costly action (Ricciardi, Gambaro, 1996). This implies that verbal and non verbal explicit communication is credible only if it is confirmed by behaviours.

Primary communication is the foundation of a solid reputation because it gives credibility to planned communication, the secondary communication lever, and fosters word of mouth, the tertiary communication lever.

To reinforce primary communication, a company needs to continuously improve quality, to act as a social responsible citizen, to evaluate the communicative implications of every business decision.

2) *Explicit communication signals* are a secondary form of communication because they reinforce the messages sent through behaviours. They consist of verbal and non verbal signals conveyed for example by service encounter, advertising, events, media relations, web sites, logo, visual identity, packaging, architecture.

In the case of dentistry, opportunities to convey explicit messages are: practitioner-patient relationships, staff-patient relationships, décor, external appearance and ambience of offices, surgeries, rooms, personnel uniform and dress, brochure, web site, mailing and personal message to the patients, visual identity materials and stationery, information through local press, medical congresses.

Signals are planned activities part of a communication strategy and carried out by communication department professionals because they require specialized competencies.

They are important because they make visible company's values and advantages for clients. Furthermore, signals are key elements in order to reduce the gap between service performance and service perception, and the gap between management service standards and employees shared service standards (Busacca, 1994; Parasuraman, Zeithamal, Berry, 1990). Empirical studies demonstrate that expenditures in communication activities most influent on reputation building are charitable giving, investor relations, media relations, which usually are proactive communication expenditures (Hutton, Goodman, Genest, 2001).

In order to be more effective, signals should be rooted into corporate identity to assure coherence among themselves (Cheney, Christensen, 2001; Cropp, Pincus, 2001), and should refer to ethically based company values in order to gain corporate/professional social legitimacy (Invernizzi, 2004), to be two way symmetric and oriented to engage stakeholders in the strategic goals of the business (Grunig, 2006; Grunig, Grunig, Dozier, 2002).

3) *Networks of relationships and independent sources of communication* are the tertiary forms of communication because they derive from the other two. They consolidate a strong reputation if behaviours are positive and signals are clear. Patients share their experiences through word of mouth and doing so they influence the choices of other potential patients (Ugolini, 2004).

They consist of information, opinions, messages concerning the company which are diffused by independent sources through personal contacts among opinion leaders, media, clients, employees, competitors, business partners, virtual community, informal networks.

In the case of dental services, strategies to instil positive word of mouth through interpersonal relationships are: patient loyalty programs, extra-treatment to loyal patients, networking with other dental practitioners and medical specialists, relationships with family doctors and paediatricians, endorsement from medical associations, partnership with local associations, media relations, and relations with opinion leaders.

These kinds of messages spread through two channels: first, messages informally circulate through word of mouth from people who had an experience; second, independent sources of information like mass media, online forum, and associations.

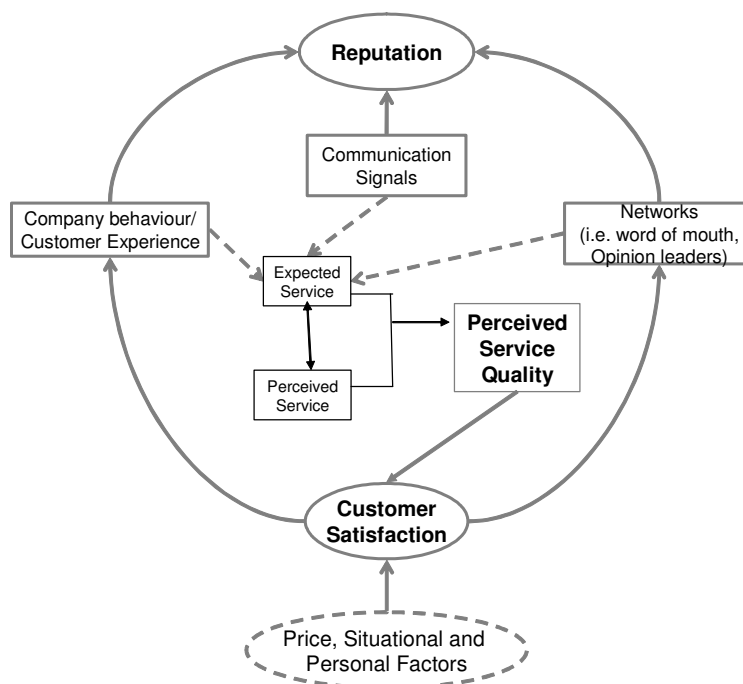
Messages propagated by networks are essential because they have high credibility, due to the reputation of the independent sources (Reichheld, 2003); and also because they can reach a very high number of people. Therefore we could say that they are a sort of interpersonal mass media as explained by the network theory (Monge, Contractor, 2001).

Relational networks can be enhanced first by building loyal relationships with publics nearest to the company and that belong to huge networks, which in turn influence other people. Second, by increasing networking orientation within an organization by means of specific employees care programs (Ritter, 1999).

In order to make clearer the linkage between reputation and customer satisfaction, Exhibit 3 shows that the company's behaviours or stakeholder experiences (the two faces of the same medal), communication signals, and networks of relationships are at the same time determinants of reputation and of expected service. At the service encounters, a customer perceives a satisfying or unsatisfying level of quality that represents a further experience/behaviour and a stimulus to share opinions and suggestions with other current or prospect customers.

This could be a model able to capture the linkage between reputation and perceived service quality and customer satisfaction, the key competitive assets in dental sector.

Exhibit 3: A reputation-service quality management model



3. The perceived doctor-patient relations: research model and method

The kind of design used in present research is part of the so called mixed methods design, following Creswell (2003: 214) we can speak about a “concurrent triangulation strategy”. The overcoming of qualitative-quantitative dichotomy (for an examination on the theme see Cannavò and Frudà, 2007) allows the use of different methodologies looking for a better vision on a topic. The triangulation system (Denzin, 1978; Miles and Huberman, 2003; Mantovani e Spagnoli, 2003) helps in reach a better description of phenomenon but it’s necessary to accept the impossibility to have complete information on any phenomenon (Silvermann, 2000).

The same research team applied in other search a different kind of triangulation, the so called “methods and researchers” one (Russo, Crescentini, Castelli, Missaglia and Jabes, 2007), it consist in using researchers and techniques differentiate for each information source. In this work the kind of triangulation is connected with the instruments. The source of information is mainly one (the patients) but the information is collected in different manner.

The research start from a question lead by the Italian most important dentists association “ANDI” (Association National Italian Dentists) on the perception of patients regards dentist profession and dentists studies.

A brief investigation has shown that there is little literature on the field in Italy and so it was necessary, also using as reference the international literature, to depart with a job that was also of definition of the field and exploratory of its boundaries.

The process can be seen as divided into two parts that were developed at the same time (indicate as a first and a second only for order). Before these two parts some interviews were

conducted with privileged witnesses (mature professionals) on the transformation process that took place in Italy regards professional dentist practice.

The first part consisted of three focus groups conducted with patients of dental studies. The focus groups were conducted in three Italian cities (Milan, Rome and Palermo). The discussion topics were: image of the study, image of the profession and future expectations.

The second part consisted in the administration of a questionnaire developed in two versions the first one electronic and the second one on paper. The two versions were different primarily in the graphics format and secondly for some questions added in the electronic version at the end of the questionnaire. The questionnaire areas are: evaluation of previous experiences of care, reasons for a possible change of study, representation of private dental studies, assessment of benefits received and comparison between private and National Health Service. The declination of the different themes could benefit from the international literature. The paper questionnaire was distributed to patients (165) in studies of dentists associated to ANDI in the Milan province. In evaluating the questionnaire answers attention should be paid to the physical and temporal proximity to an act of care, frequently invasive of individual privacy and intimacy. The questionnaires collected in electronic format were 353 distributed throughout Italy. The choice of using two methods of collection was due to the request for a specific in depth work in the Milan areas.

In the mean time a data collection was conducted inside a public hospital dentist ward. 304 questionnaires have been collected. The questionnaires are similar to those used in private studies.

All the items of the three questionnaires are on a likert scale from 1 to 7. The complete sample consists of 822 subjects by NHS and private studies.

4. Findings and discussions

A first evaluation is on the quality perceived of private dental studies in Italy. The quality is high and there a huge difference with the NHS quality perceived. This gives to private professionals a benefit to maintain the relationship with their patients despite the growing competition with public hospitals.

The values of satisfaction of individual aspects of quality are high. The dimensions of satisfaction draw a single factor making believe that a negative evaluation in one of them could have negative fallout on the others. From the research data it's possible to infer that the relationship with the dentist and his staff is essential for the patients' satisfaction. This emerges both from questionnaire and focus groups. The satisfaction is related to the effectiveness of care but is also influenced closely by the quality of the relation with dentist; the value assigned is greater than the values of the other structural and technical aspects.

The same debate proposed in the literature on the relation between satisfaction and technical competence of the dentist is (Garfunkel 1980; Koslowsky, Bailit, and Valluzo 1974) an indication of the specificity of this kind of service. As suggested by interviews the dentist availability to carefully describe the details of therapy (not in technical terms) has a crucial value in the perception of service quality (see also Barnes and Mowatt, 1986). Also the characteristics of dentist personality were considered fundamental for both patient satisfaction and the first choice of a new dentist (Mckeithen 1966). In all the focus groups people speak about the importance of an accurate description of the future therapy with a double aspects: first a clear description of treatment and related costs promotes and maintains an high degree of trust in the professional, second the opportunity to prepare the patients to the consequences of the therapy (also the negative one) may have the effect to improves the perceived quality of

service. The ability to predict painful events testify to a professional competence and mastering of events. If a painful event is presented before its occurrence, the patient takes this communication as a sign of attention and professional skills but if it is explained after the statement is perceived simply as an excuse. The pain management by the dentist is therefore one of the most important factors for the overall satisfaction (Gopalakrishna P. and Mummalaneni V., 1993; Jenny, Frazier, Bagramian and Proshek, 1973; Andrus and Buchheister 1985). Most of the patients interviewed consider a key element to feel more reassured both the information management and the transparency. Patients wants to know what the dentist is going to do, what kind of machines he is going to use, how much pain can fell, what will the effects and consequences, how much it will cost, how many times will return and when, etc.

During the focus groups the subject are asked to produce a metaphor that describe the dentist. Patients speak about wolf, crocodile, lion and piranhas; only in a few cases they said “panda” (primarily for those who have a friendly or parental relationship with the dentist). It’s interesting to report a brief description of [he is] "a mechanic that changes the pieces of your car we are not technician and so we do not know if he is deceiving us or not".

So the communication and relationship with others is crucial for the service quality perception but also for the professional’s choice. The information collected in the focus groups are consistent with data of the research of Barnes and Mowatt (1986) according to which the recommendations are the first source of contact for choosing the dentist (56% of cases through friends - 36% - and family - 20%, while only 26% of cases, the dentist is chosen on the basis of suggestions from other doctors) or with the data of Crane and Lynch (1988) according to which of 1627 patients, 81% indicated that they recommended their dentist to other persons seeking dental care.

Also the qualitative data gives some helpful information on the importance of business communication and dental studies advertising. This is an important dimension taking in mind some changes of the Italian dentist market:

- reduction of patients for the effectiveness of preventive care;
- economic crisis that force some patients to defer visits;
- adoption of new laws that makes the market more competitive;
- development of branches of dentistry inside NHS.

The solutions adopted since now are organisational and promotional. Regarding the first aspect there is a development of multi-professionals studies; to offer a complete service to a client increasingly demanding and which prefers to found in a single place more related services. Regarding the second aspect a solution is the use of advertising. However, this solution seems, from the interviews and data on the choice, ineffective. This finding is consistent with most previous studies (Jenny et al., 1973, Andrus and Buchheister, 1985).

Three of the four dimensions of the marketing mix (promotion, distribution and price) are not so important in the overall satisfaction. Advertising goals could be to inform patients of certain special procedures available in the study. The importance of other variables (such as the service quality, others opinions, the location, the results of the care processes) are more important than advertising.

The data on the relation between environments quality and perceived service quality are consistent with literature. According to Clow, Fischer and O'Bryan (1995) many factors can influence the patient’s perception of dental practice and thus the service perception. The focus groups shows that patients seek tangible aspects in the physical environment to get a clear idea of what they can expect in relation to the dentists ability and the service performed. Tangible aspects such as office furniture and waiting room (with up-to-date and non-technical

magazines) affect the image that patients have of the dentist; patient expectations are closely linked with quality perception (Clow, Fischer and O'Bryan, 1995; Andrus and Buchheister, 1985).

The choice of a dentist seems to be based mainly on the communication word-of-mouth and this emphasizes the importance of current customers as a source of finding new patients. The quality of care is the main criterion of evaluation used by patients in determining satisfaction in relation to dental services and the perceived quality of service has a crucial role in maintaining the customer (DiMatteo, McBride, Shugars and O'Neil, 1995).

The relationship of trust between the patient and the dentist is a fundamental factor and is based on a set of criteria: competence, readiness, and reliability, ability to customize solutions, kindness and empathy. Treating the patients experience is fundamental in the value chain of the dentist. All other activities must support this relational aspect. It is also essential that patients can receive value from dental treatment to which they are subject through a careful weighing of the reasons that lead the customer to choose a dentist. These include:

- the return of investment based on a logical analysis of the costs and benefits (is one of the variables that most worries patients);
- attention to time, many people are pressed by time and save time for them is the most important value.

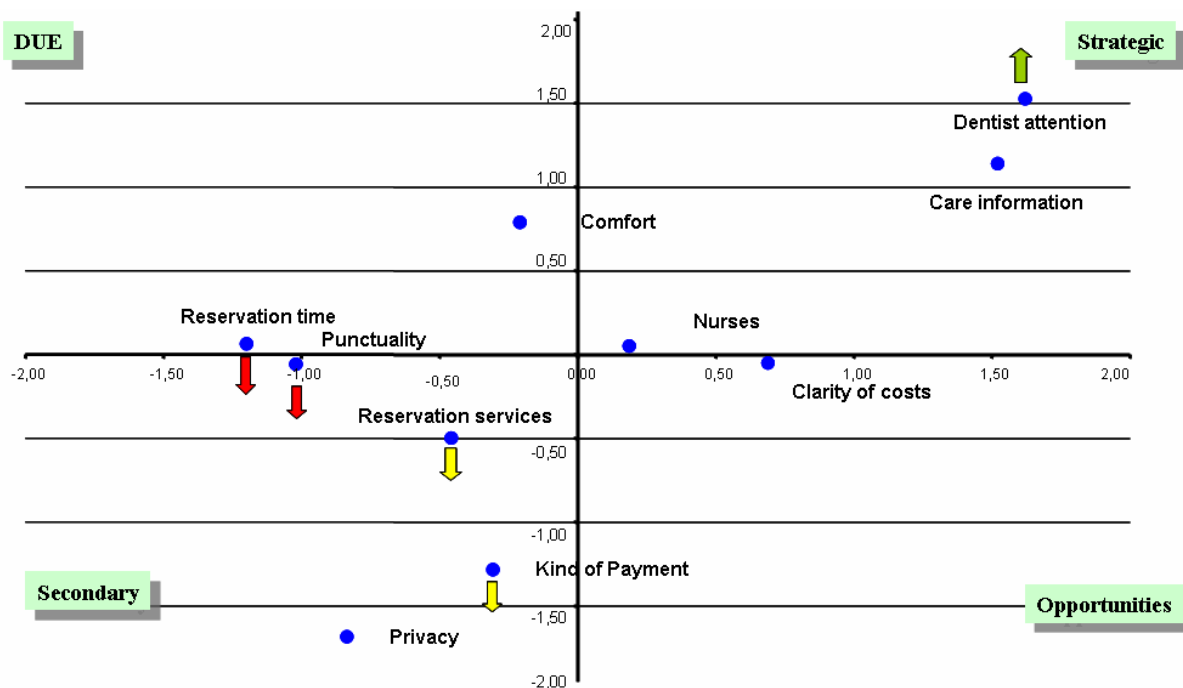
Even the data of quantitative research shows a distribution of responses on all scores indicating the relational area is important to improve the service quality.

The dental services are indissoluble from the person who delivers it; dentists should combine technical skills with relational one to build a basis of trust with patients who are also the main source of new patients.

Trying to correlate data from the interviews with the degree of overall satisfaction for every single aspect is possible to draw a map that can be helpful to promote activities with the aim of improving the quality of service (Exhibit 4). In this map the various factors analyzed to measure the degree of satisfaction are placed in one of the four areas:

- Factors "due" They are the base line of a good service, they have a small impact on quality perception. On these items dentists studies must ensure a performance sufficient; every increase beyond "average" seem to have no effect;
- Factors "secondary", representing those components of the service that have a small impact for the patient. These factors are secondary and the involvement should be coherent with that statement, for the benefit of a more significant commitment in more critical areas
- Factors "strategic" These are services (and evaluations) of real impact and importance in determining the recognized rating and loyalty of users. On these factors dentists studies must give their best; a bad performance on this dimensions involves a significant penalty by patients;
- Factors "critical or opportunities" that represent aspects that demonstrate that they have a strong impact in determining the experience of "satisfaction" but at the same time do not seem so obvious to the customer. By working "behind the line" these factors may represent both the "opportunities" and possible "threats". On these factors dentist's studies not only have to have good performances but are called to an explicit work of communication, so as to increase awareness in its users. Is the area of maximum opportunities for health care facilities.

Exhibit 4: Complete sample: factors and areas map.



Conclusions

Reputation of dentist and perceived service quality and patient satisfaction are more and more relevant in the current context of liberalization of medical services. In fact, competition needs an effort to attract patients and empirical evidence shows that advertising and traditional push communication instruments are not effective in healthcare services. The reason is probably the “credence goods” nature of medical services that induces potential patients to search for seller’s credentials and other patients’ evaluation before choosing a dentist.

This research suggests a model that highlights the linkage between a dentist’s reputation from one hand and perceived service quality and patient satisfaction from one other hand. Past experiences, planned communication to actual and potential patients, and opinions and information circulating among interpersonal networks, are at the same time antecedent of the reputation building and of the perceived service quality. Customer satisfaction coming out from direct experience, in turn affect practitioner’s reputation.

The research was conducted on patients of dental studies by means of focus group and questionnaires on image of the dental study, image of dentistry, future expectations. The findings allow to define four areas of strategic factors of patient satisfaction.

The first area contains “due quality factors” such as punctuality. Dentists should ensure a sufficient performance in order to fit patient expectations. The “secondary area” represents those components of service quality that has a little impact on patient satisfaction.

The “strategic area” contains factors such as doctor attention to patient, which are of fundamental importance for patient satisfaction and need the maximum investment in quality improvement. And finally the “opportunities area” represents aspects that have a strong impact on patients’ satisfaction but do not seem evident for them, such as clarity of costs. These factors could be a threat or an opportunity to gain a superior reputation if put into the service portfolio offer and properly communicate.

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EVALUATION OF EFFECTIVENESS OF TWO SELECTED REGIONAL CLINICAL PATHWAYS

Evaluation aimed at improvement of practice of care

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Introduction

Evaluation in public health care system is today part of all actions; policy, programs, services and practice. Evaluation can be aimed at a variety of purposes, public accountability, organizational improvement, knowledge development, improvement of practice, good practice judgements and also growth of practical knowledge and wisdom. Alternative evaluation purposes can have implications for how evaluation should be carried out. Evaluation of health care services provided by people to other people cannot measure only outcomes. Evaluation should take account of contexts and processes as well as outcomes. Evaluation contributing to improvement or knowledge development needs a cumulative component too. It is challenging to determine the information evaluation is organized to provide. The real world of practice is a complex system of multiple factors and multiple effects. Factors related to patients, to professionals, settings and to care provided, they are all affecting on the expected outcomes. In purpose of improving the practice, the evaluation should contribute to the understanding of it. Realistic evaluation is offering a framework to examine the real world of practice, to identifying patient, professional and setting characteristics that affect the processes of care. The outcomes are important to know, but understanding how the factors affect on outcome achievement in this specific context, offers possibility to improvement and change.

This paper presents the systematic evaluation of effectiveness of regional clinical pathways in context of partnership of two hospitals and seven health care centres. The purpose of evaluation was to learn about evaluation and to develop tools for constant evaluation as a part of every day practice. A careful analysis of the situation under investigation was necessary to identify relevant factors and interrelationships of effectiveness of the selected pathways. The identified factors and relationships were part of a framework to guide data collection and analysis. The study was designed to account for these factors, rather than controlling for their effects either by design or statistics.

Clinical pathway

Although pathways are used worldwide, the concept is not clear and evidence on impact is modest. There is a need of research to fully understand why and under which circumstances pathways lead to improved care. The various terms used about organizing care of patients in a determined way in order to provide effectiveness, are for instance integrated care pathway, clinical pathway, critical pathway, care guidelines, critical care chain and clinical practice guidelines (Kwan, Hand, Dennis & Sandercock, 2004; Furaker, Hellstrom-Muhli & Walldal, 2004; Godderis, Vanhaecht, Masschelein, Sermeus & Veulemans, 2004; Herzog, Varley & Kukin 2005; Dy, Garg, Nyberg, Dawson, Pronovost, Morlock, Rubin & Wu 2005; Vanhaecht, Witte, Depreitere & Sermeus, 2006).

Public health care in Finland consists of 19 Hospital Districts. The districts are divided into several Hospital Regions. In regions there are hospitals delivering specialized care and health care centres providing primary care services for the population of the region. A hospital region and primary care units in the same region are forming their co-operation in patient care to regional clinical pathways. Delivering care to same patient groups needs to be organized with joint agreements. National evidence-based care guidelines are adapted to use in the region, to practice of care in these organizations. The pathways are written in cooperation by professionals of region and published in Physicians database on the internet. The assumptions are that the quality of care is equal regardless of where it is provided, costs of care are controlled and care provided is more holistic as its nature. The regional clinical pathways of varicose veins patients undergoing surgery and stroke patients receiving rehabilitation treatment were selected for this evaluation.

Several professionals in 8 organizations are participating in the care processes of a patient in different phases of the pathway. A surgical patient with varicose veins arrives first in the health care centre in her community of residence, where doctors and nurses are taking care of her. After careful examination and tests the responsibility of her care is transferred to hospital with surgery. In hospital she is taken care of by doctors, nurses, physiotherapists and maybe a social worker. After surgery the responsibility of her care is transferred back to the health care centre and she meets again doctors, nurses and if necessary, other professionals. Several professionals are as well participating in the care of a stroke patient; doctors, nurses, physiotherapists, social workers, logo therapists, neurophysiologists and if necessary, other professionals. It is important for the care that these professionals in 8 organizations are aware of the regional clinical pathways and the guidelines of the care adapted to regional and local situations.

Creating, implementing, using and evaluating a pathway is a process that can be evaluated with international criteria (AGREE 2002). A regional clinical pathway is created in regional cooperation of several professionals. Implementation of a pathway can be divided into three phases; diffusion, dissemination and implementation (Lampe 2007 based on Granados et al. 1997). Using a pathway is taking place in real life, in everyday practice of care. Evaluation of a pathway is important to remain constant if it is aimed at improvement of the practice.

Evaluation of effectiveness

Long (2006) has analyzed evaluation in the health service sector through literature and identified four interconnecting themes:

A “what works?” agenda, that means seeking evidence for efficient delivery of health services and cost containment with evidence synthesis, randomized trials, trying to identify what works best. Essential components are demonstrating the value of existing service system, effectiveness and achieved outcomes and quality assurance of care. Evidence-based medicine (EBM) and nursing (EbN) are aims in care sit on this agenda.

An empirical perspective to evaluation, which seems not pay any or little attention to evaluating the theory behind particular domain area or subject.

Consumer or citizen or user involvement in research design or in delivering care.

Evaluation with purpose of learning.

A “what works?” agenda offers tools to evaluate the effectiveness of a health care intervention, or programme, but randomized controlled trials are not suitable tools when

evaluators are trying to understand what happens and why in everyday practice in regional cooperation. An empirical perspective does not have the cumulative element in evaluation. However user involvement could contribute a lot for an evaluation of practice, especially when the goal is practice improvement. Evaluation for learning seems proper in this use.

Evaluation of effectiveness promises much, but effectiveness of service, intervention or program in health care is not simple to specify. Effectiveness of service can mean good quality, but who defines good? Economics determine effectiveness often as efficiency that is measured. Effectiveness is also determined as effect of care or intervention in real life, in every day practice of health care (Mäkelä 2007). Effectiveness of intervention can mean statistically demonstrated causality, but in practice there are multiple factors affecting on the situation intervention is used and control over them all is challenging and perhaps not plausible.

The effectiveness of these two selected pathways providing care services to individuals, groups, or communities is dependent on many factors. Sidani, Doran and Mitchell (2004) have analyzed practice of care and set a basic premise for outcome achievement. If you determine outcome achievement as a variable, then variability in outcomes can be explained by factors of everyday practice. They classified factors into five categories. The first category covers personal, sociocultural, and health-related characteristics of patients receiving care. The second category covers personal and professional characteristics of professionals carrying out care. The third category consists of physical and social elements of setting where care is carried out. The fourth category is interventions or care received by patients. The last category is related to timing of outcomes expected. These factors have direct and indirect effects on the outcomes. The direct effects demonstrate that outcomes vary as a function of the factors. The indirect effects are that the effectiveness of the interventions or care in producing the expected outcomes differs under different levels of the factors.

As far as there is only demand to indicate to outcomes and demonstrate the evidence of effectiveness of these pathways, the evaluation could consist of quantitative measurements of patient satisfaction or improvements in patient's quality of life and to compare the outcomes with others. But if there is also interest to improve the practice, then it is essential to understand why the outcomes are achieved or not and what affects on the outcome achievement.

How can evaluation contribute to practice improvement? Evaluation is built on "theories of change", which link evaluation with the intended improvements in practice. Change in practice is often considered as a process on three phases; abandoning of the "old", creating the "new" and implementing the "new" to practice. Abandoning of the "old" means looking back, describing and evaluating the past activities in the specific context. Creation of the "new" means evidence-based solution constructed on understanding of the "old" in the specific context. Change in professional's action can be divided theoretically into two parts; first to professional's deliberation and second to professional's enactment (Kim 2000). Expected change in person's enactment requires change in deliberation, in other words learning of the individual. Learning that is based on identifying errors, correcting them, but is not rising questions about how the program works, how the setting works and how the organization works in real world, is common in evaluations (Rogers & Williams 2006; Holbeche 2006), but not enough to build the "new".

If evaluation is to contribute to improvements in practice, then it should have a cumulative component. Realistic evaluation is suggested as a solution to the methodological limitations of traditional approaches and to developing knowledge. (Redfern, Christian & Norman 2003.) Focus of realistic evaluation is on identifying patient, professional and setting characteristics that affect the processes of care at individual and organizational levels, which in turn contribute to outcome achievement. The aim of realistic evaluation is to evaluate relationships between context, mechanism and outcome. The context can be determined as the culture of care. Understanding values and beliefs is an important part of understanding a workplace culture. Attempts on changing workplace cultures should start from the clarification of values held among the staff in that culture. (Wilson, McCormack & Ives 2005.)

Realistic evaluation

The theory of causation is a core element in experimental evaluation. Two matching groups are selected and both are measured before the intervention. One group is treated and the other not. Both groups are measured again after treatment and the changes are compared. Now there is a clear impact of the intervention. (Pawson & Tilley 1997.) One must ask, can these groups really match in real life; is it possible to control all factors? Causation in social world must be construed in some other way.

Implementation is the other important issue. If the experimental evaluation provides an impact of intervention, the intervention has to be implemented, first to written guidelines of care, then modified to initiatives of work, then disseminated to staff and implemented by members of staff to part of their every day practice. Long (2006) argues that findings of research in health care are find their way to clinical practice about 15-17 years after they have been published. The culture of care consists of values, assumptions, norms, roles and rituals. There are also defensive rituals, which are important in reducing emotional pressure. The defensive rituals are used to resisting changes in work as well. (Rogers & Williams 2006; Holbeche 2006.) Long (2006) lists three challenges; information about current performance, assumptions about how things work and defensive routines and emotional responses. Information about current performance has to be right-timed and relevant. People adopt defensive routines easily when the information does not match their mental models. Theories of change have to be considered in planning of an evaluation. Methods used to evaluate must be participatory by their nature.

The roots of realistic evaluation are in realist tradition of philosophy. Realism does avoid the traditional epistemological poles of positivism and relativism. The base of realist explanation is that causal outcomes follow from mechanisms acting in context. Mechanism is the power that makes the intervention or program work and the change to take place. An intervention or program does not cause a change in their subjects' behaviour, but the causation can yet be shown. Social interventions work through mechanisms. Context as conception has a meaning of contextual conditioning of mechanisms which turns or fails to turn causal potential to causal outcome. Contexts are local, historical and institutional. The underlying mechanism generates regularities. It consists of propositions about how regularities have been constituted by the interplay between structure and agency in social life. (Pawson & Tilley 1997.)

The study is designed to a realistic evaluation cycle (Figure 1). The cycle begins with describing the theory about clinical pathway, its creation in regional and multiprofessional cooperation, its implementation in three phases, its use in care of patients and its evaluation. The context is regional and multiprofessional cooperation, where professionals are

experiencing the benefit of developing care of patients together. The mechanisms are the willingness (values, roles) of professionals to work together over boundaries of organizations and professions, possibilities (resources) to work together and their competence. Outcomes are the changes in patients' quality of life.

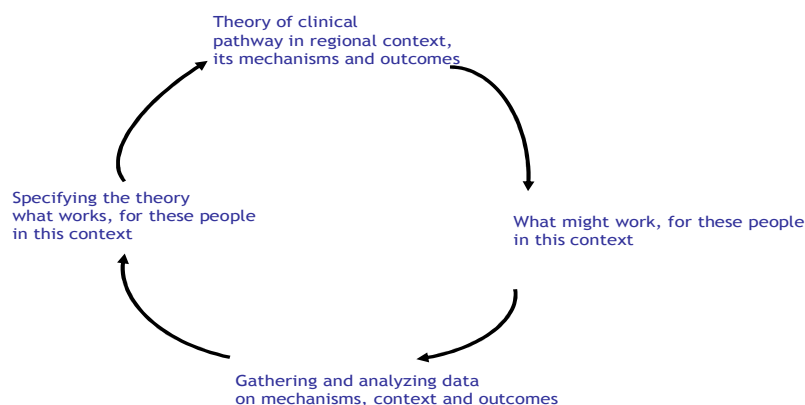


FIGURE 1. The realistic evaluation cycle in this study (Pawson & Tilley 1997).

The research questions were

What are the processes of clinical pathways for selected patient groups from the perspectives of doctors, nurses, physiotherapists and other professionals providing care in these 8 organizations?

What are the benefits of clinical pathways for selected patient groups from the perspectives of doctors, nurses, physiotherapists and other professionals providing care in these 8 organizations?

What are the willingness, possibilities and competence of professionals to work according to the guidelines of clinical pathways of selected patient groups?

What are the experienced changes in patients' quality of life?

Data collection and methods of analysis

The methods utilized to answer these questions were quantitative and qualitative. In order to describe the current situation in processes, context and mechanisms of the selected pathways quantitative methods were suitable to use. It was possible to carry out a census, because number of professionals providing care in organizations was limited (N = 353). Because selected patients (N = 60) were asked to tell about their experiences about the care received, use of qualitative methods was also appropriate.

The questionnaire for professionals was built on AGREE criteria (2002) with 5 components and 44 items. The components were: regional cooperation, writing, implementing, using and evaluating the pathway. There were arguments about the components and the respondents

were asked to select the alternative matching their opinion. The scale was from 1-5 (agree – disagree). The written pathway was as supplement to the questionnaire. The respondents returned 162 questionnaires. The percentage of return was 44.63 %. Questionnaires were delivered to respondents by management of every organization and returned in closed envelope directly to the researcher. The professionals were encouraged to answer the questionnaires. Yet the answering was naturally voluntary and anonymous.

The questionnaire 15 Ds used for interview of patients was built and validated in research earlier (Kukkonen 2005). 60 patients were selected from those whose acute care had ended less than 3 months ago. Half of the selected patients were varicose veins patients undergoing surgery (n = 30) and half of the selected patients were stroke patients receiving rehabilitation treatment (n = 30). The patients received a letter with proper information and request to participate the study. The interviews were carried out in the place of their own choice by nurse students. Most patients wanted to be interviewed in their own homes. There were 33 structured items in the questionnaire. The patients were asked to evaluate their sight, hearing, breathing, speech, eating, moving, activities of daily living, depression, anxiety, pain, energy, health and recovering with a scale from 0-5 (1 = very good – 5 = very poor/weak). The patients were also asked to evaluate the changes in these areas of health during last month with a scale from 0-5 (0 = has always been very good, 1 = considerable betterment, 2 = small betterment, 3 = unchanged, 4 = slightly worse, 5 = significantly worse).

The interviewed patients were asked to tell about their experiences of the benefit of the care they received to their quality of life. Transcription of the tapes produced text 28 pages. Some of the patients did not accept the recording and the students wrote notes of them. Those two data were fed to NVivo software and analyzed with content analysis.

Results

1. Context

Regional cooperation is the context where pathways are created and implemented. The impressions of regional cooperation were different between professionals in hospitals and in health care centres (p = 0.003). The professionals in hospitals were more satisfied with the cooperation. The doctors in hospitals and in health care centres were more satisfied with the cooperation than the other professionals. The willingness to regional cooperation in order to develop the care was high (86 %) among the respondents, but only few (15 %) were actually working in regional cooperation between professionals of care.

2. Mechanisms

In this study only 32.7 % of the respondents knew the evaluated pathway well. Over half of the nursing staff (55.6 %) felt that they had not been informed about the evaluated pathway. While on the other hand over half of the doctors (56 %) felt that they had been informed about the evaluated pathway (p = 0,068). Not been informed about the pathway felt more professionals in primary care settings than in hospitals (p = 0,089).

Regional pathway is created in regional cooperation of several professionals. The professionals answering the questionnaire are described in table 1.

TABLE 1. The professionals answering the questionnaire

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Doctors	25	15,4	15,4	15,4
	Other professionals	137	84,6	84,6	100,0
	Total	162	100,0	100,0	

Only one third (33.3 %) of the respondents considered the evaluated pathway proper from the viewpoint of their own profession. Over half of the respondents (66.7 %) felt that the perspective of patient was not considered in creating the pathway.

If the evaluated pathway would be properly implemented, over half of the respondents (77.8 %) felt that it would be useful and would contribute to the care of these specific patients. The willingness to follow the pathway and the guidelines of care was high (81.5 %) among the respondents.

3. Outcomes

From 30 patients with varicose veins undergoing surgery 22 agreed to take part in the study and from 30 stroke patients 16 were interviewed. The interviewed patients (n = 38) represented all age groups from under 35 years to over 85 years. Most of them were in age

group 56-65 years (Figure 2).

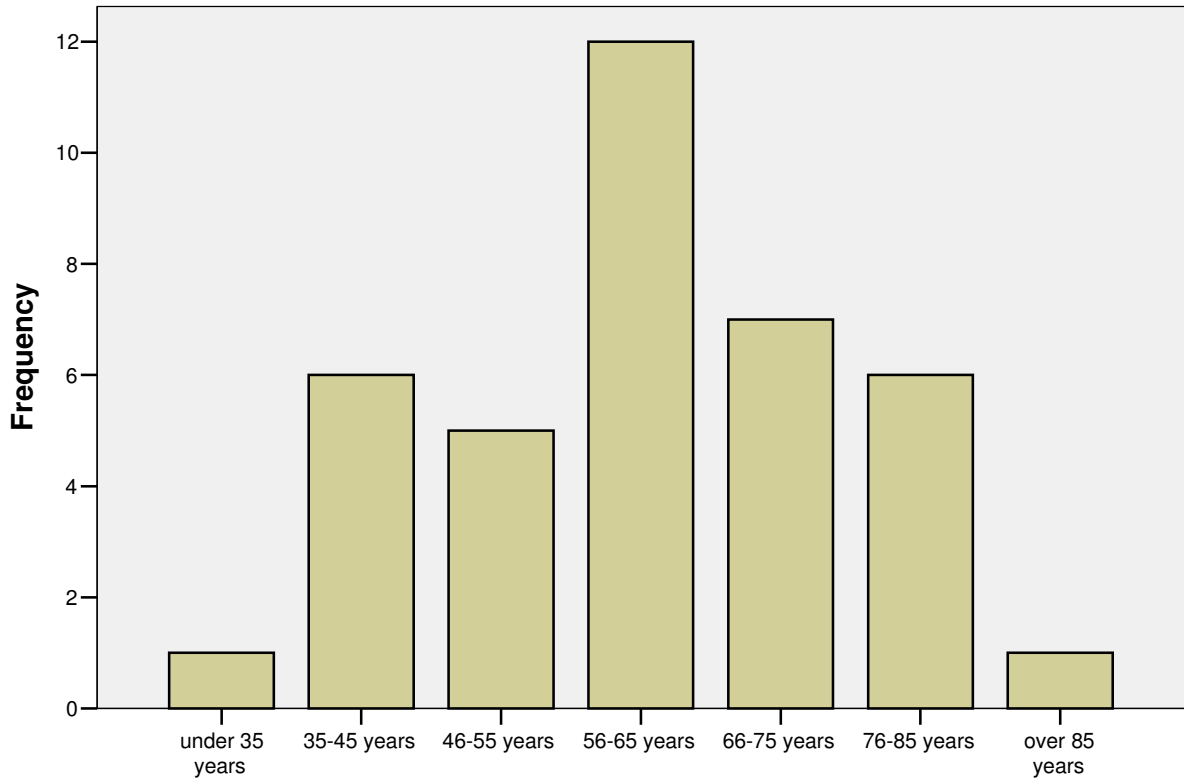


FIGURE 2. Age groups of the respondents

The respondents own evaluation on recovery from the disease was that almost all respondents felt slightly or considerable betterment (Table 2).

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Considerable better or recovered	22	57,9	57,9	57,9
Slightly better	14	36,8	36,8	94,7
Slightly worse	2	5,3	5,3	100,0
Total	38	100,0	100,0	

TABLE 2. The self-evaluated recovery of the respondents

In cross tabulation of diagnose and recovery (Table 3) you can notice the difference between patient groups. The patients of varicous veins undergoing surgery recover in a shorter time period than the patients with stroke. But there were only few patients who felt slightly worse after treatment.

		Recovery			Total
		Considerable better or recovered	Slightly better	Slightly worse	
Diagnose	Stroke	8	8	0	16
	Varicous veins	14	6	2	22
Total		22	14	2	38

TABLE 3. The diagnose and recovery cross tabulation

The respondents were asked to evaluate the change that had happened in their health during last month.

From 38 respondents 22 evaluated that their health had always been good and therefore there was no change (Figure 3).

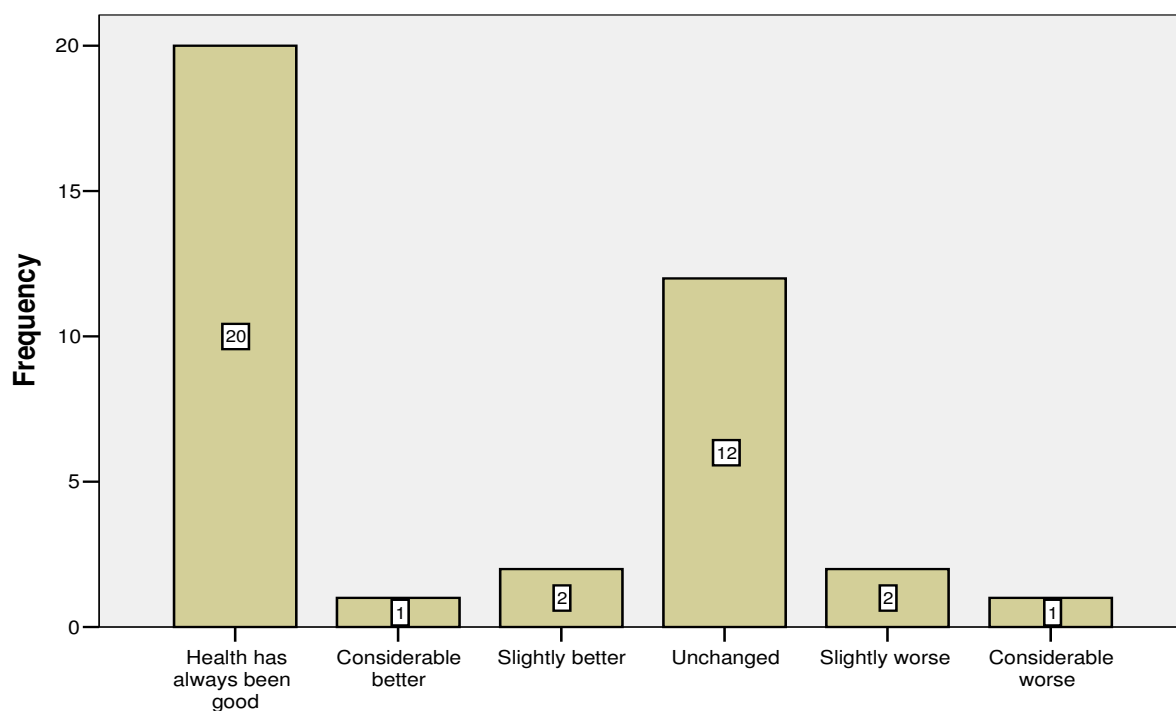


FIGURE 3. The self-evaluated changes in respondents' health

The respondents were also asked to describe the benefits of care to their quality of life. They described the relief that came from recovery or from receiving care. The relief was high for instance in an acute situation of stroke when paramedics came and the patient noticed that she will stay alive. Also the recovery made the patient to realize that life can be much easier

without constant pain. The respondents described also pain that they got after the care; for instance pain after surgery or after stroke. The pain does affect the quality of life, decreasing it.

Fear of having relapse was also described by the respondents. They described fear that decreases your quality of life by limiting your possibilities to walk in woods, to be alone at home, to go to activities.

Discussion

There was wide failure of answered questionnaires in this study. Also number of not answered questions was high. Especially in group of other professionals there were a lot of not answered questions. Pathways in Finland are taken as tools of doctors; they are published in Doctors database. The perspectives of other professionals or patients were not so well considered and regional cooperation was more based on doctors cooperating with each other. Hurry was also mentioned as reason for not answering. It is as well possible that the respondents were especially interested of regional cooperation and its development. The number of substitutes can have its impact; over half of the respondents had worked in the same organization over one year's period.

The internal validity relies on choosing the right concepts and operationalization into measurable phenomena (Polit & Hungler 1999). The international agreement of the process and its elements of a pathway was the base of choosing concepts to measure. The external validity concerns the generalization of the results beyond the sample which was not the purpose of the quantitative data. The reliability of the results depends on the instrument used. (Burns & Grove 2005.) The reliability of the scale of professionals was measured with Cronbach's alpha. Reliability was measured as .867. Reliability of the questionnaire of patients was counted as .926. The nurse students from a university of applied sciences were writing their results to their bachelor thesis and they went through a joint training before the data collection. Data triangulation is used in this study as a tool for validating data and as multiple referents to draw conclusions about what works for these people in this context (Polit & Hungler 1999).

Conclusions

Looking at the mechanisms, context and outcomes facilitates understanding the process of pathway. The context of a regional pathway is the regional cooperation between the professionals. Developing the practice of care requires multiprofessional cooperation in equal partnership. Improvement of the pathway is constant work; external circumstances are changing continually and increase the needs to develop the pathway. Today the regional pathway is a tool for public health care. Yet the care of a patient is constituted of services provided by public, private and non-profit organizations. Managing the care in the region in its entirety could decrease the pressure from the public health care and increase the holistic care of patients.

The willingness of professionals to regional cooperation was the mechanism that affects on the implementation of the pathway and constant development of practice of care. The willingness was high among the respondents, but there were also lot of professionals who did not respond. The respondents wrote about the regional cooperation and proposed for a person or organization in charge. The regional pathway has to be appointed to responsible person in

charge for promoting regional, multiprofessional cooperation, answering for constant development of the pathway and for enabling patients taking part in actions aimed improving the practice of care.

Implementation seemed to be the other mechanism affecting the process of pathways. Implementation of a pathway can be divided in three phases; diffusion, dissemination and implementation of the pathway. In this study the results describe the weak point of regional clinical pathway is implementation of these evaluated pathways. Only one third of the respondents knew the evaluated pathway well. It is important for the care that the professionals in these 8 organizations are aware of the pathway and the guidelines of the care adapted to regional and local situations.

The outcomes were evident. The patients interviewed seemed to be satisfied and recovery had been realized. Yet there were still only partly recovery for some of the patients regardless of diagnose. Some of them told about pain and fear for relapse.

In this study was achieved some understanding about the context, mechanism and outcomes of these regional pathways in current situation. There is now the possibility to change certain elements of the process of these pathways and implementations to every day practice. Yet there is only a small part of practice affecting factors studied. A case study following the care of selected patients from the viewpoints of patients, professionals, settings and interventions is required for deepening the understanding and offering more possibilities to improve the practice of care of these patient groups. Realistic evaluation as an evaluation method was suitable in this purpose providing understanding about the wholeness of real life of practice of care instead of measuring only the outcomes.

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THE ROLE OF THE CUSTOMER SATISFACTION DATA FOR THE IMPROVEMENT OF HEALTH SERVICE QUALITY AND ORGANISATIONAL REPUTATION

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Introduction¹

Customer satisfaction is a key concept with respect to service and product quality and this appears to be particularly relevant for the “evaluation of health care services”. Managerial and communication studies claim that the process of the construction of organisational reputation relies on: a) customer experience of service quality; b) clear communication of organization values and culture; c) words-of-mouth about past positive experiences by other customers.

Moreover, among other factors, previous research and practice have proved that a main important issue to affect customer satisfaction is the perceived quality of the doctor-patient relationship. Thus, this research explores the role of the ‘doctor-patient relationship’ as an important factor for construction and maintenance of the organisational reputation. Three dimensions for the evaluation of perceived quality were assessed: (1) *performance*, (2) *communication*, and (3) *facilities and equipment*. Data gathering was carried out through a quantitative survey on 21977 patients in four public hospitals in Milan with a face to face questionnaire.

The paper presents a model of reputation building that highlights the mutual interdependency between reputation and perceived service quality (paragraph 1). Then, it deepens the theme of customer satisfaction in public service (paragraph 2) in particular in Lombardy (paragraph 3). Finally, the method and the main findings of a survey on private and public hospital of the city of Milan will be discussed.

1. The key role of customer satisfaction in reputation building process

Up to now, in international literature customer satisfaction and corporate/professional reputation have been studied by different scholars, and the linkage between the two of them has not been explored. This research aims at *revealing and deepening this linkage, arguing that it exist a mutual influence between customer satisfaction and reputation*, in particular in healthcare services sector.

Reputation is the “overall estimation in which a company is held by its constituents” (Fombrum, 1996:37) based on “an amalgamation of all expectations, perceptions and opinions of an organization developed over time in relation to organization’s qualities,

¹ The research here presented is part of the research project “Customer satisfaction and healthcare system of Milan” directed by professor Vincenzo Russo on behalf of IULM University Foundation. The project comprehends two researches: the first on customer satisfaction in public hospitals and the second on customer satisfaction in dental sector. This paper presents the research on public hospitals, while Mazzei, Russo, Crescentini, “Perceived doctor-patient relation quality and reputation building in dental sector” contains the results of the research on dentistry.

characteristics and behaviour, based on personal experience, hearsay or the organization's observed past actions" (Bennet, Kotzas, 2000). The same definition of reputation can be applied to professional services such as healthcare.

According to this definition, reputation is affected by the personal experience a customer, or in general a stakeholder, does when in contact with the company. Among the so called "experience providers" there is the product or service (Schimtt, 1999). More precisely there is the perceived quality of the product or service, so one can argue that perceived quality is one of the determinants of reputation.

Reputation is a key concept in medical services in order to reassure patient before and during the treatment because this kind of services belong to the "credence goods" categories (Nelson, 1970; Darby, Karni, 1973). Credence goods are products or services which "have high pre-costs and high post-costs of quality detection; as a buyer has to rely on third-part judgments or on the seller's credentials" (Andersen, Philipsen, 1998:2).

In healthcare services, patient satisfaction has been defined as "positive evaluations of distinctive dimensions of the health care" (Baldwin, 2003: 208). Customer satisfaction is affected by perceived service quality, price, situational factors, personal factors (Zeithaml, Bitner, 1996).

According to the SERVQUAL model (Parasuraman, Zeithmal, Berry, 1990), expected service is influenced by word of mouth, personal needs, past experience and external communication.

Matching the definition of reputation with the dimensions of service quality, it emerges that past experience, external communications, and word of mouth determine both expected quality services and reputation. By means of expected services, reputation influences customer satisfaction and the latter, vice versa, influences reputation by means of direct experience and the spreading of messages.

Literature provides many studies dedicated to the communication levers that enable reputation building process (Balmer, Gray, 1999; Van Riel, Balmer, 1997; Gotsi, Wilson, 2001; De Pelsmaker, Gevens, Van De Berg, 2001; Gary et al., 2003; Grunig, 1993; Grunig, Grunig, 2002). Based on this review, it emerges that the process of reputation building relies on three levers (Mazzei, 2004 e 2007).

1) *Company's behaviours* are the primary communication lever because it's impossible not to behave. This implies that company actions communicate without words. Most of the available studies state that "what an organization does (more than it says) has a strong influence on what people think and say about it (its reputation). (...) The behaviour of the organization is the critical component of reputation" (Grunig, Hung, 2002:14). Company's behaviours coincide with the customers or stakeholders experience, as the second face of the same medal. Experience has high emotional involvement, requires customers' participation and then is memorable (Pine, Gilmore, 2000; Schmitt, 1999). Company's behaviours consist of any visible actions or events such as company products, employee actions, social and environmental policies.

In healthcare services, behaviours at the basis of reputation are for example: practitioner competence, effective and leading-edge treatments, practitioner and staff empathy, well-functioning and up-dated equipments, cleanliness and hygiene of the surgeries and rooms, minimal pain, providing prompt service, privacy respect,.

2) *Explicit communication signals* are a secondary form of communication because they reinforce the messages sent through behaviours. They consist of verbal and non verbal signals conveyed by service encounter, advertising, events, media relations, web sites, logo, visual identity, packaging, architecture, for example.

In the case of healthcare services, opportunities to convey explicit messages are for example: doctor-patient relationships, staff-patient relationships, décor, look and ambience of surgeries and rooms, personnel uniform and dress, brochure, web site, visual identity materials and stationery. Signals are planned activities aimed at a communication strategy and are carried out by communication department professionals because needing specialized competencies.

3) *Networks of relationships and independent sources of communication* are the tertiary forms of communication because they derive from the other two. They consolidate a strong reputation if behaviours are positive and signals are clear. Patients share their experiences through word of mouth and doing so they influence the choices of other potential patients (Ugolini, 2004).

They consist of information, opinions, and messages concerning the company which are spread by independent sources through personal contacts among opinion leaders, media, clients, employees, competitors, business partners, virtual community, and informal networks.

In the case of healthcare services, strategies to instil positive word of mouth through interpersonal relationships are: to make patients satisfied and gain their loyalty in spreading the hospital reputation, networking with external medical specialists, relationships with family doctors, endorsement from medical associations, partnership with local associations, media relations, and relations with opinion leaders.

2. Customer satisfaction in public service

Customer satisfaction was born in USA in the 50's and spread out in Europe in the next 60's. In the last ten years it has become more and more important in lots of organizations, and now it is considered a source of competitive advantage for profit companies and a tool to plan strategies for the future.

Thanks to customer satisfaction survey companies and organizations can: a) better understand perceptions and expectations of customers; b) check the gap between expectations and perceptions; c) evaluate whether or not the performances reach an acceptable level of satisfaction.

A customer satisfaction survey allows also monitor systematically the results of the company, so that to plan changes for future improvement.² Profit organizations are the pioneers of customer satisfaction surveys, because they have to fit in a very competitive context in which customer must be satisfied, of course.

In Italy this kind of surveys began in the late 80's, when automobile manufacturing companies and companies for telecommunications started to think about their customers in a different way. Then, other companies started to make customer satisfaction surveys, after having understood that the satisfaction of customers is crucial in all competitive contexts.³ As for the public service, customer satisfaction surveys have been ignored since the last ten years; by the way, public administration is on late in a "marketing" thinking, and in policies that are market-oriented or customer-oriented. A lack of competition in a real competitive market has prevented the growth of such customer-oriented methodologies in the public service organizations. Nowadays, customer satisfaction surveys have reached a good position

² Attolini L.S., Costantini M.P., Di Stefano A., Giordano F., Natalucci G., Pacchi C. (2003), *Customer care in organizzazioni di servizio e di cura*, Franco Angeli, Milano.

³ Fabris G., Rolando S. (a cura di) (1999), *La customer satisfaction nel settore pubblico: identità e comunicazione*, Franco Angeli, Milano.

in strategic planning of public companies as well.⁴

In the last ten years even the organizational culture of public companies has changed, thanks to some external reasons that are pushing to a customer-oriented logic, such as: a) the increase in policies of privatization; b) the process of European integration of each country; c) the increase in level of attention of customer on perceived quality.⁵ That is why even public service organizations need to “learn” and practice the logic of market research that is typical for private companies. Italian legislation for public service underlines the importance of such instruments of evaluation of quality service: the “Carta dei Servizi”, as established by law, (11th of July, 1995, n. 273) claims that the evaluation of quality of service is a duty for public organizations. This evaluation has to be done in collaboration with customer themselves, through survey, personal interviews and public meetings. This allows customers - and citizens - to keep the quality of public service under a higher level of control.

3. Customer satisfaction in public health: the directives of the Regional Government of Lombardia

Customer satisfaction became more and more important for organizations; nowadays customer satisfaction represents a strategic goal for organizations (Busacca, 1994). In this context, we consider customer satisfaction survey as an instrument to collect information on perceptions and expectations of clients.

Looking at the experience of USA and other countries (Coluccia, Ferretti, Loré, 2000), in many Italian regions standardized customer satisfaction surveys took place in the last years; the aim of these surveys is to figure out both strengths and weaknesses of the whole organization, to re-organize and improve management and the organizational structure itself.

Customer satisfaction in public health is the concrete answer to an abstract idea of “humanization”, that brings to an enhancement of the patient; the starting point is that the customer-patient has to play a pro-active role in public service organizations⁶.

The implementation of customer satisfaction surveys is based on the basic principle of the full participation of the patient. In the last years there has been a radical change in attitudes and behaviours of the patient, that is becoming more and more pro-active and asks for much more information than in the past; the Italian public health system has not yet understood very well this change, and it is possible to find situation in which the patient is still considered simply as passive.

Despite the remaining of some asymmetries in information – there are some lack in patient information about health care - , customers know much more about their rights, and, according to this, they have much more expectations on health services. This brings to an increase in attention to the quality of service and to other particular aspects related to it, from the level of empathy perceived to the accessibility to service.

The first topic in defining a customer satisfaction policy is to understand which are the expectations of customer on quality of service. This seems to be hard to do, due to the high

⁴ Ortigosa (2000), *La valutazione di qualità nei servizi sanitari*, Franco Angeli, Milano.

⁵ Fabris G., Rolando S. (a cura di) (1999), *op. cit.*

⁶ The Legislative Decree 502/92 claims the personalization and the humanization of health care, and the right to information and participation of patients. The d.p.c.m. 19/05/95, general reference for the Charter of public healthcare services, has some indications about the questionnaire for hospital patients.

level of technicality of the service itself⁷.

The development of customer oriented strategy need at least to point out:

- which is the minimum level of a desirable quality
- what customers ask for
- which obstacles hinder the achievement of quality

In the last years the Regional Government of Lombardia has given an increasing attention to the issue of quality and customer satisfaction. This can be seen in the legislative steps, through which the government has finally regulated the value of attention to quality in public organization.

First of all, in 1998 and 1999⁸ the “Institutional Accreditation” has introduced the idea of a system for collecting and analyzing questionnaires, complaints and interviews for a total amount of the 10% of patients that has been treated in every single Operating Unit every six months. One year later the Regional Government has adopted the resolution D.G.R. 26/11/99 n. 46582, that indicated the basic principles for a detection of the level of patient satisfaction. In this resolution the government established that at least 30% of patients should be considered for the survey, and included the proposal of a particular questionnaire for each hospital area.

In a second phase, experimental activities for the accreditation of excellence have grown up. Nowadays, customer satisfaction survey in public health is becoming more and more important as a tool for evaluating the effectiveness of care and the efficiency of organization.

4. Method and subjects

The basic principles of reference for the implementation of a customer satisfaction system are claimed in the annex 4 of the resolution 26/11/99 n. VI/46582. The starting point of these principles is listening to the patient and the promotion of a two-way flow of communication. The aim is to know customer opinions about the services they have received and manage the expectations when they go beyond the purpose of the organizations.

The listening process includes different steps:

1. identification of customers, services and objectives, that has to be clear, realistic and shared
2. definition of the structure of questionnaire, the frequency of analysis, the processing of collected data
3. processing of collected data, analysis and conclusions

We have conducted a quantitative survey on 22977 subjects, by using a multiple choice questionnaire instrument; two open answer questions have been added at the end of the questionnaire, to collect comments, suggestions and complaints. Subjects are patient from four hospital in the city of Milan, including patients from day hospital, laboratory of analysis and outpatient. Currently we are presenting the case study of four hospitals in Lombardia, where we have conducted the research to evaluate the level of customer satisfaction and to use the results obtained by the survey to plan action of organizational changes. Data have been collected in the last 16 months (from autumn 2006 to spring 2008) in four hospitals of

⁷ Martone R. e Ippolito A. (1997), “Customer satisfaction e sanità: un binomio possibile? Riflessioni sui risultati di un’indagine sul campo”, estratto da *MECOSAN-Management ed economia sanitaria*, n. 22.

⁸ D.G.R. of 6/08/98 n. VI/38133

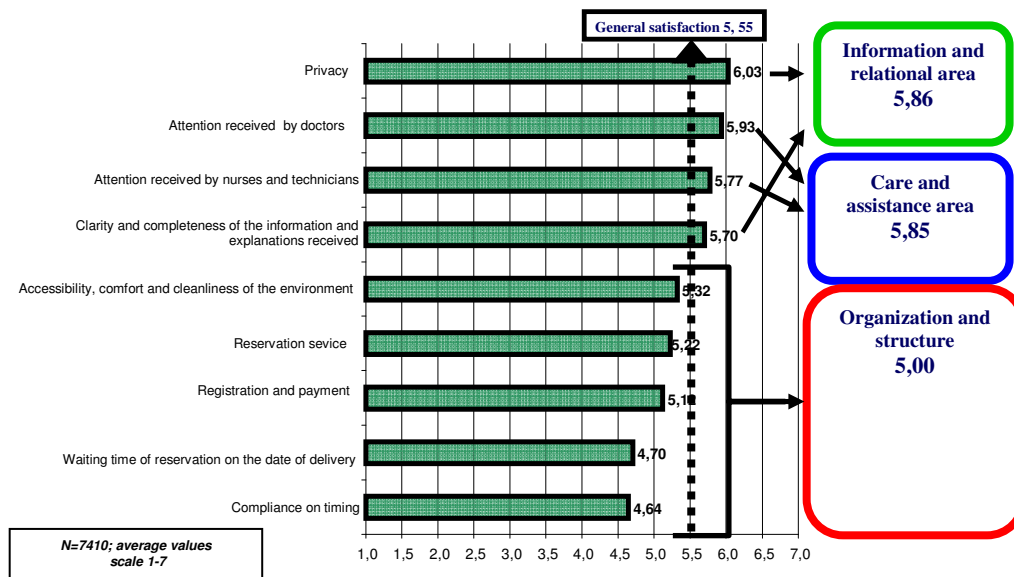
the city of Milan.

The Customer Satisfaction Survey methodology is used. This approach allows research to control systematically the level of customer satisfaction, and seems to be an appropriate tool when customer expectations are well known and the aim of the survey is to have a good measure of improvement in level of perceived quality of service. One particular aspect of this survey is that it is usually conducted over time (same factors but different subjects): this customer satisfaction survey in public hospital in Lombardia has been conducted for the last seven years, every year, two times a year (in spring and autumn). The aim of the survey, as it has been said before, is to point out the level of satisfaction on some particular areas of interest. These “areas of quality” have been identified by interpreting the results of a previous phase of research (qualitative and a desk research):

- information and communication
- accessibility
- organizational aspects
- relational aspects
- professionalism of the operators
- quality of cares
- accommodation

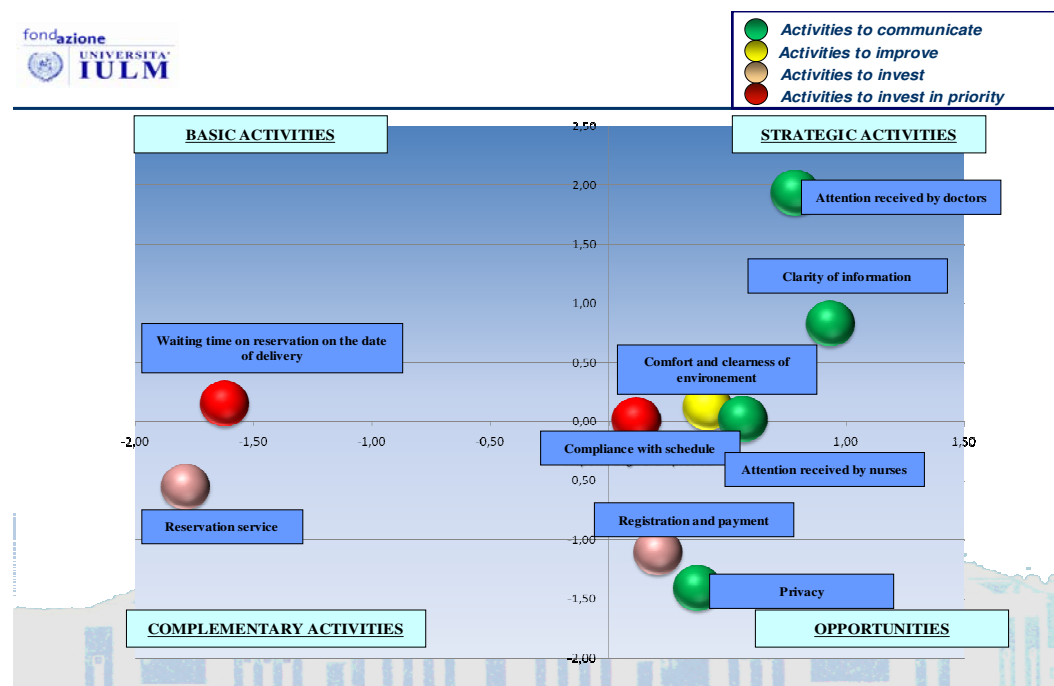
5. Main results of the customer satisfaction survey

The main results obtained from the survey are on the level of satisfaction referring to each single service area, as indicated below:



From the results we have seen a high level of satisfaction for the relation and information area (5.86) and for the care and assistance area (5.85); the lower level of satisfaction is in organization and structure area (5.0). Out from the four hospitals in which the customer satisfaction survey has been conducted, these are other specific results concerning one

hospital in analysis:



The chart is built-up by referring to two main dimensions:

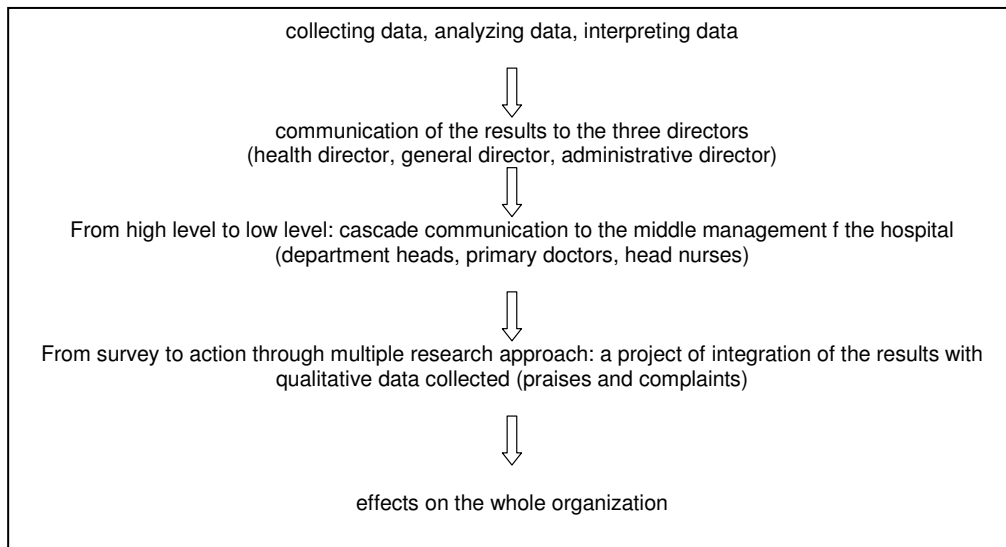
1. On the X axis, the “real importance” given by customers to each item is indicated
2. On the Y axis, the “subjective importance”, or the “importance as it is said by customers” to each item is indicated.

From this chart it is possible to find out the activities that must be taken into consideration for strategic planning and organizational change, such as:

- “waiting time on reservation on the date of delivery” and “compliance with schedule”, which need an investment in priority, because they are both strategic and basic (“has to be done”) but with a low performance level (the level of satisfaction is much lower than the average level for all the items in analysis)
- “attention received by doctors”, “attention received by nurses” and “clarity of information”, which need to be better communicate because they are strategic activities and they have received an high level of satisfaction compared to the one expressed for all the items in analysis.
- “comfort and clearness of the environment” is an activity to invest, because the level of satisfaction is a little lower than the average of the other items
- “reservation service” and “registration and payment” are activities to invest on, because they are good but should be better, related to the importance given by customers to them.

This case study is a good example of how customer satisfaction survey can grow up and become more and more important for the implementation of new strategies in the whole organization.

Here we will see how the customer satisfaction survey has become strategic for the organization, and how it has been integrated in the process of organizational strategic planning. The flowchart of this process is presented below:



As for the effects on the whole organization, we can see the process of integration of the results with praises and complaints. An integrated system of comparison of different data will be implemented in the hospital, and, as a consequence, strategic actions will take place in every single hospital area.

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QUALITY COMMUNICATION IN HEALTH SERVICE: THE STROKE PROCESS CASE¹

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1. Communicating quality in health service

The Italian National Health System is currently in a paradoxical situation. Despite its top rating in the overall index of performance of the World Health Organization ranking (WHO 2000, Navarro 2000), and in spite of the fact that it comprises many organizations (including some public ones) that are considered excellent at an international level, the National Health System is often perceived in a negative way by its users (patients and their family members). The causes of such a situation are manifold. Among them, there is certainly an inadequate attention to communication from providers to users².

This is a typical characteristic of many professional communities, at least in Italy. The health service, like many professional services (Kotler, Connor, 1977), is certainly a highly complicated one, where activities and contributions from several “experts” converge (physicians, surgeons, nurses, health technologists, administrative personnel, management).

These specialists have solid professional cultures that are well-outlined and often self-referential. This is particularly evident in the case of physicians, who represent, also at a social level, a distinct corpus, characterized by informal hierarchies³ and well-established evaluation criteria internal to the community.

This situation is partly justified by the information asymmetry that separates the patient from the sanitary professional. In fact, the patient is not always able to make rational choices, not only because of the particular emotional status he is in, but also because he does not have the technical-medical knowledge necessary to evaluate the different options available. The asymmetry is thus strictly correlated to the different levels of power of physician and patient, to the cultural elaborations according to which someone who is in a situation of need, depends on the person to whom he is asking and must have an unconditioned trust in him (Pizzini, 1990)⁴.

However, the information asymmetry represents only a partial justification for the limited attention to communication with patients in Italian health structures. Such a limited attention can be found not so much in the personal dimension of the communication between patient and physician or patient and nurse (Bayne, Nicolson, Horton, 1998) but rather at the

¹ This work would not have been done without the precious help of Dott. Laura Fiorini, who has developed her dissertation project about the Stroke process with great commitment. I gratefully thank her, as well as Dr. Claudio Bianconi, Head of the Neurology Ward at the Sacro Cuore Don Calabria Hospital in Negrar (Verona, Italy), who accepted to be challenged by managerial tools and ideas. Possible mistakes and inaccuracies are to be attributed to the author.

² The 2007 PIT health report by Cittadinanzattiva signals as the most common complaint the difficulty of getting information (13% of the total complaints, with an increasing tendency), with particular reference to information about how to get access to health services and how to choose among different options, as well as about structures, physicians and issues related to the legal protection of patients' rights.

http://www.cittadinanzattiva.it/files/sanita/rapporti/focus4_accesso.pdf

³ For these reasons, inside medical community, the professional status of a brain surgeon or an hearth surgeon is regarded as higher than the status of gynecologist surgeon and even more than the status of a general surgeon.

⁴ The asymmetry in a face-to-face relationship between two persons based on the necessity to offer help or advice is not only a cause of oppression. In fact, the one who asks thinks that the other's power can provide definitive and satisfactory answers, or that the physician with his knowledge and his deontology is the person to whom one can tell the most private and confidential things. The physician is probably the only social authority to whom it is still acknowledged the power to “give orders”.

organizational level, with reference to the sanitary structure providing the health service, i.e. the hospital, clinical or diagnostic department, ward, remedy and so on.

Since patients turn to a health organisation first and foremost in order to solve their health problems, it is the organization that should develop a range of communication tools, including personal communication tools, to provide its users with important information, but also to properly address their expectations.

More in detail, patients should be given the basic information, for example:

- what kinds of services are offered for dealing with different health problems,
- how patients should be admitted to the health structure (in emergencies, in normal cases, for check-ups....),
- opening times and telephone numbers,
- what patients should bring with them when they are hospitalised,
- basic rules (e.g. no smoking, no mobile phones) to be followed,
- visiting hours for relatives and friends,
- the procedure for issuing a complaint (Simeoni, Ugolini, 2001).

The list should also include quality guarantees and service standards, for example:

- waiting times,
- scientific updating of the medical staff,
- cleanliness of rooms and structures, and so on.

If we consider foreign health services, such as the British system, we cannot but notice how organizational communication directly deals with these topics and how it is usually much more down to earth and patient-friendly: it is simple to get information about services, the language used is easy to understand and the patient can find out quickly what to expect from the service.

On the contrary, the settings, contents, languages of websites, as well as brochures, publications and service directories of Italian hospitals frequently reveal a certain distance from the patient's world. For instance, this distance becomes specific in:

- incomprehensible websites, with divisions among wards, departments, centres and "services" (sic!);
- intimidating warnings (*It is forbidden to knock on the door*, in a ward corridor) or simply meaningless notices (*You are requested to provide divisional money*), (Casula, Lucchini, 2001);
- brochures lacking essential information for the patient (location, access and opening times of the practices);
- self-celebrative newsletters;
- silence about qualitative standards and requirements, sometimes even going against legal norms.

It seems that quality, even when it is actually delivered in the service, remains "trapped" in the communication process, without reaching the patient with a clear message, useful for improving quality itself.

The aim of this paper is to provide some operational suggestions in order to try and make quality tangible for the patient, by analyzing a case of excellence in health service, the Stroke Process at the Sacro Cuore Don Calabria Hospital in Negrar (Verona).

The paper will discuss the effectiveness of a communication tool (Patient's Charter) that could be used in the Stroke Process according to the principles of patient protection and transparency.

2. *Quality and communication: starting points from the Servqual model*

Literature about customer satisfaction (Dutka, 1994) and total quality management (Ishikawa, 1985) has widely confirmed the essential necessity of the customer's point of view when product quality is under evaluation.

Quality cannot be conceived independently from its perception – that is, its acknowledgement and appreciation- by goods consumers and service users⁵.

All the more, in the case of the health service, an approach to quality independent from the patient's point of view cannot at all be adopted, and for different reasons:

- it is a service addressed to the person;
- its outcomes are often negative and cannot overcome negative perceptions;
- the information asymmetry leads the patient to nurture unreasonable expectations or unmotivated fears.

Given that the health service aims, after all, to improve the wellness of a person, who can judge better than the patient himself his own wellness or unwellness, or the quality of his life? And who, if not the patient, can evaluate the way in which such a result has been achieved?

Actually, it is precisely on this dimension of the customer evaluation of service quality (subjective, individual, relative, non-rational judgment, typical intuitive cognitive process) (Quartapelle, 1994) that one of the most consolidated managerial models for quality in services is based, the Servqual model. (Parasuraman, Zeithaml, Berry, 1985 and 1988; Zeithaml, Parasuraman, Berry 1990).

The model is grounded on some fundamental assumptions:

- “service quality is more difficult for the consumer to evaluate than goods' quality;
- service quality perceptions result from a comparison of consumer expectations with actual service performance;
- quality evaluations are not made solely on the outcome of a service, they also involve the evaluation of the process of service delivery” (Parasuraman, Zeithaml, Berry, 1985, p. 42).

The Servqual model is used to analyse gaps in service quality performance in relation to the needs of the customer (expected service). These gaps can be summarized as follows:

- gap between consumer expectations and management perceptions of those expectations
- gap between management perceptions of consumer expectations and the firm's service quality specifications
- gap between service quality specifications and actual service delivery
- gap between actual service delivery and external *communication* about the service
- gap between expected service and perceived service

The analysis of expected service and of perceived service by the customer is articulated into 10 key determinants:

- | | |
|-------------------|--|
| 1) reliability | 6) <i>communication</i> |
| 2) responsiveness | 7) credibility |
| 3) competence | 8) security |
| 4) access | 9) understanding / knowing the customers |
| 5) courtesy | 10) tangibles |

⁵ “Organization depend upon their customers and therefore they should understand their present and future needs, respect their specifications and try to exceed their own expectations”. Vision 2000, Principles for Quality Management, www.unicef.it/vision2000/process.shtml (our translation)

In the Servqual model, therefore, communication, intended as external communication addressed to customers, plays a double role as a precondition for quality:

- 1) Communication is a key determinant, considered important by the customer when he compares the expected and perceived service (determinant nr 6);
- 2) Communication is the underlying cause of one of the gaps, and precisely of gap nr 4.

As a consequence, given that the customer considers communication important when he expresses his evaluation, the simple common sense suggestions that follow can contribute to considerably improve perceptions, even in the absence of radical organizational or technological changes. Therefore it is worth for health institutions to:

- keep customers informed in a language they can understand, and to adjust language to the audience. This concretely means to avoid the use of a jargon which is too technical and scientific, but also too bureaucratic and formal or in some cases even childish;
- listen to customers, by adopting listening tools in face-to-face interactions, making surveys on customers and complaint analysis (Ugolini, 2004);
- explain the service itself, without giving anything for granted;
- assuring the customer that a problem will be handled and give feedback.

Nonetheless, the Servqual model suggests that communication might be decisive to the point of becoming the underlying cause of one of the five quality gaps.

For this reason, the contents of the communication have to be in line with the actually delivered service. Otherwise, there would be the risk of seeing an unexpected increase in customer expectations: exaggerated promises can attract new customers at first, but then they can turn against the organization, should the customer experience a level of service lower than his artificially increased expectations.

Finally there is a last, rather interesting pattern through which external communication could influence service quality expectations. This pattern takes place in association with information asymmetry, when the service organization neglects to inform customers of the special efforts made to assure quality, while those efforts remain invisible to customers.

“Making consumers aware of not readily apparent service related standards ... could improve service quality perceptions. Consumer who are aware that a firm is taking concrete steps to serve their best interests are likely to perceive a delivered service in a more favourable way. In short, external communication can effect not only customers expectations but also consumer perception of delivered service”, (Parasuraman, Zeithaml, Berry, 1985, p. 46).

So it is vital, in health organizations, to give specific, detailed information about service delivery aspects intended to serve customers well. This is exactly the point in the case-study presented in this paper, the Stroke Process at the Sacro Cuore Don Calabria Hospital in Negrar (Verona).

3. The Stroke Process in Sacro Cuore Don Calabria Hospital in Negrar

Stroke is characterised by rapidly developing clinical symptoms and signs of focal, and at times global, loss of cerebral function lasting more than 24 hours or leading to death, with no apparent cause other than that of vascular origin.

Brain stroke is one of the most serious diseases in developed countries, with a high mortality rate⁶ and residual disability. Prevention is the most effective strategy to face it.

However, when a person suffers a stroke it is important that he should receive assistance according to a interdisciplinary organizational model, so that the diagnosis⁷ time can be reduced to the minimum, the therapy optimized and rehabilitation and treatment integrated.

⁶ It is the third most common cause of death in most developed countries, with approximately 4.5 million people worldwide dying from stroke each year.

This according to the state of the art in neurological research: “patients admitted to hospital because of an acute stroke should be treated in a interdisciplinary stroke unit (evidence level A)” (Lindsay, Bayley, McDonald, Graham, Warner, Phillips, 2008, p. 1422).

This organizational model can become real inside a hospital structure which includes the following health specialities:

- | | |
|-------------------------------------|---|
| - <i>Emergency Medicine</i> | - <i>Intensive Care</i> |
| - <i>Neurology</i> | - <i>Geriatry</i> |
| - <i>Vascular Surgery</i> | - <i>Internal Medicine</i> |
| - <i>Radiology</i> | - <i>Cardiology</i> |
| - <i>Chemical-clinical analysis</i> | - <i>Physical and Rehabilitation Medicine</i> |

In particular this last medical special branch, which includes rehabilitation activities (motorial and cognitive rehabilitation, occupational therapy, supply of medical assistance devices, family training), results to detain a considerable position in stroke management. Competence in rehabilitation represents a distinctive asset of the Sacro Cuore Don Calabria Hospital in Negrar, and it is the focus of the present case study.

The hospital structure is worth examining. It is located in Negrar, a nice village on the Veronese hills, in Valpolicella, North East of Italy, 15 Km far from Verona. Negrar is well known for its red wines, Valpolicella, Recioto, Amarone. Don Calabria Hospital is a regional structure (6th in the list of the major hospitals in the Veneto Region).

Since 2004, the hospital has adopted an Integrated Quality System, according to ISO standards (Certification ISO 9001:2000 – VISION 2000) and has established a centralized Quality Office⁸.

Patients who suffered a brain stroke are “included” in the *Management of cerebrovascular pathologies patients* process, called *Stroke Process*.

It is an organizational solution unique in Italy, but rather common in foreign countries, mostly as a Stroke Unit (Stroke Unit Trialists' Collaboration, 2006). The originality of this approach lies totally in the emphasis given to the process rather than to the organizational structure where this process takes place.

As a matter of fact, the Stroke Process is a transversal process: a sequence of activities or operations which, starting from a precise input (data, information) allows to obtain an output⁹,

⁷ As in the case of the heart stroke, what happens in the so-called “golden hour”, the first hour after the event, is determinant for the clinical outcomes (probability of survival and permanent effects after the hyper-acute and acute phase)

⁸ The role of the Quality Office in Health Agencies consists in the promotion of quality through a systemic vision of all structures and positions involved; quality, as a general function of coordination, allows top management to have a direct, complete and strong visibility of the whole system in a strategic and transversal way; the Quality Office allows as well to sustain and monitor the tasks adopted for quality. (Montefusco, 2004).

⁹ The process approach implies:

- process mapping and description
- definition of the praxis which guarantees its delivery
- knowledge management for the actors involved in the process
- definition of the indicators measuring performance and target values
- monitoring of indicators and eventually definition of corrective actions and/or prevention and/or setting of new reference values

interacting with the entire hospital structure, beyond the boundaries of the single wards, hospital facilities, operational units. *CONTROLLARE WARD – UNITA' OPERATIVA*

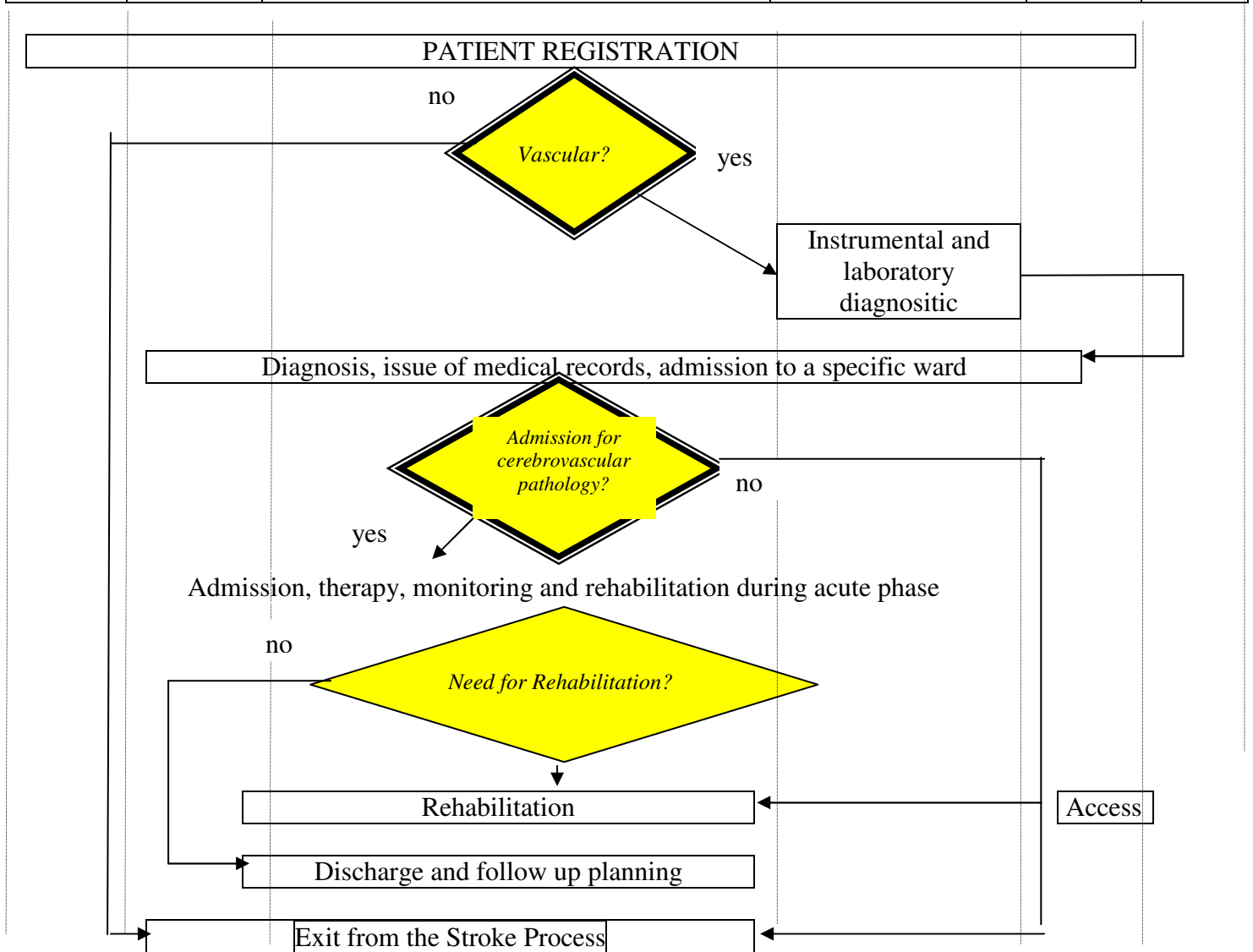
As Figure 1 shows, the wards of the hospital which are involved in the Stroke Process are

- Emergency Room
- Psychiatric Medicine and Rehabilitation Service (SMFR)
- Psychiatric Medicine and Rehabilitation Ward (MFR)
- Intensive Care
- Vascular Surgery
- Laboratory for clinical Analysis
- Radiology
- Neurology Ward
- Geriatrics Ward
- General Medicine Ward

The Cardiology service and the serious cerebral damage unit (UGC) can also be marginally involved in the process.

Fig 1 The Stroke Process

		Intensive Care	Vascular Surgery		Physiatric Medicine & Rehabilitation Service	Laboratory			
Emergency Transport		Neurology	Geriatry	General Medicine	Physiatric Medicine & Rehabilitation Ward	Vascular Surgery	Radiology Service		
General Practitioner	Emergency Room	Hospital Wards				Services		Medical practices, other Wards	Other health structures



Source: Neurology Ward, Sacro Cuore Hospital of Negrar, teamwork with MF Consultants, *Stroke Process Handbook* (our translation)

The Stroke process is part of a virtual organization, which does not exist as an independent organizational structure, i.e. provided with spaces, personnel, dedicated structures. The virtual organization, precisely because it is built around the process, goes beyond the boundaries of the different wards and goes also beyond the typical limits of the functional organization in the case of complex pathologies such as the brain stroke¹⁰.

In such a process, quality exists and is effectively provided to patients, thanks to a systematic approach to Total Quality Management and thanks to institutional values and aims of Christian inspiration which posit the patient at the centre.

Nature and institutional aims of Negrar Hospital

Extract from the Statute approved by the General Council of the Congregation of Poor Servants of Divine Providence, Verona 12.1.1979, confirmed on 17.3.1991

Art. 6 -«The patient is, after God, our real master» (Don Calabria). He is the unique centre of any interest, research, measure, structure, organization of the Hospital. Any other collective or personal interest, whether material or moral must be subordinated to the patient's wellness.

Art. 7 – The patient is a person and as such he has the right to the most up-to-date and complete health assistance, given with the respect, the promptness, the spirit of service which are due to him according to the laws of human coexistence and the principles of Christian love.

Art. 8 – The patient suffers from his illness, from his solitude, from the reduction of his autonomy and therefore needs a specific understanding and empathy. The patient is no burden for the society, he is not useless, he stimulates solidarity by the healthy; in the faith vision, he represents Christ suffering, therefore he has a redemptive and reparatory mission.

Source: Sacro Cuore Don Calabria Hospital- Guide to the structure
(http://www.sacrocuoredoncalabria.it/guida.php?section=cartaservizi_fini)

Two fundamental documents are the concrete sources for the Quality System adopted: the Quality Handbook and the Process Document *Management of cerebrovascular pathologies patients*.

Both documents allow an immediate identification of the process owners, (two doctors, a neurologist and a geriatrician); these are responsible also for process monitoring and measurement and for management of non conformities.

The Process Document proves particularly useful for the health carers involved in the Stroke Process, as it contains an analytical description of the operational steps for service delivery, (sequences, praxis, delivery and control rules, responsibilities, measures to be applied, data collections, indicators monitoring, and so on). The description is articulated into sub-processes: identification of the patient, laboratory and instrumental diagnostics, diagnosis, issue of medical record and admission to the specific ward, hospitalization, therapy monitoring and rehabilitation during the acute phase, intensive rehabilitation. It also allows the identification of the necessary skills for the professionals involved in the process, that is, their education, training, experience, competence.

The quality system is revised on a yearly basis by the process owners who carry out Managerial Audit on the Stroke Process. This activity is based on collection and analysis of input information about hospital policies, about critical aspects underlined by the single Units involved in the Stroke Process, about process indicators, about outcomes of process audits, about non-conformities and complaints related to Stroke Process, about corrective and preventive actions in progress. As a result, the Managerial Audit leads to a redefinition or updating of the Stroke Process targets, to an evaluation of the appropriateness of human – technological – infrastructural resources, to an evaluation of needs for corrective-preventive actions, as well as of previous improvement actions.

The definition of process “customers” appears to be correctly carried out, as it identifies not only patients as customers but also General Practitioners for prevention activity on population at risk, as well as Patients’ Associations. The contextual recognition of the customer status also to patient’s

¹⁰ The Stroke process could represent a starting point for the development of a network organization, based on widespread, reciprocal relationships (Hakansson, Snehota, 1989), where the position of each participant is determined by his specific skills and by the “added value” that he is able to provide.

family might probably contribute to improve communication management, given that the patient finds himself, for a long part of his hospitalization time, in a situation of reduced consciousness and autonomy and that in the post-hospitalization phase he always requires assistance.

If we give specific attention to communication and patient listening activities, in the Quality Documents we find a brief mention about the opportunity to carry out customer satisfaction surveys on hospitalized patients. Indeed these surveys are carried out yearly on a centralized level by the hospital Quality Office; therefore they are scarcely focused on specific aspects of Stroke Process and cerebrovascular pathology and for that reason they need to be improved. Certainly the process owners should be responsible to carry out patient satisfaction surveys in the Stroke Process, although this has not been done yet.

As far as communication management in the Stroke Process is concerned, it must be mentioned that the Quality Handbook contains a quick reference to the Process Document, about the correct management of the relationship with patient's family. However, the Process Document does not contain any explicit reference to communication tools, if we exclude a possible option for psychological counseling.

To sum up, communication cannot absolutely be said to have **a priority place** in the procedures described in Quality documents! Moreover, the language used is concise and specialized, with many terms deriving from ISO standards and clinical practice, with a wide usage of acronyms and jargon¹¹, diagrams and explanatory notes.

Finally, Stroke Process defines an excellent health service reality, unique in the National context, and its quality does not limit itself to professional aspects (scientific and technological) but gets to include organizational and management aspects.

Actually, the use of an organizational model based on processes, able to integrate transversal and complementary competences in order to resolve any single case, with a certain attention to perceived quality, surely represents an emblematic case of positive health service.

However, communication addressed to patients constitutes a sphere to be consolidated and improved, as the following paragraph will try to do.

4. Usefulness of the Patient's Charter for communication of Stroke process quality

The documents of the Stroke Process Quality System, even if they were rendered public, would scarcely prove useful tools for the communication with the cerebrovascular patient or his family. Actually, their specialized structure and language result also very technical and unemotional, not involving the reader at all. Moreover, they do not convey the moral values inspiring the hospital vision and mission.

As a matter of fact, the hospital management would not be interested in disseminating such operational indications, as they codify part of its clinical and organizational competence, an important resource for the "competitor" with other hospital centres in the area.

What seems useful to communicate quality and make it tangible is rather another document, the Patient's Charter, which, without going too much into technical aspects, should fulfill the following aims:

- Showing attention to patient, aware of the change in his role in contemporary society;
- Delivering simple communication of a complex process;
- Adopting a language close to the patient and his family;
- Letting the reader know what he can expect from the service;
- Solving possible doubts relating to the apparent "fragmentation" of the process into multiple wards (the patient could feel confused and interpret the transfers from one ward to another as a sign of lack of organization).

¹¹ However exhaustively explained in the Process Document.

A Patient's Charter is a written document containing an agreement between a health structure and its patients, where the organisation makes express and specific promises (standards) about the level of service quality (Baccarani, Ugolini 2000).

The Charter declares the efforts made to ensure high quality service thus rendering quality more tangible for service users. The patient or his relatives will therefore be able, on the base of the Charter standards, to evaluate the health organisation performance and to distinguish between good quality (above standard) and poor quality (below standard).

Of course a Charter also includes a description of the health service organisation, with its products and processes, for the user's purpose. This is the "informative part" of Patient's Charter.

Finally the Patient's Charter should also create an information feedback loop as it includes a questionnaire about the patient satisfaction and opinions.

In this study case, the Patient's Charter prepared for the Stroke Process has the following sections:

1. Our identity and mission
2. Who we are and how we are organized
3. What we do to ensure a high quality service
4. Stroke Process and our commitments to service quality
5. Rules to be followed
6. Please give us your evaluation!

Particularly relevant are sections 3 and 4. Section 3 (*What we do to ensure a high quality service*) consists of a brief explanation of what has been done in order to create the Stroke Process (process analysis and description in Quality Handbooks, process owners, Managerial audit, patient satisfaction surveys).

This section should also address quality problems in the Stroke Process: the development of a positive affective response is important not only to report positive performances, but also to recognize failings and weaknesses. Of course it is important to add improvement plans and what actions have already been taken in that direction.

Section 4 is the core part of the Patient's Charter. Here the health organisation makes its commitments¹² and service guarantees clear, so that the patient is aware of what the organization is able to do and what he can expect from the service.

Among all the possible factors that influence the Stroke Process service quality, the following ones have been considered very important:

- promptness of the assistance,
- accuracy of the diagnosis
- validity of the rehabilitation paths

The related quality commitments are the following:

<i>Promptness of assistance and first medical examination in Emergency Room</i>	The medical personnel and the nurses commit themselves to make a first general medical examination of the patient within 10 minutes from his arrival in Emergency Room. If his condition is deemed "critical", the patient will be immediately transferred to Intensive Care.
<i>Accuracy of the diagnosis</i>	After the assessment of his conditions, the patient will undergo diagnostic examinations, in particular blood tests, CAT (Computerized Axial Tomography) and eventually Magnetic Resonance. We kindly ask the family to read the "informed consent" form, in order to understand what these examinations imply. Diagnostic tools are safe and reliable; the personnel is highly qualified and is constantly updated with the latest techniques and advanced procedures

¹² Commitment is defined as "an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum effort at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely" (Morgan, Hunt, 1994).

<i>Validity of the rehabilitation paths</i>	The rehabilitation plan will be decided by the Physiatrician and can involve the Social Worker and the Psychologist. The staff in charge of the patient's rehabilitation is highly qualified and will accompany him during the whole rehabilitation path, from the acute phase of the illness until he returns home.
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Of course, the full text version of Patient's Charter includes many more commitments along the complete Stroke Process; however, for the purposes of this paper we are not going to examine them all.

From a methodological point of view, it is more important to underline the managerial perspective necessary to develop a Patient's Charter. The clinical view of the processes as well as the approach to quality certification reach up to a certain point, that is, they set the conditions for the health organization to deliver a high quality service.

However, they both stop at the point when they should go beyond the culture of "do well", to embrace the culture of "do well and let it know".

The case here examined has demonstrated, once again, the necessity to introduce a perspective of service management (Ugolini, 2004) to complete the clinical approach as well as the quality systems. Otherwise, the risk is that of doing quality independently from the patient and this is not desirable for the common good.

5. Concluding remarks

This paper reflects on the problem of communicating quality to service users. In particular it focus on how to render quality tangible for the client within the health service, characterized by a high information asymmetry. The method is the case study, preceded by a rapid theoretical focus on the role of communication in a model for quality in services

The study has a normative value and its indications can be extended also to other innovative health services (e.g., multidisciplinary practices).

The result consists of a proposal of a tool, the Patient's Charter, in which the health organization explicitly expresses its commitments for quality.

The methodological limits of the study are linked to the single case taken into consideration; moreover, the results are confirmed in health structures studied in other papers.

The points still to be developed refer to the use of the Patient's Charter as an internal marketing tool, and the monitoring of patients' satisfaction through the Charter.

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THE ROLE OF LOCAL GOVERNMENT IN SMES TECHNOLOGY TRANSFER

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1. Technological transfer to SMEs

1.1 The concept of technological transfer

The concept of technological transfer (TT) may be interpreted on the basis of two analysis perspectives: a more traditional perspective defined as being “linear”, and a more innovative network type of perspective. In any case, the TT process is a complex matter that includes legal, technical, financial, and marketing issues (Siegel et al. 2003). To correctly define the TT process it is also necessary to consider that a) industrial sectors differ with respect to their relations to the technologies that are relevant for development in those sectors (Pavitt 1984); b) different technologies induce different patterns of innovation and diffusion (Freeman e Perez 1988; Faulkner and Senker 1994); c) innovation systems (e.g., national systems of innovation) integrate and differentiate the various functions differently ¹.

Linear perspective. According to the linear approach (Godin 2005) the development and diffusion dynamics regarding new knowledge are the result of a logical sequence that ranges from basic research (science) to applied research (research) and lastly the industrial development of new technology.

The linear model suggests TT is a process that comprises discovery, disclosure, evaluation, patents, markets, negotiation and then a license phase (Lipinski, Minatolo, Crothers 2008). With specific reference to the players involved in the TT process, Bozeman (2000) proposes a model that includes five broadly-defined entities. The transfer agent (characteristics of public and private scientific research institutes), the transfer recipient (the characteristics of corporations), transfer forms or media (e.g. informal contacts, personal exchange, research cooperation), transfer motives or objectives (e.g., access to human capital or research results) and transfer

¹ The systemic viewpoint for analysing innovation processes was developed in OECD countries starting from the nineties. In particular in the evolutionary type agendas there was an attempt to define the technological differences between countries in terms of a National Innovation System (hereinafter referred to as NIS) (Lundvall 1992; Nelson 1993; Edquist 1997).

obstacles (e.g., corporate deficiencies, organizational/institutional obstacles) (Coccia 1999). Transfer is achieved when the ability associated to the transferred knowledge possessed by an agent is assimilated by a recipient (Hagerstrand 1967). In the linear model the players involved in this phase are considered independent players who pursue their own objectives through different incentive mechanisms. For example, on one side there are the Universities, which are mainly guided by a “curiosity-driven” system that is made possible by finance resources that have public origins that allows them total independence from market logic, but also from the immediate necessity of the production system. On the other side there are private businesses that have developed and applied innovations to their own processes, products and the architecture of their organisations, using internal research laboratories and with the help of private centres and consultancy (Etzkowitz and Leydesdorff 2000).

Network Perspective. The network perspective considers the technological transfer process as a phenomena of a relational nature Arvanitis et al. (2007), refashioning itself on the theoretical positions assumed by Dosi (1982) regarding technological trajectories, thereby widening the definition of TT in considering the “knowledge” dimension. In this sense, the knowledge and technology transfer process between academic institutions and the business sector is configured as an interactive and bi-directional process that may help either companies or academic institutions — depending on the direction of transfer—to further pursue their activities. Thinking about knowledge and technology transfer in a broad sense also means thinking about the interaction of public research institutions and private enterprises. On the basis of Arvanitis’s considerations and considering the positions assumed by Autio et al. (2004), McAdam et al. (2006) as well as Minutolo and Lipinski (2006), we believe that the linear model is not able to fully explain TT phenomenology and that a network theory approach is probably more appropriate; in this respect the next paragraph will try to briefly refer to the theoretical foundations of this approach.

1.2. Technological transfer in a network and knowledge perspective

In our opinion the greater explanatory capacity of the network perspective derives from the chance of defining the technological transfer by interpreting the dynamics of learning and knowledge transfer between the players. More specifically, it is the inter-company network that constitutes a reference model for interpreting the relations between different sources and understanding the knowledge contribution of each of these in network organisation and knowledge transfer processes; in literature, there are numerous definitions of the network concept (Easton and Araujo 1992; Bengtsson and Kock 1999; Huggins 2000) and many attempts to build network taxonomies and typologies (Huggins 2000; Rosenkopf 2000). However, in this paper our referral to the fundamental characteristics of the network are those contributed systematically by the Swedish School of Industrial Marketing that analyses industrial markets taking the network as its analysis subject, defining its structure (the nodes and interconnections) and the processes (Hakansson 1982; Hakansson 1987; Hakansson e Shenota 1995, Ford, Gadde, Hakansson and Snehota 2002). From this perspective the networks generate a reticular environment that constitutes an independent, abstract and unstructured entity that is continuously changing². Within the network the organised learning process is considered as being a process that on the basis of signals sent by a determining organisation (the teacher), a “reconstruction” of new knowledge by the receiving organisation (the learner) is generated (Hakansson, Huysman, Meijer

² Among the network configurations, the “constellation” configuration is of particular importance for the TT phenomena; in respect of this please see Lorenzoni (1990; 1992) and Lipparini (1995).

2001; Ranfagni 2004). In turn, the process of creation, circulation and conversion of knowledge unravels through the interaction between explicit and tacit knowledge along a spiral path that starts from individual tacit knowledge (Nonaka 1994; Nonaka and Takeuchi 1995; Nonaka and Konno 1998). This cognitive approach also animates the post-Fordism paradigm (Romano and Rullani 1998) according to which knowledge circulates without the necessity of being incorporated by physical or hierarchical media, and it needs languages, channels and relations specifically dedicated to it. Nevertheless, for this to take place there have to be economic entities capable and willing to share knowledge through networks that are characterised by appropriate languages and usage rules.

In the knowledge economy companies are part of the cognitive system that bases its existence on the capacity to create and accumulate knowledge (Vicari 1991; Rullani 1993; Rullani and Vicari 1999) and, in this specific case, knowledge of a technological nature.

The process of technological transfer can take place in different ways (Mayer and Blaas 2002):

- TT processes connected to codified knowledge (e.g. licenses and the cession of patents, and industrial contracts)
- TT processes related to tacit knowledge (spin offs, joint research projects, on-site training)
- TT processes in which the two modalities are integrated and coordinated between themselves (Castagni and Fratini 2004).

1.3 Technological transfer and SMEs in a network configuration

In this increasingly complex environmental context it becomes impossible for individual companies, especially SMEs, to develop all the competences necessary to rule an innovative process and create value through that process internally. In particular, in order to pursue innovative strategies, companies try to develop and consolidate useful relationships for the next innovative process (a network strategy) or try to place themselves in “cognitive” terms close to competitors with the intention of benefiting from a know-how leak (a “grouping” strategy) (OECD 2000). TT is now considered one of the principal means through which SMEs can acquire power and maintain positions of competitive advantage thanks to scientific cooperation with Universities and Research Bodies (Ricerca italiana 2008). SMEs (whether or not they are related to a specific district) are called upon to get involved in relationships for learning purposes, collocating themselves inside current cognitive networks and developing new ones. Change is directing them towards company networks that are not only and not so much tied to their shared history in belonging to certain territories, but by the common understanding of language and rules and by the ability of each of them to become an effective point for the accumulation of knowledge, governing their own specialised competences in an innovative way, for the benefit of other companies as well (Rullani 1994).

In respect of the technological and knowledge transfer perspective in favour of SMEs, the perspective is similar to a network system that involves a range of actions and influences of three domains (Universities, industry, Government) more closely involved to develop an area of continuous sharing and interaction (Etzkowitz 2003).

Some observers express the opinion that the interface between Universities and SMEs has to be improved and as a consequence knowledge and technology transfer activities should be intensified (Arvanitis et al. 2007). As we shall later see in more detail, SMEs could benefit from participating in networks where the role of Local Government Authorities (LGA) is important; due to their nature they are entrenched in their territories and they are called upon to deal with the

complex challenge of local economic development, related to which TT is one of the many ways in which it can be developed (Rowe et al, 2007; Cooke, 2005).

2. Technological transfer in the Prato district: empirical results of a qualitative analysis on textile machinery SMEs

The technological transfer theme has been the subject of research we conducted as part of the CENTRI³ project whose main objective was that of defining network governance models for the development of knowledge and technical competences processes within the Prato district. In this study process we did not limit ourselves to examining the research centres in the district and the activities they carry out. Instead we also analysed the role attributed to them by local companies characterised by constant investments in innovation processes. The study of the relationship between the research centre and companies, the principal results of which are included in this part of our work, was carried out through the qualitative methodology of a focus group⁴ (Goldman and McDonald 1987; Huberman 1994; Krueger 1998; Miles and Morgan 1998; Burn and Bush 2000); this permitted us to show converging and diverging elements in reference to which we were able to define new areas of cooperation and propose the improvement of existing ones. The focus group was made up of managers who manage medium size companies that are specialised in the design and production of machinery and plants for the textiles-clothes manufacturing sector. The high level of technical content in their products favours the export of the same on foreign markets (above all to China, the United States, South America and Russia) and makes constant investment in innovations indispensable. Managers discussed the three main investigation areas:

- innovation and technological transfer in the Prato district;
- innovation needs and the relationship with technology “suppliers”;
- a few development ideas relating to the relationships between companies and research centres.

In *the first part of the discussion* technological innovations in plants and machinery (machines for dyeing, for the production of fantasy yarns and for instrument based colorimetry) developed in the last twenty years by foreign companies, above all those located in the United states, Japan and Germany, emerged as being important. In any case this involves new technologies that according to the managers involved in the focus group constituted an irreplaceable *starting point* to permit continual increases in innovations (incremental innovations) through improvement and adaptability processes (this is the case for machines that automatically dose colours and the new dyeing systems). However, there were also cases of the design and development of *breakthrough*

³ The CENTRI project; the cooperation and coordination of technological transfer bodies, research and innovation, was financed by the Tuscany Region Authority (Docup 2000-2006) and developed by the research Body I2T3, in partnership with Pin (a consortium for research and learning of Florence University whose head office is in Prato) and other local institutions including the Fondazione per la Ricerca e l'innovazione (University of Florence Foundation for Research and Innovation), Firenze Tecnologia (Florence Technology) and the C.N.A. Federazione Regionale Toscana (C.N.A. Tuscany Regional Federation). The project involved companies which constitute real cognitive platforms able to active relation processes inside and outside the district area.

⁴ A focus group is a qualitative research methodology that a) is based on the interaction of a group which, if it is particularly active, permits the production of a greater amount of information compared to that generated by the individual interaction between an interviewer and an interviewee; b) permits a high level of flexibility since the dynamism produced by the group's interaction, and therefore the mutual influence of the participants, can permit a moderator to identify merging subjects on which the discussion can be enhanced and “re-awakened”.

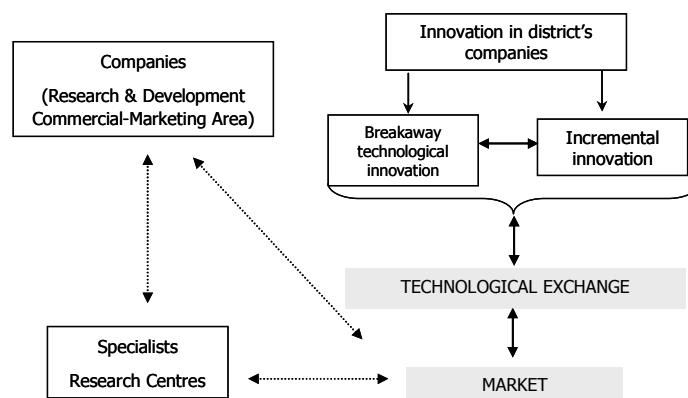
*technological innovation*⁵ (Freeman, Perez, 1988) by companies in the district (this was the case for machines for textiles finishing and for a more efficient production of non textile textiles) made possible by activities carried out by the *Research and Development Departments* that constitute entrenched nodes of highly specialised competences (engineering, chemistry) that are well integrated and continuously more open to the specific trends of the *market* (Von Hippel, 1988; Kogut, Zander, 1992). The latter is in fact recognised as having an undisputed knowledge role in directing the innovation decisions of companies which may also be the result of experimentation with technologies that belong to sectors that are not different from that of the textiles-clothes sector. In this way there is involvement in *incoming technology* transfer processes that it was possible to activate through a strong integration between the technical competences of the Research & Development areas and market knowledge of the sales and marketing areas. The discussion group pointed out how technological innovations developed in the textiles-clothing industry can also be applied in other industries and in this way produce *outgoing technological transfers* (the case of the application of yarn technology to goldsmith companies). The concept of transfer assumes a wider valence: not the simple transfer of technological innovation from its developer to its user, but a learning process that involve companies that belong to different industries. The main engine of this learning process is constituted by “*client-companies*” that starts off innovation processes based on the interaction and mutual cooperation with companies, by encouraging the identification of solutions to production problems. Design, development of prototypes, manufacturing and use of goods constitute the phases of a shared innovation process that in the end make the innovation part of the client’s knowledge asset. At the moment, in the textiles-clothing industry, the search for a better balance between productivity and stylistic variety induce the development of technological innovations that are able to guarantee greater versatility and production efficiency. Alongside traditional markets, that require technological innovations capable of supporting continual improvements in the level of an already high production efficiency, new markets are being developed (China, Ethiopia and Africa) to which machines are sent that are not very advanced but that are in any case considered adequate to increase currently low productivity levels.

As regards the scope of the discussion relative to *relationships with “suppliers of technology”*, the managers described the role attributed to specialists (external individuals who bring knowledge) and research centres (nucleuses of specialists) in the technological transfer processes within the Prato district. *The specialists* are recognised as having a passive role in coordinating the passing of administrative tasks; they can in fact be involved in innovation projects not so much for their technological expertise but mainly for their ability to identify, prepare and manage all the indispensable documentation (EU marking, safety verification etc) for commercialisation of complex products on foreign markets; products that are the result of technological design directions automatically taken by the companies. In this way the specialists are defined as “*bureaucratic procedures facilitators*” and are not considered indispensable and irreplaceable players within networks that drive technological transfer processes. This network’s (Leonard, Barton, 1995) stable cognitive nucleuses are mainly players within the companies, in other words the Research and Development Departments and the Sales Departments, and external players being the sum of all those clients with which a technical knowledge sharing and exchange relationship is established. A similar role is attributed to the *research centres* that are seen as having the role of service providers for selling innovative products in new markets as well as a role of “*aggregators of international patterns*” for carrying out innovative projects promoted and supported by national and European institutions. This involves projects that are believed not to be of any practical use for the companies involved and which are perceived only as instrumental to

permit a number of partners, including the research centres, to access huge public financing resources. This results in an attitude of reluctance by companies to develop relationships with research centres due to their lack of practical operating ability in implementing projects that are capable of producing direct effects on the innovation potential of companies.

As far as the *possibilities for the development of relationships with “suppliers of technology”*, is concerned the group’s participants proposed an interesting *model of constructive networks* for technological transfer that on the one hand includes the manufacturing companies and on the other hand the users, with the research centres in the middle. The latter, exploiting their project competences, should start-up technological development projects identified and defined on the basis of a dialogue between manufacturers and users (Johanson, 1982).

Fig. 1. Network model for technological transfer in SMEs (district area)



Fonte: CENTRI project

The research centres would thus become the *fulcrum* in which the *technical knowledge* of manufacturers and *market needs* manifested by the users converge and are matched; this would require the cultural and structural renewal of the research centres that should undertake the role of activators of innovative projects and become true experimentation centres with development within these centres of laboratory areas as operating areas for the matching of the companies and the market (fig.1). This research centre model could be a realistic solution to enable the development of *fertilization processes* that cross over *the wealth of technical knowledge* of the district’s companies (Rullani, 1994) that individually constitute highly specialised competence nucleuses. Some of the managers pointed out that just as it is desirable to develop more intense and constructive relationships with the research centres it would also be desirable to carry out *projects* that are *more circumscribed in terms of their contents* (micro-projects), as well as being properly defined on the basis of the needs of the participating companies. In carrying this out the research centres should be supported by the University which could contribute in promoting knowledge and competence integration processes. There was also the identification of new services that the research centres could develop; one of these was constituted not so much by the design and manufacturing of components for plants, but for the development of ad-hoc software to improve the ways in which the plants are used. The “*electronic language*” may therefore constitute an interesting field of development for the research centres in a logic of further apposition to the operating need of medium size companies in the district.

3. The role of local government authorities in the technological transfer process: a TT governance model

From the theoretical review detailed in the first section of this work, and from the results of the focus group illustrated in the second part, three indications clearly emerge that it is difficult to think of ignoring in promoting governance activities in the technological transfer process.

- the crucial role of a network and systemic viewpoint regarding the components that can favour the development of new technology flows;
- the importance of the relationships between manufacturers and users of technology in the identification and experimentation of new solutions in respect of demand needs;
- the need to pass from a *technological transfer* viewpoint to one of *diffusion and acquisition of knowledge*.

With the definition of an innovation system from a network perspective in the first paragraph, the idea was stated that the innovative performance of companies are the result of interactions that take place within a determined set of institutions (Nelson 1993), which in turn result in the production, diffusion and use of new knowledge that is financially viable (Lundvall 1992).

The processes of exchange of information, learning an innovation from this point of view are referred to the manufacturer and user relationship: manufacturing companies of intermediate goods and user companies; Universities that produce science and technology and company laboratories that use applied research and development; companies that manufacture final goods and demand (consumers, workers, the public sector). In particular, this definition of an innovation system based on the inter-dependence ties between manufacturers and users emphasises the development of the ties and the definition of “codes” that are transmitted through them, emphasising the role of an environment in which the cultural proximity and the existence of common traditions can make the passage of information more fluid (and this is historically one of the elements that has permitted the development of the industrial atmosphere of district based systems such as the Prato one).

From the 90s onwards, the process of interconnection based on the development of the ICTs, permeated by the entire social and economic dynamics, has given impulse to a profound process of restructuring of the elements that make up the production domain of Italian companies: the choice of partners, the destination and/or source of information and economic flows etc. the changes in organisational and relational company assets, often require simultaneous re-thinking of the institutional structure and governance of these dynamics, including those involved in process defined as “technological transfer”. In fact in our opinion, it is right to underline how a concept to movement of technology can now substitute a more pro-active view of TT. The transfer is not in fact the mere movement from one point in the production (of technology) process A to a point B in which it (the technology) is used.

For the transfer (or better still the acquisition) of new technology to be real and effective it needs to have an absorptive capacity on the part of those that acquire new knowledge, along with a capacity to adapt to innovations in their own production context. Absorption and adaptability capacity is an integral part that process of innovation that takes place in the dynamic of technological diffusion (Rosenberg 1982)⁵.

⁵ If we focus our attention on a regional type of area it is possible to reconsider the systemic context from a Regional System of Innovation (RSI) viewpoint (Cooke 1992). RSIs are basically founded on two interpretive schemes; the one based on the conception of innovation as the result of a system of relationships and knowledge which involves a number of players in a territory, which already exists in the national innovation system discussed above, along with

An approach, which in our opinion is interesting, for understanding and proposing a restructuring of these inter-connections is given by the literature that has developed the Triple Helix (TH)⁶ concept.

the idea of a “triple propeller” describes “a spiral model of innovation that captures multiple reciprocal relationships at different points in the process of knowledge capitalization” (Etzkowitz 2002).

this is based on three propellers (Universities, Industry, and Government) and three dimensions: (i) the internal transformation of each propeller; (ii) the reciprocal influence of the propellers on each other; (iii) the possibility of seeing totally new overlapping emerge.

Wealth generation (industry), novelty production (academia), and public control (government) are the three “elements” that interact in these propellers and which can favour (or be an obstacle to) the development of adequate local conditions for innovation (*knowledge space*) on the basis of the relationships and trust that develops between the organisations and the ways in which they are coordinated (*consensus space*).

The added value the overlapping of the three propellers produce result in the so-called *constructed advantage* (Cooke and Leydersdorff 2006), in other words those dynamics that guide the innovation process and that are able to bring new possibilities of success to competitive processes. From an *economics* point of view these advantages are developed thanks to a “regionalization of economic development; ‘open systems’ inter-company interactions; integration of knowledge generation, and commercialization; smart infrastructures; strong local and global business networks” (Cooke and Leydersdorff, page 10, 2006), while the *governance* of these dynamics requires “multi-level governance of associational and stakeholder interests; strong policy-support for innovators; enhanced budgets for research; vision-led policy leadership; global positioning of local assets” (*ibidem*).

A number of taxonomies have been developed in relation to the ways in which technological transfer occurs in the territorial innovation system (Doloreux 2002). Empirical literature has distinguished three types of transfer mechanisms: 1) widespread transfer (grassroots); 2) transfer in a network system (network); 3) directed transfer (Braczyk et al. 1998)⁷.

Traditionally the network idea is seen as a winning strategic choice compared to the others, and the example that is most frequently used is that of the German Baden Württemberg region. Despite this it the idea of a more widespread (grassroots) management could also satisfy the needs of a territory that has a “widespread” structure such as the one in Tuscany.

the one defined as the “third Italy” system (Cooke 2001). What emerges from the integration of the two viewpoints is a different perspective with which social, technical and economic systems may develop in dimension such as the regional one. It is not a national system because a more cohesive territorial and relational environment is the objective, in which the “quality” of relationships is at a high level. We do not only talk about the district in terms of its inter-sector and territorial expansion, with specific attention paid to the technological and innovative dynamics. We do not wish to ignore the fact that so-called technological districts also exist (Antonelli 1986) but we believe that the scope of the regional system goes beyond the concept of District, even though it does not eliminate it.

⁶ The TH model emerged from a workshop on Evolutionary Economics and Chaos Theory: New Directions in Technology Studies (Leydesdorff e Van den Besselaar 1994) and was principally e formalised in the subsequent works of Etzkowitz and Leydesdorff (starting from the seminars of Etzkowitz and Leydesdorff in 1998 and 2000).

⁷ In the first case the transfer takes place at local level between organisations. In the second case the network includes a multi-level system that integrates the local viewpoint with a regional, national and international one. Lastly, the last case is the one defined as the French model, in which the transfer policies are decided by a centralised state. The Tuscan system, which includes has shown itself to be an emblematic example, and it has been defined as a strongly local system in which technological transfer still takes place from a basic viewpoint (Cooke, 1998).

In fact, the process of *globalisation*, has provided a drive towards de-structuring processes, but has also made areas of specialisation that are normally identified with *global localisation* stand out (Cooke, 1992). This should be a very important signal for those territories, like the one in Tuscany, that have developed and diffused experience and competences that, however, can continue to play an important role only if they are capable of integrating with new competences (that exist even in different industries, as underlined by the managers we interviewed) and creating new specialisation spaces. This type of approach does not suggest the development of new government systems or hierarchies but it underlines the importance of re-thinking the innovation governance processes. As emphasised in De Castro et al. (2000) these new spaces can be created if the three propellers of our model are able to interact with processes that are necessarily recursive for (i) the selection of the main targets which the innovative effort should attain; (ii) the permanent screening of technological evolution at global level and the fast absorption of exogenous information and knowledge; (iii) the consolidation of productive and organisational routines in activities that will not be affected by important innovations, in order to maximise static efficiency.

Therefore the basic idea is not so much that of a TH model as experimented in American laboratories and Universities (an emblematic case is that of the MIT), for which in any case Italian managers seems not to be interested in, but a TH model that:

- takes into account the lack of services aimed at improving the technological capacity and capabilities of companies⁸;
- develops a shared “code” and that can be used by any agent of the three propellers;
- are capable of further developing the use of an *open innovation* system aimed at privileging an innovation process directed towards a *problem solving* viewpoint, and pushed towards innovation by specifically focused efforts in acquiring new technology, as well as the needs of its *users* (Von Hippel 2005).

4. Conclusions

The subject of technological transfer is particularly important in an economic framework such as the Italian one, that is essentially made up of SMEs, often entrenched within districts and that operate in traditional manufacturing sectors. In fact, in the current competitive context, it is indispensable that even small companies become active in technological innovation processes, although this will be with a different approach compared to large companies. It is important for small companies to participate in international innovation networks and in the sharing of knowledge using the territory in which they are established as an initial platform for the development of new networks or their insertion into existing networks. The boundaries of traditional industries or those of districts defined as mono-cultural production areas, are no longer a protective barrier and it is no longer sufficient to make use of knowledge that circulates within the district to survive. If new innovative systems of a reticular nature are established, becomes

⁸ It is the so-called knowledge intensive business services , (hereinafter referred to as kibs) that include services directly involved in technological innovation processes (technology oriented kibs) and services connected to the use of IT (computer-oriented kibs). For a review of the main works regarding kibs please see Miles et al. 1995 and Nählinder 2002.

particularly important the governance model of this network. In this sense, the creation of tri-polar governance model, with an active role by Universities, companies and territorial institutions, seems to be an indispensable choice, even if in our country it is a direction that for the most part has not yet been taken.

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PUBLIC – PRIVATE PARTNERSHIP: A NEW MODEL OF LOCAL GOVERNANCE?

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1. Introduction

Relationships between public and private entities are changing. If in the past these organizations worked separately, since the 90s, they have been cooperating to achieve social and economic development (Meneguzzo, 1995, 2000; Beni et al., 2002; Kooiman, 2003; De Magistris, 2004). This situation is encouraged by the European Union that stimulates the constitution of public-private partnerships to promote local development involving resources of a number of entities.

Many scholars study this process and argue that it is a tangible signal of the transformation of governance systems (Glendinning *et al.*, 2002).

This paper discusses these topics trying to answer the following question: can the public-private partnership represent a new model of governance that generates a positive impact on citizen satisfaction?

To answer this question, the paper analyzes the spread of partnership model in Europe, focussing on a specific kind of public-private partnership: the Local Action Group (LAG). Furthermore, it will analyse the Monte Linas LAG, as a successful example of a local partnership that affects the growth of the whole of Sardinia (a Region of Italy). Considering the results of this case study, it has been possible to assert that public-private partnership may be a new model of governance named “partnership governance”, with interesting specific aspects.

2. The research methodology

The public-private partnership can be considered like a social network, characterized by a number of relations among public and private organizations (Fattore, 2005). The main aspect is the relationship so to adequately analyse it, it is necessary to use a research methodology that allows to consider the complexity. Such a question can find a correct

answer using the system approach (Usai, 1973, 2000; Golinelli, 2000), which is based on the general postulations of the General Systems Theory (Bertalanffy, 1971), and permit to study the partnership as a system of diverse entities embedded in their turbulent (Giudici, 1997), complex (Poincarè, 1908) context.

Moreover, to well understand the phenomenon and to find a valid answer to the precedent question, the paper uses the single case study (Yin, 1989), an effective method to analyse the partnership experience. In this scenario, a specific kind of public-private partnership has been deeply studied, the Local Action Group (LAG), specifically the Monte Linas LAG, a very important entity that impacts positively on the development of the Sardinia Region. The data collection is based on a longitudinal methodology (Leonard, Barton, 1990; Langley, 1996), with the use of multiple sources of test of triangular type, such as interviews, documents and direct observations of the LAG. This analysis represents an effective contribution to understand the partnership as a new model of governance.

3. The partnership model: a new way to improve local systems development

Local and global trends coexist. This situation has an important impact on the local development and imposes to the territories a new mode to fulfil the implementation of their strategy. This process does not uniform the conditions of diverse local systems. In fact, social and economical differences among the geographical areas are increasing. In order to assure the survival of these areas, differentiating one local system from the others and creating external relationships, local identity has to be adequately understood and communicated. At the same time, the endogenous resources have to enrich in order to obtain a long and lasting competitive advantage (Trigilia, 2001a). Local development gains a new vocation. This represents the process that recognizes the importance of territorial dimension and gives to citizens the right, the power but also the duty to create value and to produce benefits for the local area (Sivini, 2003). In this way, the endogenous relationships become strong and enlarge the possibilities to move a great number of economic, social and cultural resources. Also this kind of relationships underline the climate of cooperation that exists between local actors involved (Cecchi, 2003; Garofoli, 2001; Uhlaner, 1989; Gui, 1996; Casieri et al., 1998; Bonomi, 1998; Nardone et al., 2005; Storper M., 1997; Goldstein *et al.*, 1998). The first step to develop a collaborative, cooperative and participative climate is to foster positive relations among people and their organizations. In fact this type of relationships can be considered the bases for an endogenous development (Iacoponi, 1990). The main aspect of this development is the existence of positive relationships that generate synergy and offer the possibility to have a better capacity to grow, compared with the case in which citizens do not actively collaborate.

New political decisions about local development focus on exploitation of specificities, on satisfaction of citizen's needs and on differentiation of initiatives that can answer the various requirements coming from local systems. Local development regards the creation of local competition goods (Crouch *et al.*, 2001) connected with local culture: development is not a break with the past, but the reinforcement of the resources in existence.

Many scholars argue that to promote a long and lasting local development, the active participation of the whole of the community is very important (Cersosimo, 2000; Garofoli, 1992). Local partnerships work in this direction, stimulating the exploitation of local resources, and encouraging initiatives that involve citizens in the decision making. Moreover, partnerships produce resource synergy, through the involvement and the mix of financial, cultural, organizational and professional resources. The resource synergy represents the major value created by coordination of resources, capabilities, competencies, and characteristics of a lot of entities (Hastings, 1996; Lowndes et al., 1998). In addition, partnerships generate policy

synergy processes, that is a situation by which new insights or solutions are produced out by the differences between partners (Hastings, 1996). Above all, in the decisions that affect social and economical development of a specific area, the citizen's participation is the most important element, because those living in this area know about problems and difficulties very well and so the decisions and the initiatives can be better and more effective.

Public-private partnerships are encouraged from a lots of policies that affect the international scenario wholly considered even by European decisions. The European Union (EU), in fact, shows interest and attention in partnership models, above all for those that involve a large number of entities. The EU identifies two kinds of partnerships: vertical and horizontal. The first one base their organization and functioning on dialogue among the different institutional levels, in order to coordinate European, state and regional decisions. Horizontal partnerships, instead, represent organizations that belong to the same level, for example, the sub-regional level for local development. If these partnerships are really constituted by a large number of entities and people, the decision making process changes from a top-down, to a bottom-up model. This positive situation represents one of the best modes of governance, characterized by the consensus among citizens (Westholm et al., 1999) and their organization about decisions that affect local development. Only in this way, the development will be endogenous, in other words, when the whole of the citizenship is represented, the decisions will be characterized by consensus, that is, a common perspective for achieving shared objectives.

4. The evolution of “governance”.

The increasing diffusion of public-private partnerships is affecting all European Union. This circumstance has been considered by a great number of scholars such as the most tangible sign of the general change of *governance* systems (Glendinning et al., 2002).

The “*governance*” expression has different meanings that are sometimes opposite (Kersbergen et al., 2004). The literature is characterized by a terminological and conceptual confusion and the reason is due to the variety and variability that the word can assume with reference to the theoretical perspective adopted. Many scholars (Lynn, 2003; Lynn et al, 2000; 2001) assert that *governance* is the capability to satisfy the citizens' needs through the activities of public and private entities. Other scholars argue that the spread of new modes of governance depends on the crisis of the State (Schick, 2003), and these new modes are characterized by an increasing number of kinds of partnerships among private and public actors. Networks and collaborations are becoming essential in order to promote collective wellbeing and to guarantee positive inter-institutional cooperation (Rhodes, 1996; 1997; Kettl, 2000a; 2002). Sometimes, governance is considered as the capacity to coordinate the activities of a number of actors, that cooperate to obtain shared goals, even if they also work to obtain their own interests (Pierre, 2000). Schick (2003) asserts that the new modes of governance correspond to the replacing of the old State, too distant from the citizens' needs, and interested in flexible figures, characterized by the cooperation and collaboration between the public and private sector.

As *governance* has multiple meanings, it is possible to identify one imaginary line that divides the meanings in two categories: closed and open. In the first case, *governance* is a new mode of government distinct from hierarchical control and characterized by a major level of cooperation and interaction among governmental and non-governmental actors (Mayntz, 1999; Stoker, 1998; Geddes, 2005). However, in the second case, the word “*governance*” is used to show three different types of social coordination: the hierarchy, the market and the network (Lowndes et al., 1998). In this perspective, partnerships are networks in which the actors try to solve the problems of social coordination through collective collaboration, rather

than with the use of hierarchy or control (Glendinning et al., 2003; Kooiman, 2003). This statement can be considered limited because it does not take into account that hierarchy, market and network do not exist in reality: every type of governance has elements in common with the others and thus, represents hybrid forms.

The choice between the two possibilities is not only a lexical problem, but it can cause different conceptual implications. If we consider the closed concept of *governance*, the role of public actors is underestimated, considering positively all situations in which there is no conflict among public and private actors (Skelcher et al., 2004). In this condition, public entities are compliant and accept passively private decisions. The role of constructive conflict is undervalued, while it signifies a great opportunity to compare different points of view. Moreover, the role of the public entities appears secondary and sometimes absent. This situation is not real: the power of public actors is changing, from direct participant it become a controller and/or a collaborative participant.

However, using the open concept of *governance* we can have other difficulties. The main problem is the conception that the networks constitute the main mode of governance and that the partnerships represent organizational structures that manage the interaction among diverse ways of governance, that implicate the contemporary presence of different kinds of social coordination.

To fill the mentioned gaps, we need to assume an intermediate position, considering *governance* as a kind of government where the boundaries between public and private sectors are less marked. Hierarchy reduces its relevance and the public sector cooperates with the private in order to share responsibility, power and resources and to recognize the opportunity to have benefits deriving from the results of the new shared policies. In this definition there are two really important elements: the first one is the revision of the public actor's role with reference to the definition of territorial policies, and the second one is the importance of the cooperation and the combination of resources, professionalism and skills come from both public and private entities.

5. An example of public-private partnership: Local Action Groups

The important role of public-private partnerships is demonstrated by the European policies and programmes, like the Leader programme. This is characterized by an involvement of public and private actors situated in a particular area, in order to implement shared development strategies (Sparano, 2006). The area is a complex and turbulent context, characterized by local specificity and unclear boundaries.

The Leader program is becoming really important in European policy, particularly in the European Rural Policy for the 2007-2013 period. This policy sees Leader as a widespread approach based on the awareness of the relevance of bottom-up initiatives, that involve local entities in local development. The Leader programme bases its activities on the constitution of territorial partnerships, expression of the public and private entities. These partnerships, named Local Action Groups (LAGs), combine public and private resources, and increase dialogue, active involvement and cooperation among all the local actors (European Commission, 2006). LAGs identify and implement strategies of local development and mix a lot of dimensions of local conditions, for example, social, cultural, economic and environmental dimensions.

To work in this direction, LAGs promote a large number of activities and initiatives:

- involving professionalism, capacities and financial resources coming from a number of entities;
- engaging local actors to collaborate in multi-sectorial and collective actions;
- improving and promoting dialogue among social parts;

- operating with reciprocity in order to obtain consensus among local entities;
- facilitating the socialization among entities;
- promoting actions in order to emphasize and underline local identity.

The main LAGs' task is the involvement of a large number of entities in a shared project. These entities have decisional autonomy and capacity to increase the value of local resources and to gather opportunities offered by local actors. This way stimulates the proposals and the discussions of innovative ideas that could have positive impact in the territory and that develop cooperation, integration and network among different areas.

The initiatives carried out by LAGs have had both positive and negative results. This situation can derive from the diverse level of partnership experiences. In fact, the life of LAGs can be divided into four main phases: initial, intermediate, advanced and consolidated. During this long time, the number of initiatives increases and relationships among partners become strong. This situation creates the bases for the partnership legitimization. The final phase represents the consolidation of the partnerships (Vesan, 2007). The number of initiatives plateau and involves an increasing number of fields. The relations become strong and every partner reduces their own interests to contribute collective interests (Putnam et al., 1993). Consequently, the consensus among local actors develops and spreads. This consolidation reduces the incentive to break agreement, decreases uncertainty and offers models and ideas for future collaborations. These elements generate virtuous circles that create the bases for collective wellbeing.

6. The analysis of the Monte Linas LAG.

The Monte Linas LAG is an organization that involves public and private entities. This organization was set up in the 1996, to promote sustainable and cooperative development of the Monte Linas area, in the South West of Sardinia. The mission of this LAG is to increase the competitiveness of the social economic system through modernisation and development on the entrepreneurial system and introduction of advanced know how and technologies. In addition, this LAG operates in order to add value to the entire area, focussing on those companies that base their success on local development. These interests derive from the LAG's main objectives, that is obtaining a social and economic development based on the exploitation of local specific aspects that are the elements of the territorial identity. There are 24 partners: 6 municipalities and 18 public and private institutions and organizations.

Thanks to official documents analyzed and semi-structured interviews carried out, many interesting aspects have emerged. First of all, the President has a wealth of experience on public and private partnerships, in fact he has successfully coordinated many partnership initiatives. Since these initiatives, in the Monte Linas area, the bottom-up process has began increased in importance in defining and implementing adequate strategies to promote local development. In the frequent round tables with the social representatives, every one of the local entities can present their needs and their ideas. The main number of requirements are related to the increasing necessity of infrastructure to guarantee accessibility, electricity and drinking water, etc. to the rural areas

The interests of the LAG are oriented to realize the abovementioned infrastructures, but also to increase local products value, culture and the environment, with great attention to the projects referred to goat's milk, oil, olives, honey, tourism and rural tourism.

The Monte Linas LAG has successfully started its activities under the Leader II programme, paying attention to agriculture and tourism, and now, it is engaged in the Leader+. In recent years, many projects have been implemented and some of these have been awarded by the European Union: for instance, the procreation of the queen bee, the

preparation of the traditional “Roast Suckling Pig”, preserving it in vacuum-packaging, and the international sale of extra virgin olive oil in 250 cl bottles.

The LAG has immediately had a positive recognition from public administrations, public and private organizations and the local community. The increasing trust among partners, the ability to hear citizens needs, the continues active dialogue, the interests in the solution of conflicts and the effort to obtain collective wellbeing, allow the LAG to operate effectively, having spread consensus. Moreover, the attention on local actors is underlined by the interest to remove the difficulties of selling local products. In fact, even if local actors well know, on the one hand, the high quality of local products and services and, on the other hand, the natural, cultural and historical wealth, they don't have adequate skills to promote their goods in the international market. To fill this gap and to create positive international relations, the LAG promotes a number of initiatives of international cooperation, like the TRIM project that involves not only Sardinian LAGs, but also Malta and Cyprus. With this project it is possible to discover new cultures and economies and to cooperate with other countries to promote and sell Sardinian products and services. Another international project is “The inns of Rural Europe” that allows the promotion of local products in specific inns where people consume only these type of products, like wine, honey, bread, meat, cheese, milk, etc. produced in Sardinia.

Despite these several positive aspects, the Monte Linas LAG has some running and management problems. First of all, sometimes the lack of infrastructures inhibits the development of the local entrepreneurial system. Moreover, the scarce awareness of ability and supply quality can cause a negative impact on growth. Nevertheless, during the over ten years of activity, the LAG has been able to solve many difficulties, such as the existence of individual interests and the mentality that rejects change and cooperation. Furthermore, the Monte Linas LAG has created the foundations for an endogenous development based on the exploitation of specificity and characterized by an active participation of citizenship in order to improve their development.

7. Spreading a new model of governance: the Partnership Governance.

The Monte Linas LAG is a good example of consolidated partnership. If the consolidation of the partnership constitutes the base for spreading a new model of governance, this case study offers interesting contributions to identify the characteristics of this new model that we can call the *partnership governance* (Dessì and Floris, 2008). Some elements of this new model derive from other type of governance, but there are a number of specific aspects that emerges thanks to this case study.

Often, partnerships are assimilated to the multi-level governance (Marks, 1993, Bobbio, 2005; Reigner, 2991) and to the network governance (Geddes, 2000; OECD, 2004; Considine, 2005). Compared to the multi-level governance, the partnership governance has the following common aspects:

- a number of competence levels coexist in the same local area;
- there is the availability of financial resources for every level;
- competencies are shared and overlap, in other words, there is not rigorous subdivision of tasks among different levels.

Comparing the partnership governance to the network governance the main common elements are:

- the principle of horizontal and vertical subsidiarity;
- interconnection among different levels;
- active citizenship;
- cooperative relationships based on trust among local entities.

At the same time it is possible to identify a great number of elements that are specific and that rise out of the analysis of Monte Linas LAG.

Using a metaphorical picture, these elements allow to imagine the partnership governance as a temple, built over the time, strong, and resistant to senescence and obsolescence. The foundation is constituted by the territorial identity; the steps represent the mentality opened to change and the spread of a cooperative climate. On the steps, five pillars are built with patience and many difficulties. They are: active hearing, dialogue, trust, conflict and reciprocity. On the pillars, the pinnacle lays. It is the most elevated point of the temple: consensus.

Territorial identity is the combination of elements that characterize one area from the others and it results from the dynamic relation between the authenticity of territorial aspects and the history of them. Local communities have to develop many capacities in order to identify these elements and see them in modern terms. To find out and enhance these unchanging and stable aspects is essential. Moreover, identity must be perceived and recognized by the local actors in order to allow external identification. In other words, to obtain external identification, internal identification is needed, then, the most important aspect is the internal recognition of the elements that constitute local identity. Therefore, the territorial dimension is the main factor that has an important impact on endogenous development.

The first step, that is a mentality open to change, is the result of a long adaptive process and acceptance of new modes of governance. The second step – the spread of cooperative climate – is the result of the settlement of personal interests, to achieve the common good.

The pillars are some elements strictly connected and interdependent that create a virtuous circle. To develop this virtuous circle, the relationships among the partnerships have to become strong and stable. The first pillar is active hearing. By this expression, scholars mean the human capacity to hear what the conversation partner says, with great attention and empathy. In other words, active hearing allows free personal expression and it is essential at the negotiation table (Bert and Quadrino, 1999; Kunda, 2000; Sclavi, 2000a, 2000b), where people present their ideas and opinions. Active hearing is based on reciprocal acceptance and on the creation of a positive climate among interlocutors.

The second pillar is dialogue, from the Greek *dia*, that means through, and *logos* that means discourse. Dialogue shows the verbal exchange among two or more people and facilitates the creation of positive relations.

The third pillar is conflict, an element that obviously exists in all situation in which there are people that make decisions, and live or work together (Lewin, 1948). With this word, normally, scholars want to describe a case in which there are disagreements, quarrels and confusion, but often, situations marked by conflict are positive because people can compare their position with the others, and discuss their ideas without bias, taking active participation in the debates. Collins (1975) identifies three modes to control conflicts: coercion, material reward and legitimization of norms and roles. The partnership governance, based on bottom-up approach, solves conflicts using the legitimization.

The fourth pillar, that is trust, represents a topic that scholars have analyzed in depth. As the contributions are so numerous, it is possible to divide them in three categories: trust as an aspect of personality and socialization (Bassi, 2000); trust as evaluation of an uncertain behaviour (Mutti, 1998); trust as a positive predisposition that one person has in reference to groups and others (Zaheer et al., 1998). Trust does not derive only from an accurate process of evaluation, but also as a result of intuitive processes based on the perception of positive values and on the acceptance of others (Butler, 1991).

The last pillar is reciprocity (Fehr et al., 2000; Bruni, 2006; Bruni et al., 2004), that is one informal mode to manage transactions. Reciprocity has three main meanings: reciprocity without benevolence, reciprocity *philia* and reciprocity *agape*. The first considers the synallagmatic relationships that characterize formal contracts and agreements. The second involves risks and sacrifices, and the main interest is linked not only to external aims not referred to the relationship, but is also the relationship in itself. The third, that completes the aforementioned kinds of reciprocity, is unconditional and the relations between partners are based on gratuity and on predisposition to the others. Thanks to this type of reciprocity, people obtain intrinsic rewards, that correspond to the satisfaction deriving from actions, and not from the others' attitudes, so that a positive answer does not affect the choice of the behaviour but affect to the result.

The pinnacle is consensus. Many scholars study consensus as a decisional process in which decisions are taken when the partners accept the proposal, even if this situation does not mean that everybody has the same opinion (Butler et al., 1991). To operate in consensus, conflict among the partners must be encouraged and cooperatively solved. This presumes that every partner has the awareness that the difficulties of each person are the difficulties of the entire partnership. Then, in order to produce a final decision characterized by the larger support of partners the viewpoint of everyone has to be considered. Consensus, in fact, is not mere legitimization to act, but means the sharing of perspectives (Argiolas, 2007).

8. Conclusions

Public-private partnerships are an innovative way to manage policies that affect economic and social development of a particular area. The increasing use of these cooperative structures and the positive results obtained, have led to suppose the birth of a new model of territorial governance that involves actively public and private entities.

In this paper, the actual situation and the potential future of public-private partnership have been analyzed. In addition, considering the results of the study of the Monte Linas LAG, a new model of governance, has been proposed. This new governance, named *Partnership Governance*, bases its activities on territorial dimensions and on the exploitation of many elements that characterize territorial identity, to reduce standardization and homogenization of policies. Partnership Governance spreads cooperation among local actors and creates the bases for the development of new ways to manage relationships, through dialogue, active hearing, trust, conflict and reciprocity. Partnership Governance works in order to create and spread consensus among the partners and between these and the local community. The sharing of perspectives does not mean only passive acceptance, but also to believe in what partnership does and operate in order to fulfil its mission. Thus, partners and local communities can operate in order to obtain an ambitious goal, that is, social and economic development of local systems.

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QUALITY IN LOCAL PUBLIC SERVICES AND USERS' SATISFACTION: HOW CAN LOCAL GOVERNMENTS KEEP CONTROL?

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1. Local public services in Italy.

Italian local public services sector is passing through a difficult moment: on one side prices (tariffs) become day by day higher and on the other the quality of services not always seems enough to satisfy user's needs.

Production of local public services is not more, in Italy, a direct task of local governments.

Production and distribution of local public services are now in the hands of private or local government business enterprises. But local governments keep the obligation to suggest the guidelines of production and to control outputs.

In other words, duties in local public services sector are divided: production is a task of private or local government business enterprises while political trend and control are tasks of local governments.

The push towards the separation of guidelines definition from management duties was sustained by the necessity of designing a border between political process and managerial process. The aim of separation is to put in evidence a greater transparency and precise responsibilities.

Business enterprises involved in public services production are bound to respect the guidelines defined in a special contract with local government called "service contract".

This document specifies all the aspects of production and distribution of public services: duration of mission, quantitative and qualitative standards of service, duties of business enterprise towards citizens – users, etc...

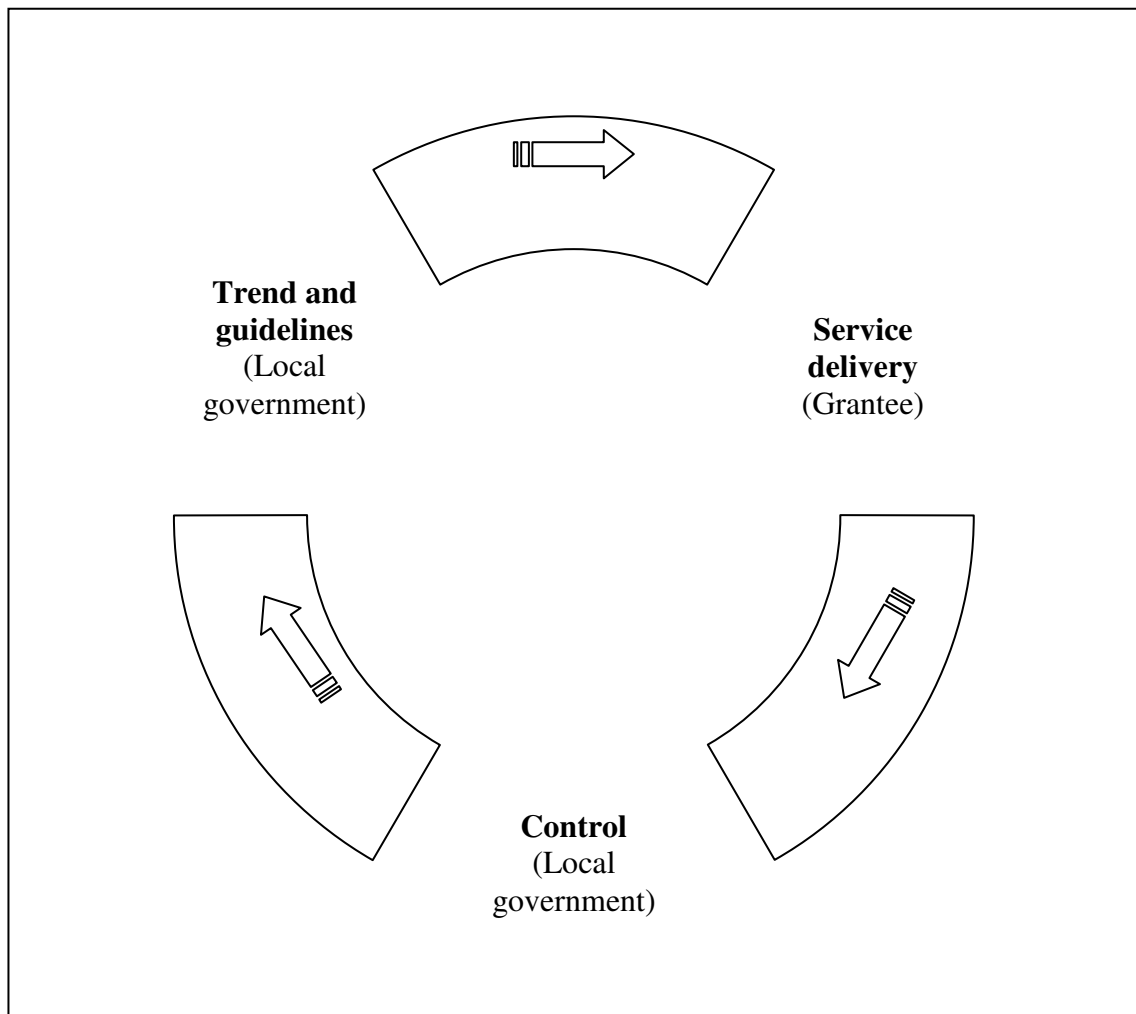


Fig. 1 – Duties of grantor and grantee in local public service sector

Local governments have to control the respect of the modalities of service contract by business enterprises.

Local governments don't only have to control economic and financial outputs: they must control the inclusive quality of public services.

The change for local government from a task (direct production and distribution of local public services) to other tasks (guidelines definition and control) needs a change in the processes of governance.

2. Relationships in local public services.

Before dealing with these changes, it's necessary to analyse shortly the relationships between local government, business enterprise involved in public service delivery and citizens – users. Instead of normal relationship between two persons (provider and customer), in local public services we find three persons.

The relationship has a triangular form with at its vertices the grantor (local government), the grantee (business enterprise) and the citizen-user as in the following figure.

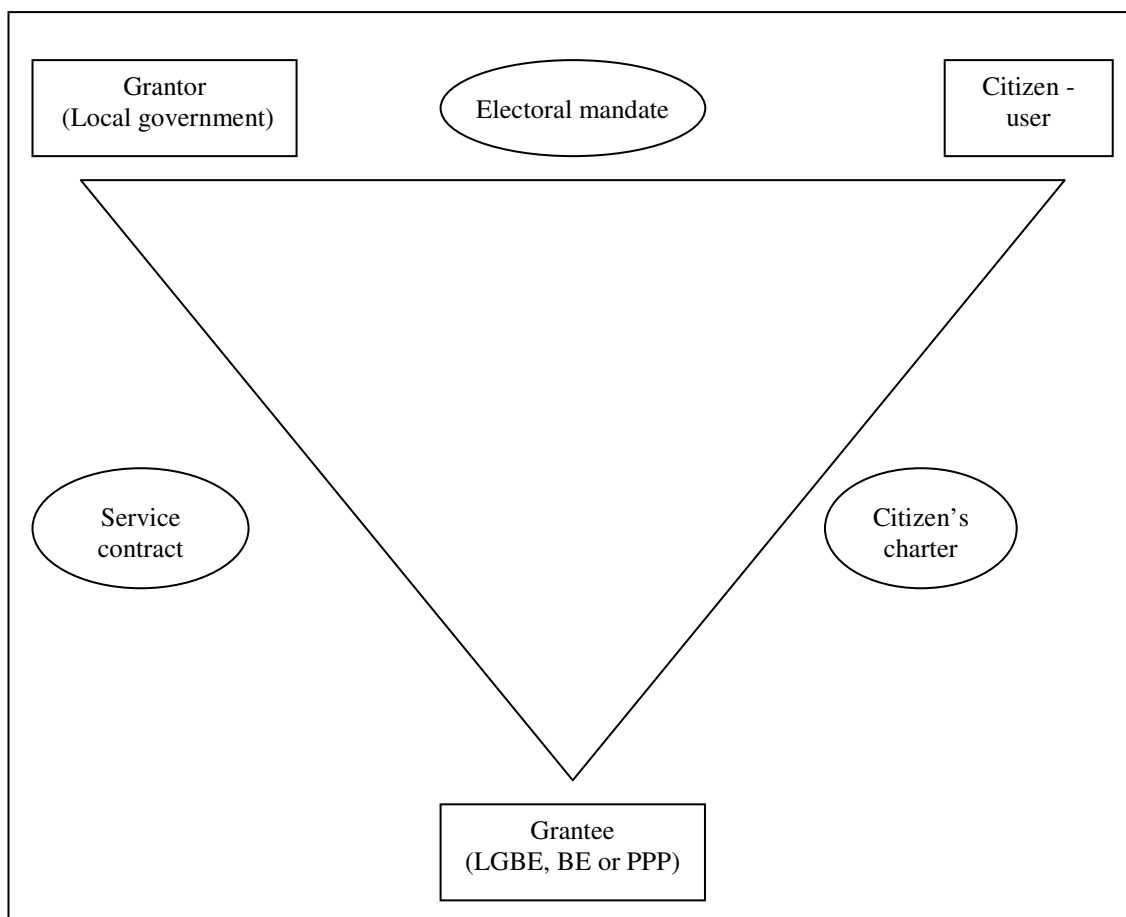


Fig. 2 – Triangular relationship in local public services.

Analysing the side of the triangle with at the vertices local government and citizen-user, it's possible to say that the relationship is based on the electoral mandate. The citizen expressing his vote, elects and gives an administrative mandate to local government board. Administrative duties include local public services (water distribution, sewerage, waste management, energy distribution, local transport management, etc...) too. Local government has to make a choice about the model of governance in local public service. First of all it has to choose the grantee (a local government business enterprise, a private business enterprise or a PPP, a public-private partnership) and then it has to control service delivery and customer satisfaction.

The satisfaction of citizens about administrative activity of local government board, even in local public services, will be expressed in the next election with a confirmation or a change.

If we analyse the side of triangle with at the vertices local government, the grantor, and the grantee (local government business enterprise or business enterprise, or public-private partnership), it's possible to say that the relationship is based on the service contract. Local government establishes rules and standards for service delivery and write those conditions in the service contract. The selected grantee has to accept those conditions and to sign the service contract.

The duration of grant could be relatively short (for example five years) or very long (for example twenty or even thirty years). During this period local government has to control the real respect of all the rules and the standards written in the service contract.

The user of a public service cannot negotiate conditions of delivery as in another relationship with a provider. Local government establishes adequate conditions of public service delivery for citizens - users, preparing the service contract. The task is not easy. We can say that the final quality level of service is, in part, already fixed in service contract.

The relationship is affected by the characteristics of grantee and by the possible “familiarity” between local government and grantee. It’s not the same if the grantee is a local government business enterprise or a business enterprise or a public-private partnership. Governance and relationship are different and different could be the final output.

If we analyse the side of triangle with at the vertices the grantee and the citizen - user, it’s possible to say that the relationship is regulated by the Citizen’s Charter.

The Citizen’s Charter is a document in which are exposed all the rights of the citizens. In local public service sector the Citizen’s Charter establishes the duties of grantee towards citizens and the rights of citizens as users of public service.

The Citizen’s Charter fixes, beyond many other aspects, an important rule: if the grantee is the only one provider of that public service in the local area (practically, if he is a monopolist), he has to deliver the service to every customer asking the service.

The Citizen’s Charter establishes all the aspects of relationship: modalities of contract stipule, of contract modification, of contract rescission, qualitative and quantitative standards of service. A part of Citizen’s Charter is always dedicated to customer protection and fixes customer’s rights, such as modalities of user’s complain or refund rights.

Sometimes the construction of Citizen’s Charter involves users associations, as agents of citizen rights.

Another relevant aspect of this relationship involves the price of the service. The price isn’t fixed by the grantee nor negotiated between the grantee and the customer. It’s fixed by local government or by law and the modalities of determination (and variation) of service price (tariff) are written in the Citizen’s Charter.

It’s clear that the three relationships are strictly related and if one of them isn’t satisfying for somebody, the negative effects rapidly impact on the other two relationships.

So, for example, local government will effectively respect the electoral mandate received by the citizens and the relationship with them, only if it has a good relationship with the grantees.

3. Governance models in local public services.

Local government, as said before, except in very few cases, isn’t directly involved in service delivery but it has the difficult task to select a grantee

The Italian law n. 267 /2000 (also called “Testo unico degli enti locali”) defines the rules for the selection of the grantee.

The item n. 113 of the law n. 267/2000 offers three opportunities:

- a) Attribution to a private business enterprise;
- b) Attribution to a Public-private partnership;
- c) Attribution to a local government business enterprise.

In the first case local government has to select the private business enterprise with a tender, in the second case the tender is necessary to select the private business enterprise that will be the partner in the public-private partnership.

In the third case there isn’t a tender, the local government board assigns the duty of public service delivery to a local government business enterprise whose capital is only in public hands.

The choice, between the three mentioned opportunities has undoubtedly an effect on the relationship between local government for all the duration of the contract.

The preparation of tender, the qualifications asked to the grantee, the selection procedure and then the preparation of service contract are important moments in public services governance.

After the definition of the grantee, starts for local government board the phase in which it has to define guidelines of service delivery. Then for all the duration of service contract local government board has, periodically, to perform a control over grantees' activity.

The choice between the three opportunities has an impact on the quality of public services too and can expose the customers to different risks.

4. Governance models and risks for customers.

It's probably possible to set a correlation between governance model in public services and the correspondent risks for customers.

If the grantee is a business enterprise, selected after a public tender, the risks of a diminution of service quality are high and customer care is granted only by the rules written in the service contract, by the continuous control of local government and by the mechanisms adopted for regulation.

If the grantee is a local government business enterprise as a governance model called "in house", the control over the grantee is more effective. Local government can use the grantee as an "arm", a tool with the aim to assure to public collective interest and adequate quality and quantity of public service. In the "in house" solution the risks of a diminution of service quality are low.

In a public-private partnership the presence of local government as a partner should assure to reach at the same time two targets: the respect of public collective interest and the necessary economic profit for the partnership. The risks are intermediate between the other two solutions.

GOVERNANCE MODEL	RISK FOR CUSTOMERS
Grantee: Private business enterprise	High
Grantee: Public- private partnership (PPP)	Medium
Grantee: Local government business enterprise	Low

Table 1 – Governance model and risk for customers.

But, in practise, things are different and many questions need an answer. For example, in the PPP it's not clear what is the real mission of local government in the partnership. Is local government the defender of public interest, the guarantor of service quality or is it a financial partner, principally careful of investment return?

5. Duties of local governments.

What are the duties of local governments in public sector field? They have to control the respect of the principles established before in the UE Green paper¹ and then in the UE White Paper² for services of general interest.³

¹ The *Green Paper*, published by the European Commission on 25 May 2003.

² The principles for services of general interest, written in the *White Paper*, published on 12 May 2004:

– *Enabling public authorities to operate close to citizens:*

The Commission respects the essential role of the Member States and of regional and local authorities in the area of services of general interest. The Community's policies on services of general interest are based on various degrees of action and the use of various instruments, in line with the principle of subsidiarity.

– *Achieving public service objectives within competitive open markets:*

An open and competitive internal market, on the one hand, and the development of high-quality, accessible and affordable services of general interest, on the other, are compatible objectives.

– *Ensuring cohesion and universal access:*

The access of all citizens and enterprises to affordable, high-quality services of general interest throughout the territory of the Member States is essential for the promotion of social and territorial cohesion in the European Union, including the reduction of obstacles caused by the lack of accessibility of the outermost regions.

– *Maintaining a high level of quality, security and safety:*

The Commission wishes to guarantee, in addition to the supply of high-quality services of general interest, the physical safety of consumers and users, everyone involved in the production and delivery of these services and the general public, and, in particular, provide protection against possible threats such as terrorist attacks or environmental disasters.

– *Ensuring consumer and user rights:*

These include, in particular, access to services, in particular cross-border services, throughout the territory of the Union and for all groups of the population, affordability of services, including special schemes for persons on low incomes, physical safety, security and reliability, continuity, high quality, choice, transparency and access to information from providers and regulators.

– *Monitoring and evaluating performance:*

The Commission takes the view that systematic evaluation and monitoring is vital for maintaining and developing high-quality, accessible, affordable and efficient services of general interest in the European Union. The evaluation should be multidimensional and focus on all the legal, economic, social and environmental aspects. It should also take into account the features of the sector evaluated and situations specific to the various Member States and their regions.

– *Respecting the diversity of services and situations:*

The diversity of services must be maintained because of the different needs and preferences of users and consumers resulting from different economic, social, geographical or cultural situations. This is true in particular for social services, health care and broadcasting.

– *Increasing transparency:*

The principle of transparency is a key concept for the development and implementation of public policies regarding services of general interest. It ensures that public authorities can exercise their responsibilities and that democratic choices can be made and are respected. The principle should apply to all aspects of delivery and cover the definition of public service missions, the organisation, financing and regulation of services, as well as their production and evaluation, including complaint-handling mechanisms.

– *Providing legal certainty:*

The Commission is aware that the application of Community law to services of general interest could raise complex issues. It is therefore going to pursue an ongoing project to improve legal certainty associated with the application of Community law in the provision of services of general interest. It has already accomplished the modernisation of the existing public procurement rules and launched initiatives in the areas of state aid and public-private partnerships.

³ Services of general interest: the services, both economic and non-economic, which the public authorities classify as being of general interest and subject to specific public service obligations.

Some of these principles are important rules for the action of local municipalities during the phase in which they define service guideline and in the phase of control.

They have:

- to assure universal access (to services);
- to control security and safety of services;
- to respect users' rights;
- to control quality and performances of services;
- to respect the diversity of services and situations.⁴

Local governments have to assure that every citizen could have access to local public services: in other words the grantee has to accept every user that want to access to public service. Local governments have to uphold customers' rights. They have to control if the modalities of service contract are respected, if the service is continuous and safe and if the use of resources is efficient. They have to warrant the respect of the diversity of services as well as the needs and preferences of users, due to the (geographical, economic, social, cultural) diversity of situations. But local governments have to warrant to citizens a high level of quality of public service, too.

6. What local government has to control in local public services ?

Is enough for local government to approve, once a year, the balance sheet of local government business enterprise? Is this sufficient to make control on public services?

Some local governments answer: no. This model of control is too formal, late, not effective.

The process of control of local government has to be contemporary to management: the exam of final balance of the grantees is not compatible with an efficacy control.

Some local governments think a substantial, wider and deeper control is necessary. They think that economic and financial results are only a part of the effect produced by grantees' activity.

The process of control, in other words, needs continuous information.

Not only local governments but also all local communities need information about service quantity and service quality and about the levels of tariffs. The delivery of local public services is very important. It's obviously important for citizens – users but also for citizens – non users, for all local community, for local ambient too.

So we need to keep control all these aspects of local public services delivery.

The phase in which local governments define service guidelines is related to their duty of control. Only with continuous information, local governments can suggest best trends and guidelines to grantees' activity.

Moreover, at present, in many cases, local public services are delivered in a monopolistic market. Public services sector is a natural monopoly, a market in which "competition is not feasible or not convenient because we can obtain maximum productive efficiency only with a single market operator".⁵

And even in all the cases in which privatization process is completed, this is only a change from a public monopoly to a private monopoly. Obviously private monopolist follows

⁴ Principles confirmed in the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "*Services of general interest, including social services of general interest: a new European commitment*", 20 November 2007.

⁵ Roversi Monaco M.G., "*Dominio pubblico e impresa nella gestione dei servizi idrici*", Cedam, 1996.

the profit and this, in absence of interventions, can expose the users of privatized service to further risks of an indiscriminate increase of the tariff or of a diminution of service quality.⁶

In such a situation it's necessary the presence of a regulator with the duty to control the market. The action of the regulator isn't the optimum, it cannot reach advantages offered to customer in a competitive market. It's a so-called "second best" solution.

In public services sector different regulation mechanisms are adopted but substantially their aim is to obtain the following targets:

- a) to allow all users to access to services;
- b) to establish a price cap to tariffs that users have to pay for services;
- c) to assure a quantitative and qualitative level of services able to satisfy community needs.

Who can evaluate customer needs better than the same customer?

Moreover if there is a single operator in the market, customers don't have the possibility to leave the provider.

In monopoly, as A.O. Hirschman wrote ⁷, for customers there is no exit. Then if we cannot give public services customer an exit, we have, at least, to give him voice.

Therefore local governments have to listen to customers' voice and have to pay attention to their opinion.

We must ask their opinion about quantity, quality and tariff of every public service. We must ask opinions not only to citizen – users but also to citizens – non users, to all local community and we need to keep control over the effects produced over local ambient by public services delivery.

This information has to be frequently up to date. Information can allow local government and grantees to make timely changes in strategies or in operative activity.

Some Italian local governments started to investigate on quality in local public services but, at present, this behaviour isn't diffused enough.

Local governments of Rome and Turin decided to act this purpose choosing an interesting solution: to establish an agency with the aim to control quality in local public services. The agency researches quality and through this activity, shows up the efficacy of public services, an aspect often neglected.

The agency reports the results of its research about the quality of local public services to local government board. If service contract standards are not maintained, the grantees could be obliged to pay a fine or to refund money to customers. The agency communicates the results of its research to all local community, too. Before dealing with the case of Rome and Turin Agencies, it's necessary to analyse the problems related to control quality in services.

7. Quality in local public services.

To provide quality in service delivery isn't easy: there isn't one quality but many qualities, or better there is only one quality with many faces.

We can say that quality has multiple dimensions. Who wants to assure quality in services has to take care of every dimension of quality. If only one dimension of quality is neglected, that dimension can affect the whole imagine of service and product. The effect is a low perceived quality. In this case the service doesn't fit users' needs.

⁶ Roversi Monaco M.G., "*Dominio pubblico e impresa nella gestione dei servizi idrici*", Cedam, 1996.

⁷ Albert O. Hirschman. "*Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*". Cambridge, MA, Harvard University Press, 1970.

Johnston R., Fitzgerald L, Silvestro R., Voss C. (1990) identified twelve dimensions of quality of service: access, aesthetic / imagine, availability, cleanness and order, comfort, communication, competency, courtesy, customer-oriented spirit, confidence, capacity to answer to customer's needs, security / safety. The dimensions can be referred to three aspects: product, service and ambient.

Johnston, Fitzgerald and others with "product" mean product-service, in other words what is given to customers, a consultancy, for example, while with "service" they mean the process of production and delivery of product-service, with a special focus on the behaviour of front office personnel. With "ambient" they mean both the site in which product-service is obtained and delivered to customers and the effects produced on ambient (in the widest meaning) by service delivery.

Some of the twelve dimensions can be referred only to one of the three aspects, or to two of them or to all of them, as shown in the figure n. 4.

For example "imagine" is a dimension that can be joined both to product and service: there is an imagine of product and there is an imagine of personnel, "availability" can be joined to product but also to personnel involved in service delivery. "Cleanness, order, communication, confidence, security, safety" can be joined to the product, to the service and to the ambient in which service is delivered. "Competency, courtesy, customer-oriented spirit, capacity to answer to customer's needs can be joined only to the service, to skills and behaviour of personnel.

	Relative to product	Relative to Service	Relative to ambient
Access			X
Aesthetic / Imagine	X	X	
Availability	X	X	
Cleanness / Order	X	X	X
Comfort			X
Communication	X	X	X
Competency		X	
Courtesy		X	
Customer-oriented spirit		X	
Confidence	X	X	X
Capacity to answer to customers' needs		X	
Security / safety	X	X	X

Table 2 – Dimensions of quality in services. ⁸

The twelve dimensions of service quality proposed by Johnston, Fitzgerald and others can be used to analyse a local public service too. In local public transport, for example, the dimensions of quality (or quality factors) could be those shown in following table.

⁸ Adapted from Johnston R., and others, "The determinants of service quality", First seminar in service management, Aix-en-Provence, 1990.

	Relative to product	Relative to service	Relative to ambient
Access	Access to the means of transport		Distance of stops
Aesthetic / Imagine	Imagine of the means of transport	Imagine of personnel on the means of transport	Imagine of the means of transport
Availability	Availability of adequate means of transport / trips	Availability of personnel	
Cleanness / Order		Cleanness of personnel	Cleanness of the means of transport
Comfort			Comfort of seats / comfortable temperature / crowding
Communication	Communication relative to trips and tariffs	Communication of personnel to customers	Communication on board or at the stops
Competency		Competency of personnel	
Courtesy		Good manners and courtesy of personnel	
Customer-oriented spirit		Customer-oriented spirit of personnel	
Confidence	Punctuality of the means of transport	Confidence of personnel	
Capacity to answer to customers' needs		Capacity of personnel to answer to customers' needs	
Security / safety	Security / safety of the means of transport / trips	Reserve of personnel	Security / safety of environment / community

Table 3 – Quality factors in local transport service.

Even if the process of search and analysis of dimensions is necessary to understand service quality, this doesn't represent the end of the problems.

The importance of the dimensions of quality is not the same for all the customers. For every customer some dimensions of quality are more relevant than others, some dimensions are indispensable and some other dimensions are completely without importance.

The analysis of the importance of the different dimensions of quality, sometimes, is very difficult. The importance of the dimensions of quality can change for the same customer at different time. For example, a customer that is in a hurry can support dirty seats and a trip on his feet but is interested to arrive to destination in time, the same customer, when is relaxed, doesn't care if the mean of transport arrives late but could be very angry if the seats are dirty.

The following step, after the identification of all the dimensions of a service, is to select opportune indicators for every quality factor and then to select the best way to measure every quality factor: with an internal measurement or with an external measurement (with the customer's eye) or both.

The same process of research of "objective" quality, meaning the quality as seen internally, presents problems. We can involve in the task of surveying quality indicators the same operative personnel, or other personnel of the same level, or supervisors or external experts: the results could be different. For Bouckaert, measurement of quality is not considered to be objective or neutral anymore. He wrote: "Even walking around with the measurement sheets was sufficient stimulus to affect the behaviour of those being measured".⁹

8. The Turin Agency for quality in public services experience.

In Turin local public services are delivered by local government business enterprises. These business enterprises are agents of local government in an "in house" governance model.

Every business enterprise has a specific duty: local public transport is delivered by GTT, water and sewerage is delivered by SMAT, energy is delivered by IRIDE, waste management is delivered by AMIAT and airport services are delivered by SAGAT.

In public services sector Turin municipality is at the same time the owner of business enterprises, the customer of the services and the agent of citizens – users: too many roles.

So, Turin local government decided in 1997 to establish a task force to keep a deeper control on public services delivery in the city.

An agency was founded by local government board with the special aim to control the quality of local public services. The agency began to operate in 2000.

⁹ Pollit C., Bouckaert G. 1995.

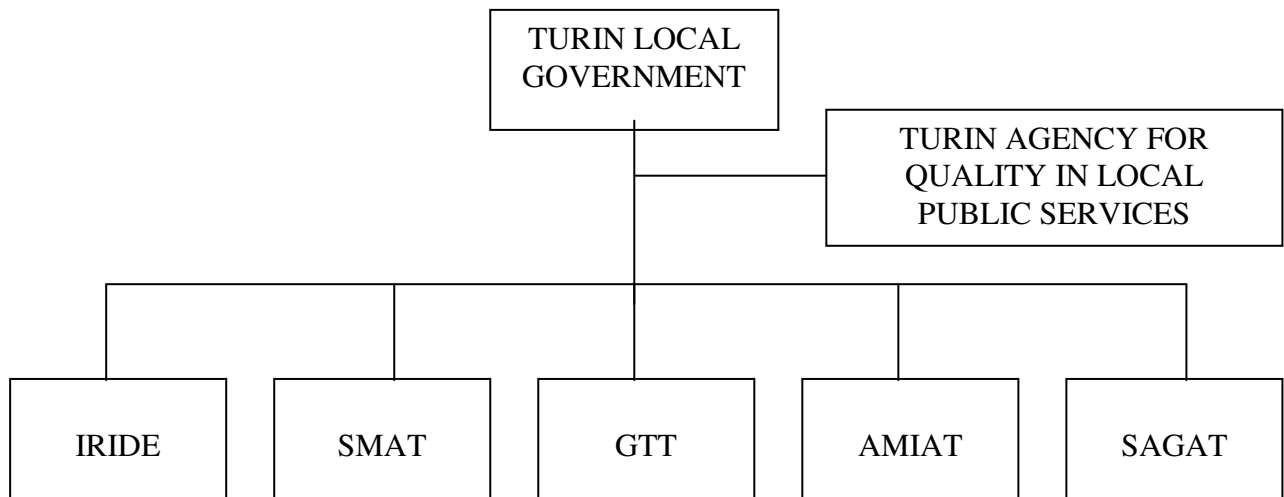


Fig. 3 – Turin governance model in local public services.

In 2001 the new municipal statute gave more power to the action of the Agency. The grantees, now, have to provide every document or information to the Agency.

The duty is written in the service contracts between Turin municipality and the grantees.

The main task of Agency is to monitor public services quality with studies, analysis, comparisons, customer surveys.

The agency reports the results of its research about the quality of services to local government board.

The Agency doesn't have only to control public services quality. Administrative tasks of local government are day by day more complex, every decision need up-to-date information and technical support. So the Agency has also to provide to local government board consultative opinion on specific matters, concerning public interest.

With the presence of Agency, the relationships in local public services change: from a triangular form to a tetragonal form, as in the following figure.

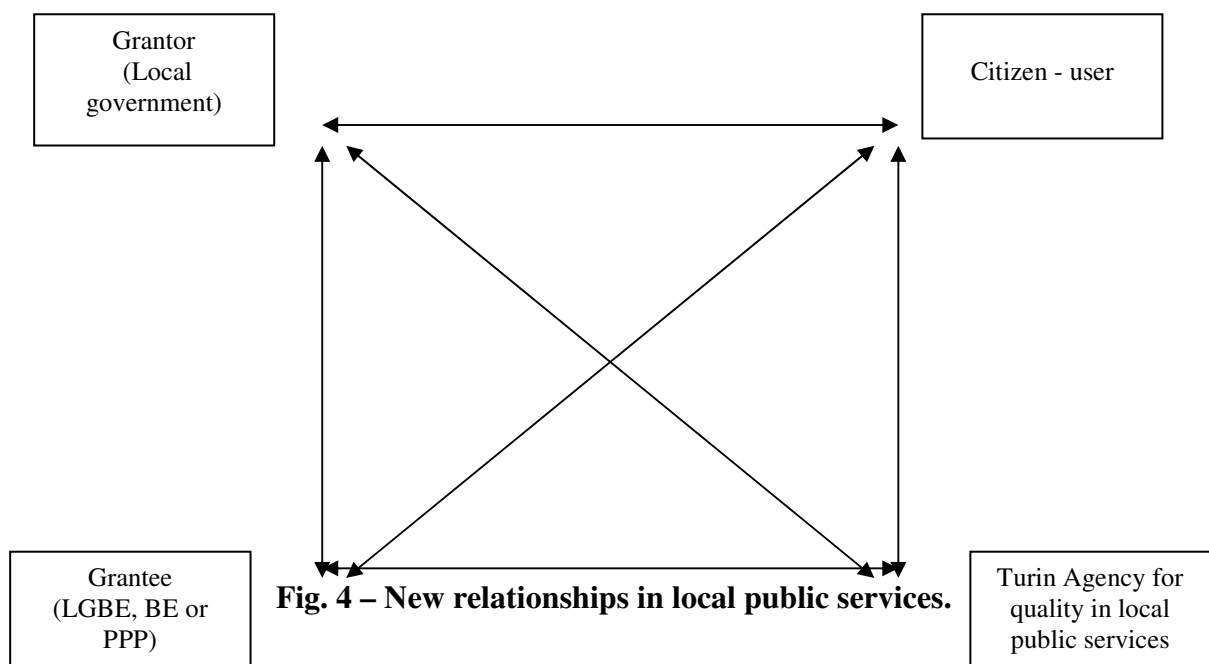


Fig. 4 – New relationships in local public services.

The relationship between the Agency and Local government is based on Municipal statute in which are described tasks, action range, duties and rights of the task force.

The relationships between the Agency and the grantees are based not only on Municipal statute but also on service contracts.

The relationship between the Agency and citizens – users is based on surveys, researches about customer satisfaction and on communication / publication of an annual report with the results of the activity of the Agency.

9. Quality control model in Turin Agency for quality in public service.

To control quality isn't a simple task. We said that quality has many dimensions and every dimension need specific indicators and specific tools.

The analysis of the Agency involves two sides of public services quality.

The so-called “objective” quality, based on technical results, on the respect of standards, on environmental effects, on financial and economic results and the “subjective” quality, measured by customers' opinion.

In other words there is a quality of public services that can measured through an internal study and a quality of public services that need customers' opinion.

The target in the first case is the efficiency while in the second case the most important target is the efficacy of service.

Customers need functional local public services: this is the main target.

Osborne and Gaebler (1993) wrote: “Customers don't care how infrastructure systems work; they don't want to know what goes on underground. They just want the lights and faucet and phone to work”.¹⁰

QUALITY IN PUBLIC SERVICES			
“Objective” quality			“Subjective” quality
Technical results	Financial and economic results	Ambient effects	Customers' opinion

Fig. 5 – Quality controls in Turin Agency for quality in public services.

The Agency decided to select a different set of indicators for every type of local public service provided by local government business enterprises.

The sub sectors in which local government business enterprises work are very different (water, local transport, waste management, energy and airport services) so different indicators are necessary.

10. The Rome Agency for quality in public service experience.

¹⁰ Osborne D., Gaebler T., “*Reinventing government*”, Penguin Books, 1993.

Rome local government followed the Turin local government experience and founded in 2002 ¹¹ a specialized agency with the aim to control quality in local public services in Rome area. The Rome Agency for quality control in local public services has to monitor a wide range of services from urban cleanness to urban green management, from energy distribution to water distribution.

Rome Agency, as Turin Agency does, has to provide local government information and consultative opinion on specific matters, concerning public interest.

Even Rome local government board adopted for his most important business enterprises (MET.RO., ATAC, TRAMBUS, Roma Metropolitane, Risorse per Roma, AMA and Centro Ingrosso Carni) the “in house” governance model.

Even Rome Agency, as Turin Agency does, looks both to “objective” quality and to “subjective” quality of local public services (or perceived quality).

In public services, as in many other situations, there is asymmetry in information between citizen – user and producer. User, frequently, knows only a little about the service, he has only a point of view. Thus, even customer voice is important, it’s necessary to measure quality not only with the tool of user’s perception.

What we need is a quality measurement of local public service based on real, objective facts (technical, economic and financial results) both with a quality measurement based on the perception of the user.

	Turin Agency	Rome Agency
Controls on quality of local public services	X	X
Grantees’ final balance sheets analysis	X	¹²
Economic sectors analysis	X	X
Consultancy about service contracts	X	X
Citizen charters analysis	X	X
Information for local government	X	X
Auditions for local government	X	X
Annual report about customer satisfaction	X	X

Table 4 – Duties of agencies for quality in local public services.

Agencies’ tasks are similar but while Turin Agency is only involved in the control of local government business enterprises, while Rome Agency is involved in the control of a bigger number of public services.

¹¹ The Rome Agency was founded by Rome local government board on 14th march 2002.

¹² It’s a task of a new local government business enterprise, Servizi Azionista Roma.

	Turin Agency	Rome Agency
Local transport	X	X
Taxi service		X
Urban cleanness	X	X
Waste management	X	X
Electric energy distribution	X	X
Gas distribution	X	X
Public lighting	X	X
Water distribution	X	X
Sewerage	X	X
Municipal kindergarten		X
Domiciliary assistance		X
Municipal chemist's shops		X
Municipal libraries		X
Municipal museums		X
Municipal call centres		X
Cemeteries management		X
Public green management		X

Table 5 – Public services controlled by the agencies for quality in local public services.

Some of public services controlled by Rome Agency are performed by local government business enterprises, some by private business enterprises involved in outsourcing services while some others are directly performed by municipal structures.

While Turin Agency has a legal power, assigned by municipal statute, Rome Agency, at present, doesn't have a similar power over relevant aspects of local public services' delivery.

The action of Rome Agency, more the Turin one, is oriented to community needs. What are these needs? Undoubtedly, local community need an adequate quality of public services but also need information about the same services.

In fact, Rome Agency's motto is "*to measure and to publish*".

In these words is resumed the most important target of Agency: the results of observation of service quality must not be conserved by Agency or only transmitted to local government or to grantees. They must be communicated to local community, to citizens - users and to citizens – non users.

In the following figure are shown the addressees of annual report about customer satisfaction provided by Turin and Rome agency.

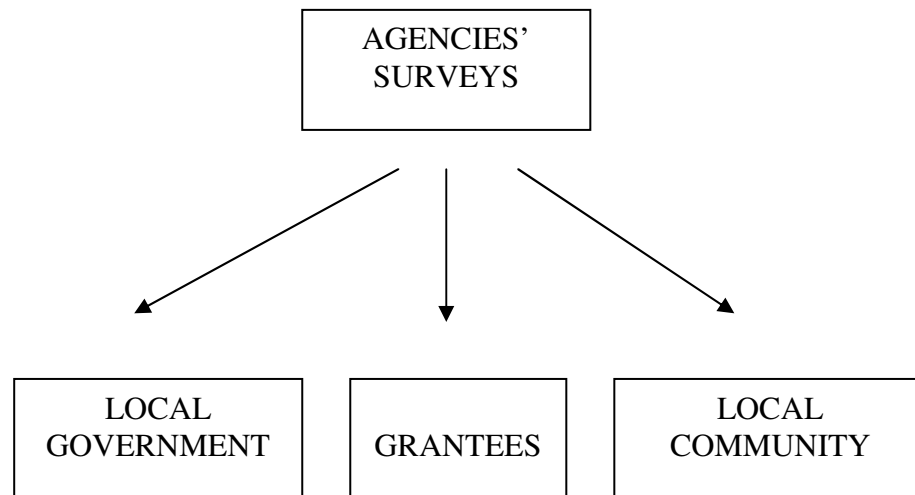


Fig. 6 – Addressees of surveys of agencies for quality in local public services.

11. Conclusions.

Other Italian local government, as Perugia and Grosseto, followed the road opened by Turin and Rome local government, implementing an observatory or a specialized structure to keep control over the quality of local public services.

Rome and Turin experience could be exported in other local governments on the still long way towards a better protection of local public services, therefore towards a better protection of public interest.

In the UE White Paper we can read “...The evaluation (of public services) should be multidimensional and focus on all the legal, economic, social and environmental aspects”. So local government doesn’t have only to control economic performances of enterprises, respect of the modalities written in the service contract, but it has to consider even social and environmental aspects.

They need proper tools, able to keep under control either efficiency or efficacy of public services because they are responsible to citizens.

They need a wide point of view on all the aspects of public services, for the interest of users and non users, of citizens and non citizens, for example tourists, for the interest of whole community of local area.

To do that local governments need a set of indicators able to provide up to date information on economic outputs, social and environmental outputs.

The solution, for business enterprises involved in local public services delivery, could be adoption and widest diffusion of a balanced scorecard (BSC), as proposed by R. Kaplan and D. Norton.¹³

Only the adoption of a balanced score card with economic, social and environmental targets can help to go over the economic and financial perspective.

Last but not least, to reach quality in the local public services sector, the role of customer is relevant too.

We can listen to customer voice about its satisfaction in the use of local public services, but it’s not enough.

¹³ Kaplan R., Norton D., 1992 and 1996.

Customer has to be informed, educated for a better use of public services and has to contribute to improve the service itself.

For Bouckaert success in improving quality in the public sphere requires a close relationship between quality improvement strategies and citizen involvement.¹⁴

In every public service citizen involvement is indispensable to reach and keep quality.

For example, in waste management the cooperation of customers is fundamental to obtain a satisfying service both with environmental sustainability. Customers can cooperate with local governments and grantees in water and energy distribution too. They can make a more rational use of the resources and, by this way, they can cooperate to assure quality and continuity in public services.

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EFFICIENCY IN THE ITALIAN PUBLIC ADMINISTRATION: EVIDENCE FROM MUNICIPALITIES

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1. Introduction

The basic idea of this article is that a well-functioning public sector is instrumental to economic growth, and that being efficient means being able to use the existent public resources in order to provide public services with as high a quality as possible. During the last 10 years the Italian Government has introduced several laws in order to reduce the public expenditure and increase the efficiency of the Public Administrations. The main document that guided these law interventions was the “Stability and Growth Pact and Economic Policy Coordination”. We identified the research question taking the difficulties for our Country in respecting these limits and the high impact of the labor costs on the Public Sector balances as a point of departure. Our research question asks whether the Government intervention is effective in increasing the local government’s efficiency. Our sample is composed of 10 big Municipalities (also called Communes) in the Lombardy Region. We tried to answer by implementing an analysis process which is composed of different steps. Firstly we studied the labor costs indicated on the Municipalities’ balance sheets from 1998 to 2007, then we compared them and verified if the subjects had similar costs per capita or not. Secondly we considered how the organizational structures changed during the aforementioned period and finally we interviewed the Municipalities managers in order to assess the perceived shifts on the quality of services. The paper is organized as follows paragraph 2 presents the literature review, paragraph 3 considers the Italian situation while the 4th deals with the methodology the 5th presents the results and the 6th concludes.

2. Literature Review and Italian situation

In recent years many authors have stressed the idea that a well-functioning public sector is instrumental to economic growth. It has been demonstrated that good government has helped the economic development of Europe over the last millennium (North,1981; De Long and Shleifer, 1993). Good government is associated also with the last 40 years’ growth across countries (Knack and Keefer,1995).

According to La Porta et al. the whole performance of a nation is affected by the public sector expenditure and public employment efficiency (La Porta et al1999). The public resources derive from taxes paid. Citizens are more willing to pay taxes when they perceive that the Public sector is *efficient* and that their money is being well used, in other words, willingness to pay taxes depends on the capacity of the State to get citizens’ money worth. Conversely, high public expenditure on services that are not perceived as important or well-provided may determine high levels of distorted taxes and redistribution (Barro,1991). Moreover, the

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Even if this paper is the result of the shared research of all the authors, paragraphs 1,2,3 can be attributed to Cristina Bettinelli, paragraphs 4,5,6 can be attributed to Mirko Marino.

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efficiency of public administration is one of the most important institutional factors that shape private sector competitiveness.

By efficiency we mean the capacity of finding the optimal input-output ratio, in the Public Administration this means aiming at using the existent public resources in order to provide public services with as high a quality as possible.

The real public service efficiency measure is represented indeed by the citizens satisfaction, it is only logical that the satisfaction level depends on quality of services; in order to achieve it the Public Administration should define precise objectives, assess the results and accordingly monitor the procedures (Carretto 2002).

With respect to the Italian situation, it is a common belief that the public sector is inefficient, one of the primary reasons it is that working for the Public Administration in Italy has meant always a job for life no matter how diligent and productive employees were shown to be.

Recently the new Public Administration Minister Renato Brunetta started to plan a five-year project that is expected to increment public sector productivity and reduce the need of resources for public sector employment. This topic is important because the labor costs significantly weight upon the State balance, in 2007 the Italian State budget showed that the labor costs were 89,5% of the total costs. Trade unions' first reaction to the new Policy plans was to walk out of talks with the PA minister who affirms that public sector workers must all raise output, and that soon they will be held more accountable for the performance of their staff. The plan is to implement some of the private sector's principles such as the possibility to loose the job in case of objective inefficiencies. On the one hand it is important to downsize, increase staff mobility, reward productivity and eliminate duplication between local, regional and central government. On the other hand it has to be considered that it's not possible to generalize, the stereotyped idea of public workers as unproductive people is spreading throughout the country and does not help shared reforms and efficiency retrievals.

Attempts to public sector reforms took place already in the past, deep reforms always failed because of difficulties in finding general consensus especially with unions and workers. The past failures were also related to the difficulty in actively involve the employees in a process of change.

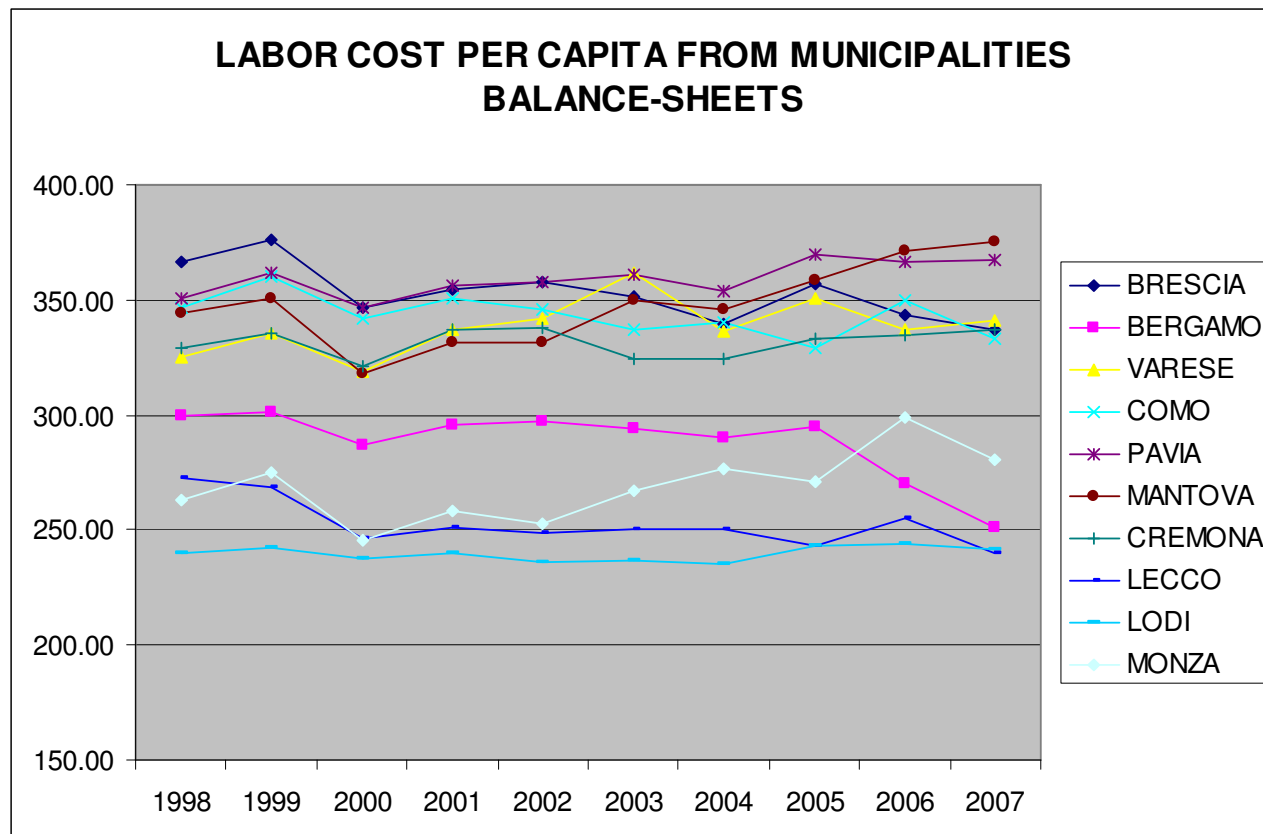
The 2006 Financial Law contained a measure of control of the public expenditure which obliged Local Governments in reducing their labour cost. We found that, in order to comply with this duty, Local Governments adopted different solutions to provide services by their outsourcing, by the introduction of some organizational innovations such as computerization and turnover blocks.

Studying efficiency of public sector workers is controversial, since it is not connected with the private sector economic value creation concept, it requires to introduce some performance indicators and some objective measures of citizens' satisfaction. *Our objective was to understand if Government intervention is effective in increasing the local government's efficiency.* Moreover we tried to understand if it is possible to take advantage of labour costs Law restrictions and improve the local governments' efficiency by finding the optimal trade-off between the outsourcing strategy and the organizational restructuring. We did our analysis by focusing on the specific case of Municipalities. We tried to understand how the organizational models of these Municipalities have changed in the past few years due to the financial resources restrictions introduced by the last Financial Laws. After considering the labor costs longitudinal data of the Municipalities that compose our sample, we will show the answers to our questionnaire and will draw some conclusions.

3. The Sample

In this paragraph we show the situation of the 10 Municipalities analyzed. Since efficiency has to do with how the public resources are used, we studied the labor costs indicated on the Municipalities' balance sheets from 1998 to 2007. For the last year of this time series (2007) we considered the esteemed labor cost values because the definite ones were being updated. After taking inflation effects² into account we divided the total labor cost for each Municipality by the number of residents and found the Municipality *labor cost per capita*. The Graph n.1 shows the per capita labor costs trend during the period 1998 -2007.

Table n.1



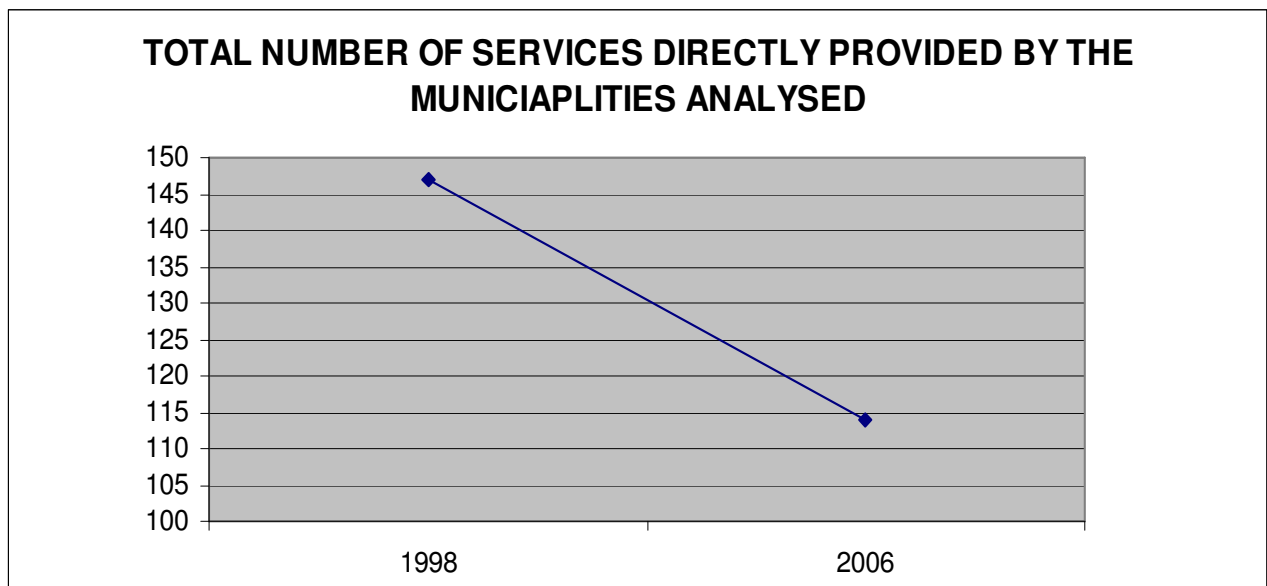
Other than particular cases (Bergamo labor-cost per capita decreased, Mantova labor cost per capita increased) the general trend demonstrates that the costs remained nearly unchanged. Some considerations have to be done, first of all, it is likely that more complex Municipalities (such as Brescia) have to bear higher labor costs while smaller Municipalities (such as Lodi) have simpler structures and lower costs. Secondly, the Italian public jobs are, by law, mostly jobs for life. This means that *drastic* labor costs reductions are unlikely. In order to better understand the situation we made the ANOVA (Analysis of Variance) and tested whether there are any differences between the Municipalities, the hypothesis tested is that all groups have the same mean. Table n.3 in the appendix shows that the p-value is lower than 0.05 this means that the hypothesis has to be rejected and that the Municipalities analyzed are statistically different. The differences can be attributed to different historical backgrounds for each organization, different issues connected with the territory and different groups of people

²In order to consider inflation effects during the time series we referred to the coefficients published by the Italian Institute of Statistics available on http://www.istat.it/prezzi/precon/rivalutazioni/val_moneta_2007.html (downloaded on the 28th of June 2008).

working together. This last topic is particularly delicate, we believe that each organization is unique and that the way by which every organization member interacts with the others can make the difference.

The law prescribes that Municipalities provide and guarantee a fixed list of 18 services (essential services such as aqueduct, education, municipal street cleaning and refuse disposal service etc.). We counted the number of these services that have been provided directly by the Municipalities in the period (1998-2006). Being directly provided (i.e. *gestito in economia*) means that the related labor costs weighted on the Municipality balance sheet. As shown by the graph, the total number of services directly provided by the municipality has decreased from 147 to 114 in the period 1998-2006.

Table n.2



What emerged is that the number of services guaranteed by the municipalities but not directly provided has increased while the Municipality labor cost did not change in the same direction. Efficiency in the Public administration has not to deal with profit objectives but with optimal public resources use. If a Municipality changes the ways by which services are provided (for example by outsourcing the aqueduct service to a private company), then the connected labor costs will not be counted in the Municipality balance sheet. Since the labor costs have not decreased as much as the number of services directly provided by the municipality we expect that the employees, after the directed provided services reduction, were more intensively designated to the remaining services. This should have increased the quality of services provided. We have assessed these aspects of efficiency with the questionnaire, the results are shown below.

4. Methodology

As in the previous editions of our research we asked a sample of 10 big municipalities in the Lombardy Region to answer to our questionnaire. The Municipalities involved are Bergamo, Brescia, Como, Cremona, Lecco, Lodi, Mantova, Monza, Pavia e Varese. The respondents were members of the managerial staff of each Municipality.

The questionnaire is composed of 21 semi-structured questions, coherently with the previous research we asked if during the year 2007 the Municipality outsourced some activities and what type of relationship exists between the Municipality and the company that exercises the outsourced activity. We considered also the possible controls made by the

Municipality on these companies (quality control, direct control, coordination and guidance, control on prices). The questionnaire asks managers to assess the economic savings due to the implementation of the outsourcing strategy and of the outsourced services efficiency improvement. Some questions asked the Municipalities managers if, in their opinion, the recent strategies implemented to respect the labor costs cuts, influenced the citizens satisfaction or not. We considered also if the Municipalities respected the limits to the Public Expenditure introduced by the “Stability and Growth Pact and Economic Policy Coordination” instructions and by the Italian Law “Legge Finanziaria del 2006”.

5. Results

While thanking for their availability and kindness the managers and staff of the municipal administrative offices involved, an overview of the research results commune by commune will now be given.

In order to keep up and eventually enhance the level of efficiency, the Commune of Brescia relies on the integration among its different functions and organisational units, on the increased computerisation of the services’ management, and on the regular controls of the services offered. According to the manager interviewed, it has been “problematic but possible” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel; moreover, our interviewee declared to “agree” with the statements that, despite the contraction of the resources, the quality and quantity of the services were not affected, and the time of response to customers was not subjected to variations. The Communal Administration of Brescia is absorbed in the change following its shift of political direction, although it is still too early, according to the manager interviewed, to assess the re-planning of the present and future organisational model. Anyways, the manager herself declared to “agree” on the possibility that the organisational re-planning may improve the performances for the users and “totally disagree” on the possibility that the re-planning may reduce the necessary amount of human resources. In 2007 the Commune of Brescia externalised some services for the old (rest houses) by directly handing them over to a private foundation. The Commune controls these services’ quality and costs for the users. The Commune of Brescia met both the requirements for the cuts in the staff expense of the Financial Bill of 2006 and those deriving from the so-called “Internal Stability Pact”. Finally, regarding the consequences of the externalisations, our interviewee judged them as “sufficient” for the reduction of costs and “sufficient” for the quality of the office’s internal organisation.

In order to keep up and eventually enhance the level of efficiency, the Commune of Lecco aims at the increased computerisation of the services’ management, at the renewal of the organisational model (improved staff training, incentives for efficiency, and encouragement of individual multi-tasking), at regular controls of the services delivered, and at the redefinition of the standards of work performances (shorter times and revised sequences of the activities carried out). It has been “problematic but possible” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. Our interviewee declared to “agree little” with the statement that, in view of the resources’ contraction, the quality of the services remained unchanged, and to “agree little”, too, on the variation of the services’ quantity, whereas he declared to “agree” with the statement that the time of response to customers was not subjected to variations. In the last years, the Commune of Lecco has not undergone any re-planning process. According to the manager interviewed, such a re-planning in the future would hardly reduce the costs and human resources necessary to carry out the administrative activities. The Commune did not make any externalisations in 2007. Regarding previous externalisations, the valuations of the manager were “good” for cost reduction, “sufficient” for efficiency improvement, as “the

office's control on the services externalised is more bureaucratic and formal rather than substantial", and, finally, "sufficient" for the positive impact on the quality of the office's internal organisation.

In order to keep up and possibly enhance the level of efficiency, the Commune of Varese aims at enhanced computerisation of the services' management, at the renewal of the organisational model (improved staff's training, incentives for efficiency, and encouragement of individual multi-tasking), and at the re-qualification of the personnel. According to the manager interviewed, it has been "difficult" to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. The interviewee herself declared to "agree little" with the statements that the services' quality remained unchanged, the quantity of the services was not affected, and the time of response to customers was not subjected to variations. During the last years, the Commune of Varese has undergone a process of re-planning of the organisational model aimed to the implementation of the Information and Communication Technology sector and, more specifically, to the enhancement of its website. According to our interviewee, such a re-planning was not advantageous for the reduction of the expense on the staff, but rather for the productivity of the staff. In the future, the office is oriented to continue on the way of re-planning the organisational model towards enhanced computerisation. According to the manager interviewed, this further re-planning might improve the performances for the users, reduce cost and time of the activities carried out, and reduce the human resources needed. In 2007 the Commune of Varese externalised the summer centres for kindergarten's children. This externalisation was made by handing over the service to a private company after a competition. The municipal office controls both the quality and the user cost of this service. In 2007, the Commune of Varese was not subject to the obligations deriving from the Stability Pact; in the other years, these obligations and those of staff reduction deriving from the Financial Bill of 2006, were fully fulfilled. The manager interviewed assessed the results of the externalisations made as follows: "useless, they did not help" for the reduction of the administrative costs, as "the costs did not change"; "insufficient" for efficiency improvement, as "the companies managing the services externalised have given much trouble"; and, finally, "insufficient" for the improvement in the quality of the office's internal organisation, as "in fact, nothing has changed".

In order to keep up or enhance the level of efficiency, the Commune of Monza envisages such strategic objectives as: enhanced computerisation of services' management, renewal of its organisational model (improved staff's training, incentives for efficiency, encouragement to multi-tasking), and redefinition of the standards of work performances where possible (reduction of the time to carry out the activities, simplification of the activities, and revision of the sequences). According to the manager interviewed, it has been "problematic but possible" to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. In view of the resources' contraction, our interviewee declares "to agree little" with the statement that the quality of the services offered remained unchanged, "agree" with the statement that the quantity of the services offered was not affected, "agree little" with the statement that the time of response to users was not subjected to variations. The Commune of Monza has undergone in these last years a process of re-planning of the organisational model in the sign of "Business Process Improvement"; our interviewee did not make any valuations on the results of this re-planning. Up to now, no further process of re-planning of the organisational model is planned for the future. Regarding a further change in the organisational model of the administrative office, the manager interviewed declared to "agree" on the possibility that such a change may improve the performances for the users and reduce the time necessary to carry out the activities, whereas she said to "agree little" on the possibility that such a change may reduce the costs and the

quantity of human resources needed to carry out the activities. In 2007 the Commune of Monza did not externalise any services, while they “are taking that into consideration” for the future. Finally, with regard to the externalisations made in the past, the assessment of the manager interviewed was “sufficient” both for the reduction of costs and for the improvement in efficiency and, ultimately, for the positive impact on the quality of the Commune’s internal organisation.

In order to keep up and possibly enhance its level of efficiency, the Commune of Bergamo aims mainly at the enhanced computerisation of the services’ management, at regular controls on the quality of the services delivered, and at the re-qualification of the personnel. According to the manager interviewed, it has been “difficult” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. She declared to “agree little” with the statements that the quality of the services offered remained unchanged and that the quantity of the services offered was not affected, while she declared to “agree” with the statement that the time of response to the users was not subjected to variations. The Commune of Bergamo has undergone in these last years a process of re-planning of the organisational model based on the “quality certification” of several institutional activities. According to our interviewee, this re-planning has not brought any advantages for increasing productivity and reducing the cost of the personnel. For the future, the administrative office is not planning to undergo a new process of re-planning of the organisational model. The manager interviewed declared to “agree little” with the statement that a further re-planning may reduce the amount of human resources needed, and “fully agree” with the statements that a further re-planning of the organisational model may: improve the performances for the users, reduce the costs to carry out the activities, and reduce the time employed to carry out the activities. In 2007 the Commune of Bergamo externalised the services related to traffic lights’ management and traffic signs by handing them over directly to companies in which the Commune participates by 100%. Up to now in 2008, no more externalisations have been planned. The municipal administration directs and coordinates, albeit not yet systematically, the companies in charge of the services externalised. Furthermore, by means of the contract of service, the administrative office controls both the quality of the services delivered and their price for the users. The manager interviewed assessed as “sufficient” the results of the externalisations made both for improvement in efficiency of the services externalised and for the positive internal impact on the Commune and, thus, for the improvement in the quality of the administrative office’s internal organisation. The Commune of Bergamo fully fulfilled the obligations deriving from the Internal Stability Pact and the Financial Bill of 2006 on the reduction of staff expenditure. In order to keep up and enhance its level of efficiency, the Commune of Lodi aims mainly at the renewal of its organisational model (improved staff’s training, incentives for efficiency, encouragement of individuals’ multi-tasking) and at the redefinition of the standards of work performances (reduction of the time to carry out the activities, simplification of the activities, and revision of the sequences). According to the manager interviewed, it has been “problematic but possible” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. In view of the resources’ contraction, our interviewee said to “totally agree” with the statement that the quality of the services remained unchanged and with the statement that the time of response to users was not subjected to change, while she said to “agree little” with the statement that the quantity of services was not affected. The manager interviewed declared to be unaware of any re-planning of the organisational model over the last few years in the Commune of Lodi, and that if one such ever took place, it did not take any advantages anyways for the reduction of expenditure on the personnel or for increased productivity of the personnel themselves. No re-planning of the organisational model is planned for the future, and, in this respect, the

manager interviewed declared to “agree little” on the possibility that a possible re-planning may reduce the costs necessary to carry out the activities or the amount of human resources needed. The Commune of Lodi did not externalise any services in 2007, or in the previous years. For 2008, it has been taken into consideration to externalise the services related to school-bus and cemetery.

In order to keep up and possibly enhance its level of efficiency, the Commune of Pavia has been practising strategies aiming at the integration of the agency’s disparate functions and organisational units, at the renewal of the organisational model (improved staff’s training, incentives for efficiency, encouragement of individuals’ multi-tasking), and at regular controls on the services delivered. According to the manager interviewed, it has been “problematic but possible” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. Then, in view of the resources’ contraction, our interviewee said to “agree” with the statement that the quality of the services remained unchanged, with the statement that the time of response to users was not subjected to change, and with the statement that the quantity of services was not affected. Over the last years, the Commune of Pavia has not undergone a process of re-planning of the organisational model, and the manager interviewed is unaware of whether this will happen in the future. However, she thinks that a possible re-planning of the office’s organisational model in the future may improve the performances for the users (“agree”), reduce the costs to carry out the activities (“totally agree”), and reduce the amount of human resources needed (“totally agree”). As in the past, the Commune of Pavia did not make any externalisations in 2007, and none is planned for 2008 either. The obligations deriving from the Internal Stability Pact and the Financial Bill of 2006 to reduce staff expenditure were, also in 2007, fully met by the Commune of Pavia.

In order to keep up and enhance its services’ level of efficiency, the Commune of Como relies on enhanced computerisation of the services, on the renewal of the organisational model (in the sign of encouraged staff multi-tasking, improved training, and incentives for productivity), on regular controls of the quality of the services delivered, and on the re-qualification of the staff. According to the manager interviewed, it has been “problematic but possible” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel; he declared to “agree” with the statements that both quality and quantity of the services remained unchanged, and “agree little” with the statement that the time of response to users was not subjected to variations. Over these last years, the office has undergone a process of re-planning of the organisational model aiming at the implementation of the Information and Communication Technology. According to our interviewee, this re-planning has not brought any advantages in terms of reduced staff expenditure, whereas “a few” advantages could be observed in terms of increased productivity. For the future it is planned to renew the organisational model of the Commune in the sign of the “externalisation of several services”. With regard to this re-planning the manager interviewed declared to “totally agree” on the possibility that it may improve the performances for the users, “agree” on the possibility that it may reduce the costs necessary to carry out the activities, “totally agree” on the possibility that it may reduce the time needed to carry out the activities, and “agree little” on the possibility that it may reduce the amount of human resources needed. The Commune of Como externalised in 2007 some social and sportive services (in particular the management of some swimming-pools). Furthermore, it is very likely for the next future (in 2008 and 2009) that more externalisations in other fields will be made (in particular school services). The modalities of the externalisations have been both public competitions and, albeit on trial, conventional agreements (in general with the cooperative companies). The services were handed over to both private companies (social cooperatives) and companies directly or indirectly controlled by the Commune itself. The administrative office exerts on

these companies a political and managerial control which takes the form both of coordination and management activities and of supervision on the quality and cost of the services delivered. The Commune of Como fully fulfilled the obligations deriving from the Internal Stability Pact and the Financial Bill of 2006 on the reduction of staff expenditure. Finally, the manager assessed the outcome of the externalisations made as: “good” for cost reduction, since “they were necessary, as the personnel was not quantitatively sufficient to carry out the activities externalised”; “sufficient” for improved efficiency of the services externalised, as “apparently they were not affected negatively”; and “good” for the positive impact on the office’s internal organisation, albeit “it would be better to employ the personnel for the services related to the ever more challenging tasks given to Communes”.

In order to keep up and enhance its tasks’ level of efficiency, the Commune of Cremona aims at enhanced computerisation of its services’ management and at a re-planning of its organisational model by means of such measures as improved staff training, encouraging individuals’ multitasking, and more incentives for efficiency. Over these last years, the office has undergone a process of re-planning of the organisational model aiming at the implementation of the Information and Communication Technology. According to our interviewee, this re-planning was not advantageous in terms of reduced staff expenditure, but rather in terms of increased productivity. A further step in the re-planning of the organisational model could, according to the manager interviewed, improve the performances for users, reduce the costs of the activities, reduce the time of the activities, and reduce also the amount of human resources needed to carry out the activities. According to the manager interviewed, it was “not particularly problematic” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel; he also declared to “agree” with the statements that the quality and quantity of the services delivered were not subjected to variations and that also the time of response to users remained unchanged. The Commune of Cremona externalised in 2007 the services of roads’ and cycle-lanes’ maintenance. These services were handed over to companies in which the Commune participates by 100%. The Commune exerts on these companies activities of management and coordination, administrative and accounting control, and control on the cost of the service delivered. The externalisations were assessed as “sufficient” for cost reduction, “good” for improved efficiency of the services delivered, and “sufficient” for improved internal organisation of the office. However, the Commune of Cremona did not meet in 2007 the obligations deriving from the Financial Bill and the Internal Stability Pact, as the personnel responsible for the services externalised stayed employed in the Commune; nevertheless, the Commune was not sanctioned.

In order to keep up and enhance its level of efficiency, the Commune of Mantova aims at enhanced computerisation of service management and at the renewal of its organisational model (improved staff training, incentives for efficiency, and encouraged individual multitasking). According to the manager interviewed, it has been “problematic but possible” to guarantee up until today the same level of services while fulfilling the obligation to reduce the expense on the personnel. Then, our interviewee declare to “agree little” with the statement that, in view of the resources’ contraction, the quality of the services remained unchanged, and “agree” with the statements that the quantity of the services offered was not affected and that the time of response to users were not subjected to variations. Over these last years, the Commune of Mantova has undergone a process of re-planning of the organisational model aimed at computerisation (the employees followed specific training courses). According to the manager interviewed, this re-planning was not advantageous in terms of reduced staff expenditure, but rather in terms of increased productivity. For the future the office has planned a further renewal of the organisational model aimed at enhancing the sector of Information and Communication Technology. The manager interviewed declared to

“agree” with the statements that the further re-planning of the organisational model may improve the performances for users and reduce the costs to carry out the activities, and “agree little” with the statements that the further re-planning of the organisational model may reduce the time to carry out the activities and the amount of human resources needed. The Commune of Mantova did not externalise any services in 2007, and has not planned to externalise any in 2008, either. The Commune fully fulfilled the obligations deriving from the Internal Stability Pact and the Financial Bill of 2006 on the reduction of staff expenditure. Finally, the manager interviewed assessed past externalisations as “sufficient” for improved efficiency of the services externalised, cost reduction, and improved quality of the Commune’s internal organisation.

6. Conclusions

The results analysis presents interesting remarks. Taking as a point of departure the managers judgments about the outsourcing strategies implemented it emerged that all in all the situation is positive, indeed 5 managers out of 8 (municipalities that outsourced) defined as “sufficient” the quality improvement for the outsourced services. In one case the valuation was “good” in another the answer was “I don’t know” because the outsourcing strategy has just been implemented. In only one case the valuation given was “insufficient”. Encouraging judgments emerged also from the managers valuations of the organizational quality improvements obtained after the outsourcing strategies. 6 interviewees out of 8 (75 %) defined as “sufficient” the quality of services improvements, one interviewee defined it as “good” and one defined it as “insufficient”.

With respect to the consequences of the labor cost cuts introduced by the Law, 7 interviewees out of 10 (70 %) asserted that maintaining the same services quality has been “problematic but possible”; one manager declared that it has been “not particularly problematic” and 3 managers out of 10 defined it as “difficult”.

With regard to the repercussions of the labor costs cuts on the *quality* of services provided in general we founded that the situation is not that easy. One manager out of 10 asserted that she totally agrees with the statement that the quality of service has not changed, 4 managers out of 10 said they do agree and 5 managers asserted that they do not agree wholly.

With regard to the repercussions of the labor costs cuts on the *quantity* of services provided in general 5 managers out of 10 asserted that they totally agree with the statement that the quantity of services has changed and 5 asserted that that do not agree.

On the consequences of labor costs cuts on time needed to carry out the activities 6 out of ten managers affirmed that they agree with the statement according to which the time has not changed negatively, one interviewee totally agreed and the other 4 agreed little.

It has to be considered that 7 out of 10 Municipalities complied with the “Stability and Growth Pact and Economic Policy Coordination” instructions and with the Italian Law “Legge Finanziaria del 2006”.

To conclude, our research question asks whether the Italian Government intervention is effective in increasing the local government’s efficiency. This paper shows that the labor costs in the analyzed sample have not changed while the organizational models have changed (the number of services guaranteed by the municipalities but not directly provided has significantly increased). Differences among Municipalities on labor costs emerged. On the quality-of-services-assessment we found that according to the managers interviewed the quality of outsourced services has improved while there is not consensus on the quality improvement of the other services. These results show that on the sample considered the Italian Government was not able to completely achieve the economic task of reducing the labor costs for PA but it was quite effective in stimulating organizational changes such as outsourcing and computerization. One limitation of this work is that we interviewed members

of the organization and this might have affected the objectivity of their responses. Further research could be done by interviewing the Municipality's costumers (i.e. citizens).

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APPENDIX

Table n.3 ANOVA

<i>Groups</i>		<i>Sum</i>	<i>Mean</i>	<i>Variance</i>
BRESCIA	10	3529.788	352.9788	147.1262
BERGAMO	10	2881.684	288.1684	252.9822
VARESE	10	3386.544	338.6544	141.3833
COMO	10	3435.138	343.5138	84.61833
PAVIA	10	3591.208	359.1208	57.42918
MANTOVA	10	3476.432	347.6432	320.9281
CREMONA	10	3315.137	331.5137	39.25069
LECCO	10	2526.755	252.6755	110.9698
LODI	10	2396.78	239.678	9.599483
MONZA	10	2689.018	268.9018	228.5603

ANOVA

<i>Origine della variazione</i>	<i>SQ</i>	<i>gdl</i>	<i>MQ</i>	<i>F</i>	<i>p-value</i>	<i>F crit</i>
Among groups	26155446	10	2615545	20521.18	>0,05	1.927679
Inside groups	12618.13	99	127.4558			
Total	26168064	109				

AUSTRALIAN LOCAL GOVERNMENT AND QUALITY: MOTIVATIONS AND CHALLENGES

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1.0 Background and Literature

Quality management and business excellence principles and strategies have been practised by organisations for many years and much research has been conducted on a variety of topics relating to them. Whilst recently there has been less publicity surrounding quality as a focus for organisational change and strategy, many organisations still apply quality principles and business excellence frameworks.

According to Kidwell et al (2002), as a response to increasing pressure to control costs and improve services, local governments considered management tools used in the private sector such as activity-based costing (ABC), activity-based management (ABM), TQM, benchmarking, process reengineering, and balanced scorecards.

Much of the literature on business excellence and quality in local government is based on the UK (Benington, 1994, Clark, 1992, Ghobadian and Speller, 1993, Sanderson, 1992) cited in Appleby and Clark 1997) experience in the nineteen nineties which was an era of considerable public sector reform driven by a combination of legislative changes and consumer demands for improved service quality leading to changes such as privatisation and compulsory competitive tendering. A series of government initiatives commencing with the Citizen's Charter in 1991 (Charter Mark) and more recently, in 1997, Best Value and generally modernising local government (Prescott, 1998 and Pratchett, 1999) have been instrumental in placing quality and performance high on the agenda in this sector. These changes commenced with the Conservative Government and were also adopted by the Labour Government, albeit with different titles and slightly different foci. (see Stewart and Stoker, 1989; Stoker, 1989, Tichelar, 1997).

Groot (2005) has suggested that local government in the UK is now the most inspected and regulated in Western Europe. Since 2002 the Audit Commission conducts audits of the performance of local government. In 1999, an organisation for driving continuous improvement in local government was created by the Local Government Association (LGA). It provides, on the basis of a not for profit service, a variety of support services for the sector.

In Canada, a survey conducted by the Canadian Association of Municipal Administrators (CAMA, 2000) in 1999 showed that 24 percent of local governments used a formal documented system of quality management with a further 56 percent using a less formal program. Driving forces included the need to increase productivity, increased budget pressures and the interest of the city manager (CAMA, 2000). Robertson and Ball (2002) identified examples of best practice in Canadian local government, including e-government, customer focus and performance measurement.

A US survey in 1993 (West, Berman and Milakovich, 1995) reported that 11 percent of local governments surveyed had a formal quality program and another 22 percent had a developing program. Similarly, Berman and West (1995) present the findings of a national survey of city managers and chief administrative officers in large US cities on the use of TQM. They found that;

- “local governments use a broad range of strategies, and that city managers play an important role,
- about 11% of cities have a substantial commitment to TQM with efforts most common in police, parks and recreation, streets, and personnel services, and
- it is too soon to draw definite conclusions about the outcomes of municipal TQM initiatives” (1995: 57)

In Australia, the City of Wollongong was the first local government to receive an Australian Quality Award (predecessor to the Australian Business Excellence Award) in 1997. Since then, a number of other organisations have received awards and many are using the framework in the day to day running of their businesses.

UK researchers (Benington, 1994; Clark, 1992; Ghobadian and Speller, 1993; Sanderson, 1992) identified a number of factors forcing the UK public sector to adopt quality management:

- Rising customer expectations, partly because the service from the public sector is poor compared to the private sector in terms of quality
- Constraints on public sector spending forcing local government to focus on value for money and eliminating waste
- Government policy promoting compulsory competitive tendering (CCT) and market testing to open up the public sector to competition
- The politicization of quality due to all major political parties promoting quality for public services.

Robinson, (1999) found the following reasons for adopting quality in leisure services provided by local government: a developing customer-oriented service ethos, competition for local authority leisure services management contracts and the desire of public sector leisure managers to demonstrate their commercial and professional competence.

Berman and West (1995) see external and internal forces driving quality in US local government organisation. External factors include: public complaints, voter demands, success stories in business, media discussion, local capabilities, professional associations, used by nearby governments, demands from other governments. Internal factors include: increased employee productivity, city manager interest, budget pressures, city strategic planning, community planning activities, public relations, initiatives from senior managers, employee interest, council person interest, mayoral interest and initiatives from agency directors.

2.0 What is different about local government?

Local governments operate with a relatively high degree of complexity with some of the unique characteristics including;

- Run by elected Councillors
- Day to day functioning by paid officers
- Decisions made by Councillors and committees based on recommendations from paid officers
- Have monopoly power over services in designated geographical areas

- Multipurpose organisations (many services such as legislative enforcement, libraries, parks, planning, rubbish collection)
- Accountable to Government acts
- Administer many acts eg 477 in Western Australia eg building, fences, dogs, pools, food and eating, etc, etc
- Interact with many other state and federal government departments eg funding
- Provide some services direct and outsource others

Based on this, then one might ask why should a business excellence framework be of interest to local governments and do these industry characteristics play a role.

Is there support for quality and excellence by Councillors?

Which of the many customers should be the primary focus?

Does monopoly power make a difference?

What about leadership for quality? From what level?

What about corporate governance?

How does the relevant legislation impact?

3.0 Methodology

Given the limited number of local government organisations in Australia which have adopted business excellence/quality management frameworks for strategic purposes and the exploratory nature of this study, a case study methodology was deemed most appropriate.

Case study research is of particular value where the theory base is comparatively weak and the environment under study is unclear and offers several advantages. Firstly, there is a continual 'reality check' with what is being researched. What you see and hear poses a constant challenge to your emerging theoretical ideas. Secondly, both qualitative and quantitative research methods can be used for case studies. Thirdly, because it is essential to draw a boundary around your study, the circumstances under which the conclusions apply are normally apparent.

Eisenhardt (1989) argues that the theoretical insights of case study research can be methodological rigour and multiple-case logic. Her subsequent paper (1991) argues that it is possible to substitute subsets within a single corporation. The key point is to provide the variety that is needed to test emergent case study theory from several different perspectives.

The overall research aim was to get some insight into issues of the application of business excellence in local government and to see if the unique characteristics noted above matter all that much. The research strategy was to look at some local governments which have been advanced in quality and use the ABEX framework and have won recognition for this. Whilst the sample is selective, it has the advantage of providing insights into practices and experiences of recognised leaders in the sector. All interviewees in this research were from local governments which had won ABEX awards in either category or award levels.

Interviews with CEO's and/or quality specialists in local government organisations were arranged. In two cases, the CEO's had been responsible for introducing the ABEX framework in three other organisations so coverage in the cases is representative of seven local government organisations.

4.0 Findings

4.1 Motivation for adopting business excellence

Strategy for the business - enables an integrated and strategic approach to running the business

Most of the CEO's saw the ABEX framework as offering a structured approach to managing a cost effective business. Specifically, the framework offers a framework for the organisation to improve based on the questions which are prompted in each category of the framework. The self-assessment provides an important measure of organisational performance. Secondly, it helps focus the purpose of a business and at the same time provides a framework for integrating all the factors which impact on the business. It provides a unity of purpose with a focus on cost effectiveness and sustainability.

Upon appointment in one organisation, the CEO found no plan, no direction and importantly, no measures of how the organisation was performing. Compared with the private sector, where shareholder return and profit provide visible performance measures, there were none in the local government sector so he considered that the ABEX framework would be useful.

Another organisation had embraced a number of concepts central to business excellence but the CEO wanted an integrated approach to running the organisation. The ABEX framework offered this as an option. ISO 9000 had been considered but the focus was considered too narrow. The organisation had adopted customer service training, corporate strategies and information systems but none were considered in a holistic way. The ABEX framework offered a broader focus and an integrative model for looking at people, strategies, systems, customers and such. It also offered the advantage of being a "whole of government" approach serving to highlight the links with other levels of government.

Self assessment tool

The guided self assessment as an integral part of the BEX framework is very useful to provide an initial self assessment exercise to assess the state of play of the organisation. This provides organisations with an external measure of itself on the ABEX framework elements. It showed that systems in particular needed improvement.

Focus for process improvement

Business Excellence frameworks can be used to introduce process improvement and focus on processes which may never have been previously documented and it also enables a greater focus on customer satisfaction (both internal and external). Local governments employ a number of professionals such as town planners, engineers and so on who rather than maintaining "silo" thinking, needed to adopt more integrated approaches to their roles. This meant seeing their function as one of managing assets rather than designers and constructors of roads for example.

Organisational development

The ABEX framework is seen as an organisational development model based on a totally integrated approach to looking at an organisation and its functioning. For several organisations, the use of quality and business excellence was seen as a vehicle for organisational change. The City of Wollongong adopted quality management alongside a senior management restructure in the early nineties in order to create a leaner, more responsive community focused organisation. The tighter budgetary context in local

government and customer demands for better productivity and higher quality services provided the impetus for these changes.

Benchmarking

Being a national and international model and one which had been used in the private and public sectors, the ABEX framework was considered as an important tool for benchmarking. Some local governments wanted to benchmark themselves against other organisations in both the public and private sector to judge its performance.

4.2 Challenges

The local government CEO's indicated as with any change initiatives there are always challenges and some are listed below.

Changes in Councillors, particularly significant people such as the City Mayor and potential moves away from supporting the BEX approach. This could mean that politics could interfere with day to day decisions and functioning. In one City, the CEO indicated that having about half of the councillors with a business background provided strong support for his business excellence direction.

State government enquiries into allegations of issues and problems in local government have placed enormous additional burdens on accountability, media attention and so on which can act as distractions from the core issues of excellence. At the same time they help place more attention on governance and process related issues.

As with any change process there is the issue of moving too fast, pushing people too much, having expectations which are too high, raising the question of determining the appropriate pace with which to proceed. There is also the question of assuming that everyone will support the direction, and what to do with the pockets of resistance. In order to accommodate these concerns, initial introductions to quality efforts were in selected areas of the organisation rather than embracing a whole of organisation approach.

Whilst leaders may be very enthusiastic about where they want the organisation to head, not everyone in the organisation will share this. Furthermore, it needs to not be seen as a quick fix, so time needs to be taken to build it as an investment and create understanding

The need to avoid jargon and use terminology appropriate to a diverse workforce is an important matter for careful attention eg corporate planning, advisory services, outside services eg roads, waste disposal. In all cases, the language had been carefully selected to ensure the take up was not adversely influenced or concepts misunderstood.

4.3 Successes and Benefits

Measures of success include; customer satisfaction levels, value for money in provision of services and as a structure for change management and quality service delivery.

A major benefit of the ABEX offered by one interviewee is that it allows individuals to reach their full potential, which in turn creates a high performing organisation. People find that their jobs are enriched with increased empowerment. It builds the confidence and esteem of people and generally leads to improved employee satisfaction and morale.

In times of tight labour markets and skill shortages, having comprehensive systems in place has ensured that when people leave, there are not critical gaps in organisational knowledge. Mapping processes and systems enables this to be achieved.

A more holistic approach to corporate planning and better integration of HR strategies, asset management, strategic community plans, customer service and use of funds was also universally given as a major benefit.

Customer satisfaction is much higher with a focus on service delivery approaches and process focused approaches rather than departmental and divisional approaches to thinking.

Other benefits include the application of the 80:20 rule in that it helps to focus attention on the most important issues in organisations, as an education tool for managers, and to ensure that milestones are achievable. According to the CEO, the value of the ABEX framework is that it makes managers “think outside the box”

Business outcomes, not simply results are seen as important and these outcomes are based on issues which the community see as important.

Measurement and the relevance of measurement not simply from a punishment perspective but also reward and recognition. The need to have information on the organisation

4.4 Governance

This was explicitly seen as an advantage by some interviewees yet not by others. Whilst a BEX framework offers many advantages for improving governance, particularly with the process and systems component, but also with data and leadership.

A governance issue facing local government is the duality of governance in that the elected Councillors are ultimately responsible in the sense of being a Board, but the paid officials also have a central role in day to day decisions in the organisation. Thus, whilst the Council may provide support for using a BEX approach, they are unlikely to be directly involved in process improvement at the enterprise level. Decisions may still have political overtones.

5.0 Conclusions

The use of business excellence in local government organisations in Australia has largely been internally driven by CEO's in these organisations rather than any external forces (ie not governance, legislation, etc) In most cases it has been due to a drive for a strategic approach to managing and running the business and the framework is seen by most if not all CEO's as an integrated way of running a business. Since it is just a framework, it is not prescriptive and therefore allows each organisation to have its own identity, processes and systems. In all cases, the initiative was that of the CEO and not the governing council.

Australia is different to the UK in the sense that in the latter, the use of quality and excellence frameworks has been prompted largely by legislative changes in the nineties. In Australia, there has not been this external pressure to adopt the frameworks.

The evidence suggests that excellence frameworks have application in local government even though there are unique characteristics in this sector. The excellence models provide a generic business framework.

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LINKING CITIZENS' RATINGS TO SERVICES QUALITY IMPROVEMENTS: AN EMPIRICAL ANALYSIS AND SOME POTENTIAL SOLUTIONS*

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1. Introduction

The “New Public Management” paradigm strongly relies on a commitment to performance measurement together with citizen (customer) orientation (Politt, 1988; Kouzmin et al. 1999; Kelly, 2005). According to this perspective internal efficiency (Brown et al., 1988) should be complemented with “external” citizens’ satisfaction (Skelcher, 1992). The application of these principles requires permanent performance measurements based on internal and external indicators (Swindell et al., 2005). As a consequence several studies have suggested the implementation of TQM (Total Quality Management) to local governments and public administrations (e.g. Navaratnam and Harris, 1995; Redman et al., 1995) and a significant percentage of public organizations have already a formal TQM programme (Redman et al., 1995). Anyway given the doubtful meaning of the word “performance” due to the presence of different local government stakeholders, the design of suitable indicators and in particular the measurement of external quality has been very difficult (Carter, 1991; Kouzmin et al., 1999). In order to gather citizens’ opinions a number of different tools have been suggested but in the last 20 years citizen surveys have received increasing interest as instruments to assess external quality. Today citizen surveys are considered a key part of the local performance measurement system and a growing number of local governments use them to measure the outcome of their service provision efforts and to obtain feedback from their “customers” (Van Ryzin, 2005). In this perspective, objective quality assessments and citizens’ perceived (subjective) quality should both become inputs for decision-making. Anyway according to available literature, it is still not clear if and how citizen ratings can be effectively translated into managerial decisions leading to quality improvements and surveys have not reached their full potential as tools for urban decision makers and managers (Watson et al., 1991).

The aim of this paper is to contribute to this theoretical and practical discussion, by exploring actual difficulties in translating citizens’ ratings into decisions and evaluating potential solutions. In order to reach this objective, a mail survey was conducted among a sample of Italian town majors in spring 2008.

The paper is articulated as follows: first of all the role of citizen surveys as inputs for services quality improvements in local government is reviewed and unanswered questions are reported. The empirical setting, data collection procedures and results are then presented. Finally findings are discussed, and potential solutions and managerial implications are drawn.

2. Citizen surveys ratings as inputs for services quality improvements

Citizen surveys are today well-diffused among local governments (Van Ryzin, 2005). At the same time several studies have tried to define effective ways to conduct these polls and to interpret them (Miller and Miller, 1991). For example, the well-known SERVQUAL

developed by Parasuraman, Zeithaml and Berry (1985; 1988; 1991; 1994) found a wide diffusion among public sector studies (Donnelly et al., 1995; Wisniewski, 2001).

Citizen surveys are useful tools for evaluating public sector services (Miller and Miller, 1991; Watson et al., 1991) and citizen ratings of public services quality can be compared to the results of similar researches in the private sector (Poister and Henry, 1994) or to other municipalities to provide important benchmarks (Miller and Miller, 1991). The combination of citizen surveys and administrators' predictions of citizen views is another way to gain interesting insights (Melkers and Thomas, 1998).

More recently Van Ryzin (2005) and James (2007) have demonstrated how the expectancy disconfirmation model can be helpful to interpret citizen survey findings. Domingo et al. (2007) have suggested the use of RBF (Radial Basis Function) neural networks to predict the evolution of citizens' satisfaction in order to learn from qualitative data.

Anyway even if local governments endorse measuring outcomes as citizens perceive them, they are largely silent on what to do in response (Kelly, 2005). Some authors argue that the problem is that data cannot be clearly translated into meaningful information (Van Ryzin and Immerwahr, 2007) because the appropriate interpretation of even reliable and valid opinions may be quite obscure (Stipak, 1980).

More broadly some scholars question the usefulness of citizen surveys because too often they tell administrators what they already know so that they add little or no value to public managers' understanding of their agencies performance (Poister and Thomas, 2007). As a consequence it is still not clear what public managers can learn from the analysis of citizen ratings and how actions leading to services quality improvements could benefit from these insights (Kouzman et al., 1999).

Innovative techniques to analyse data have been recently suggested in order to try to extract more useful and practical information from data. For example Poister and Thomas (2007) state that it could be useful to ask public administrators to predict citizens' opinions in advance of receiving the survey results and then compare the outcomes.

Anyway even when some insights are gained from citizen surveys, these can be quite different from inputs derived from internal objective indicators (Stipak, 1980; Kelly, 2005), leading to a sort of conflict between internal and external quality. In these situations public officers tend to base their decisions on internal quality outcomes (perceived as more reliable) and to ignore citizens' opinion (Kelly, 2005). On the contrary for private organizations the choice is simpler, because at their core is the need to generate profit in order to survive (Skelcher, 1992) and therefore to adequate their offering according to the indication given by customer surveys (Berry and Parasuraman, 1997). Recent studies have tried to reconcile these views showing how both internal and external indicators are needed for decisions in local government (Cassia, 2008).

More interestingly a few studies tried to understand how the use of citizen surveys can be institutionalized in the budgetary and policy-making processes. Watson et al. (1991) discuss how citizen surveys were formally integrated in the programme and budget processes of the city of Alburn¹ in Alabama. In this context, "the funding pattern in the budget is related to the views expressed by citizens through the survey" (Watson et al., 1991, p. 237). Ebdon and Franklin (2004) studied the same processes for two Kansas cities, Topeka and Wichita², which had experimented with a variety of direct input mechanisms during budget development. Anyway the analyses demonstrated that citizens' participation had not been effective neither in Topeka nor in Wichita. Ebdon and Franklin (2004) found that there was

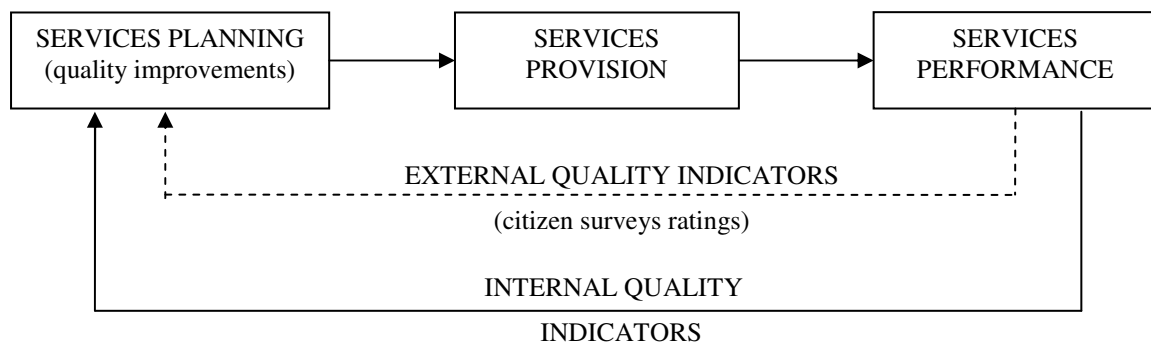
¹ City with a population of about 35,000.

² Cities with population of respectively about 329,000 and 126,000.

no evidence that survey results were considered in the decisions made and conclude that officials need to be careful because if citizen do not feel that their opinions are valued, the results may be worse than if the public had not been contacted in the first place. Thus even these experiments carried out by a few cities revealed to be partly inconcluding.

Therefore, despite the mentioned body of studies, in the public sector it is still not clear how to use citizen surveys to act to improve quality (Kouzmin et al., 1999). This is particularly due to the fact that public sector is more complicated, since efficiency and satisfaction must be combined with “political distribution” (Brudney et al., 1982). It is clear that consumers’ satisfaction cannot be the only dimension in performance measurements and that citizens’ ratings cannot be automatically linked to decisions (Swiss, 1992). The problem itself of scarce resources also implies for the public sector that a certain degree of insensitivity to consumer demands is positively desirable in order to protect the interests of vulnerable customers (Kouzmin et al., 1999). In any case there is the need to make sure that data collected to assess quality should be managerially useful (Williams et al., 1999): “interesting” is code for “useless” information, if it cannot help in making decisions, setting priorities, launching programmes or cancelling projects (Lunde, 1993).

The mentioned debate has therefore highlighted a number of unanswered questions, which will be addressed in the following empirical study. In particular we will explore difficulties and solutions in closing the external quality improvement circle, by studying the link between citizen ratings (services quality feedback from citizen surveys) and planning about services provisions:



The most interesting unanswered questions which will be considered in the following empirical analysis are then:

- were local governments which adopted citizen surveys able to translate them into meaningful decisions and were the outcomes of this process satisfying?
- is it possible to find suitable ways to institutionalize the use of citizen surveys into the budgeting process?
- what problems have to be solved and what solutions can be hypothesized?

3. Empirical analysis

To try to answer the research questions, in spring 2008 a survey was administered to a sample of Italian towns’ majors. The questionnaire was firstly developed through a focus group involving a convenience sample of majors. Depending on the information needed, different question formats were included, as it will be described in detail in the results section. Data

were mainly analysed through descriptive statistics, but also some correlation coefficients and regressions were applied.

The questionnaire was mailed to a sample of 200 Italian town majors, selected out of a population of 8,101 Italian towns, according to a geographical sampling. The Italian public sector has recently been characterized by significant efforts to implement the so-called New Public Management, with specific legislative acts³ trying to work as stimuli for this change.

Given the average small/medium size of Italian towns, majors were chosen as key informants, since we believe they own all the needed information to fill in the questionnaire. Anyway 43.2% of the questionnaires were completed by other political members (mainly vice-majors), delegated by majors.

44 questionnaires were returned giving a response rate of 22%. Average population of the towns involved in the study was 12,422.

Results

Results about all the surveyed towns

Firstly all respondents were asked to indicate if their towns had carried out citizen surveys in the past two years (2006 and 2007): this allowed the creation of two sub-samples, which were partially given different questions. As shown in the following figure, only 14 out of the 44 towns (31.8%) had previous experience with surveys:

		Citizen surveys about all services conducted in 2006 and/or 2007	
		Yes	No
Citizen surveys about one or a few services conducted in 2006 and/or 2007	Yes	2	9
	No	3	30

More interestingly through a regression it was possible to identify a strong relation ($\beta=.39$, $p<0.01$) between experience with citizen surveys and town population: this means that larger cities are more likely to have conducted citizen surveys so far.

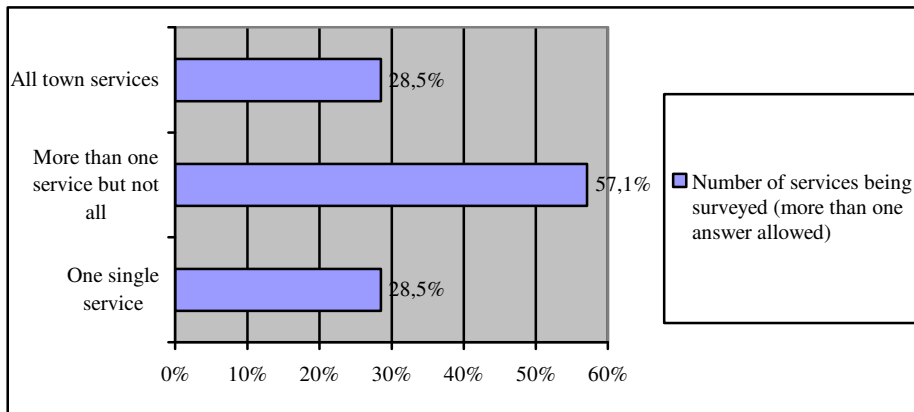
We then asked respondents about their intention to perform citizen surveys in the next two years, finding that 23 of them (52.2%) have planned to conduct a survey for at least one service in 2008 and/or 2009.

Results about towns with experience in citizen surveys in the last two years

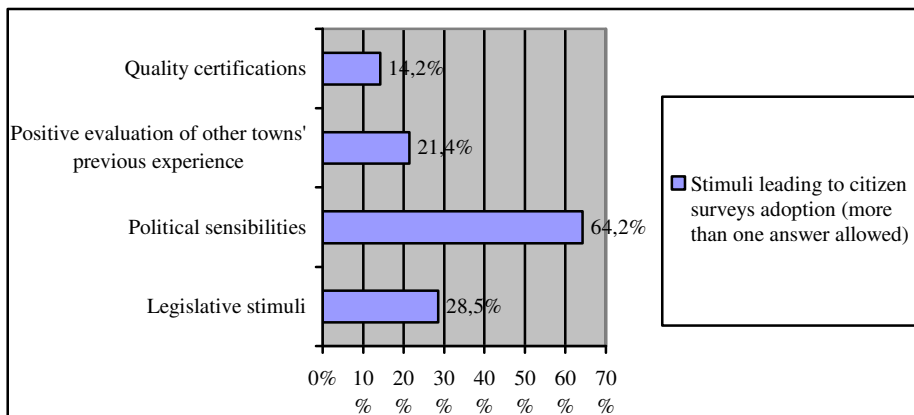
The second part of the questionnaire was to be filled only by towns which had conducted at least one citizen survey in 2006 or 2007. In particular this section aimed at understanding how the poll had been carried out and what problems did the respondent encounter while translating results into services quality improvements.

First of all, only in a small percentage of this towns sub-sample, a survey about *all* local government services had been conducted:

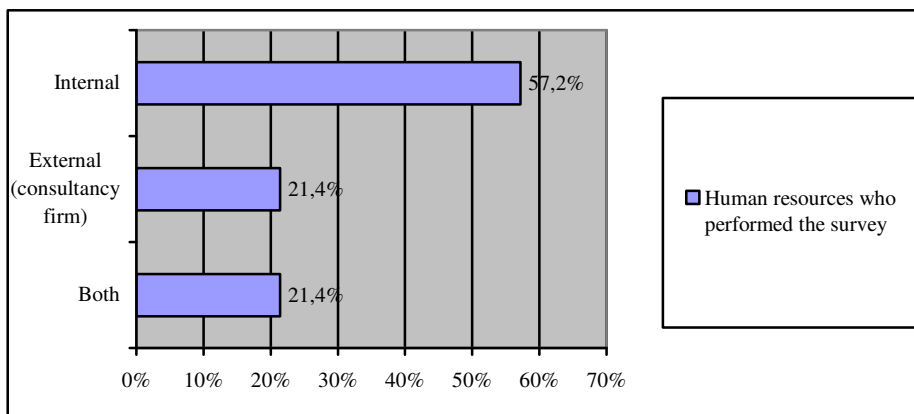
³ For example, Direttiva 24th March 2004 about Customer Satisfaction.



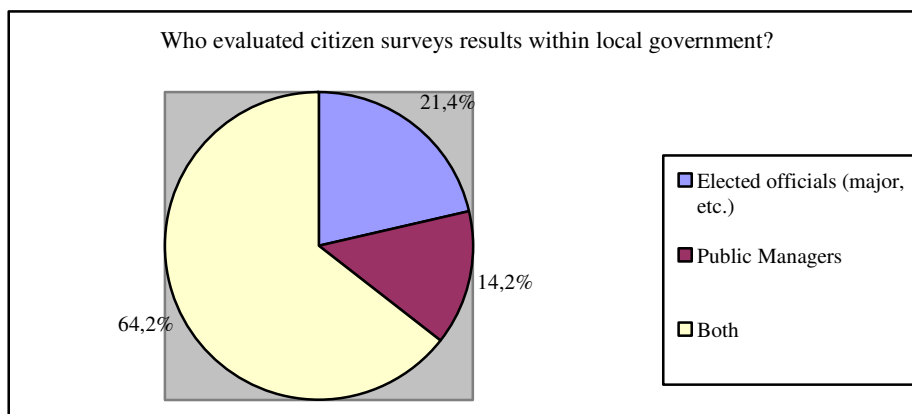
The following question tried to establish the stimuli, which led respondents to adopt citizen surveys. As mentioned before, some specific legislative acts fostering (but not enforcing) these practices have been approved in recent years, but data show that this was not the most important factor underlying the choice under scrutiny:



A third introductory question was about the human resources (internal / external) who performed the survey, showing a significant role of local government employees:

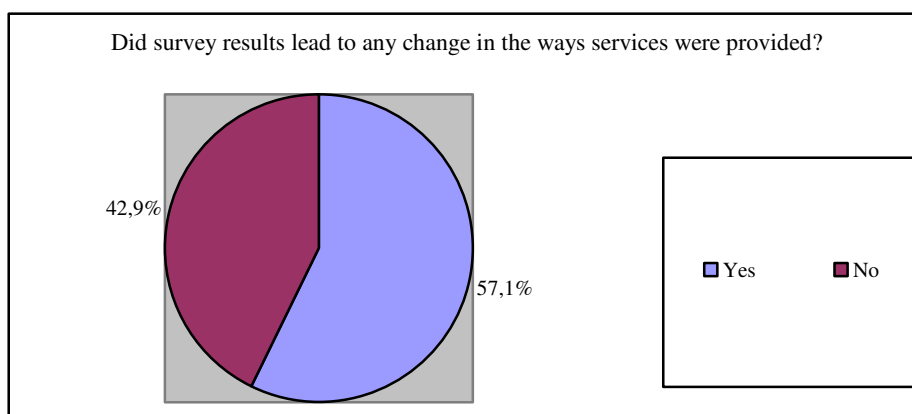
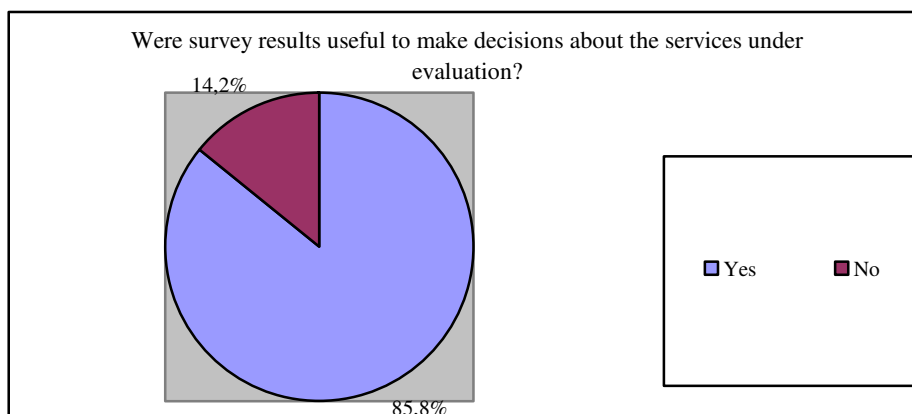


After that, specific questions about the use of citizen surveys ratings were asked, starting from inquiring who evaluated these outcomes within local government:



In all the analyzed cases, results were diffused within the whole organization, as well, so that employees at all levels could be aware about their local government services performance.

The questionnaire tried then to establish if surveys results had been translated into decisions aimed at improving services quality. Data show that ratings were useful to evaluate / make decisions about the service, but in almost half of the cases these decisions did not lead to any change in the ways the service was provided:



In case changes were introduced, we asked respondents who made the related choices, obtaining almost a similar number of answers for: elected officials alone (4), public managers alone (3) and elected officials and public managers together (3). In the remaining cases no answer was given.

In order to better understand some antecedents of the decision to introduce changes, we also analyzed whether respondents whose towns introduced changes differed in “citizen surveys

orientation” as compared to the remaining part of the sample. In particular some items about this aspect were included in the general part of the questionnaire, asking majors how much did they agree with them on a 7-point scale (1= completely disagree and 7= completely agree). Even if the considered sub-sample is not large enough to perform a t-test, results seem to demonstrate significant differences:

	Towns where changes were introduced after the survey (Mean: 1= completely disagree and 7= completely agree)	Towns where changes were not introduced after the survey (Mean: 1= completely disagree and 7= completely agree)
Citizens’ evaluations are useful, regardless they are positive or negative	6.63	6.00
Citizens’ ratings are useful to reorient local government point of view	6.00	5.83
Citizens’ feedback is necessary to improve services quality	6.50	6.33

Finally we found a strong correlation between changes introduced in response to the survey and the presence of internal quality indicators within the organization ($r=0.52$, $p=0.064$): this means that most of towns using surveys as inputs for services improvement decisions, also adopt stable measures of internal services quality. These findings will be commented in the discussion section.

Difficulties in translating survey results into practical measures to improve services quality were declared only by 3 of the respondents whose cities introduced changes after knowing citizens services evaluation.

These difficulties can be summarized as follows:

- Too many priorities emerged from the survey and, given the availability of limited resources, it was difficult to choose which of those priorities not to satisfy;
- Some ambiguities arose in the interpretation of survey results;
- There was a lack of organizational cooperation (difficulties in data sharing within the organization and in change management);
- Some public managers continued to base their choices on internal quality indicators, while ignoring citizen surveys or considering them just as broad indications.

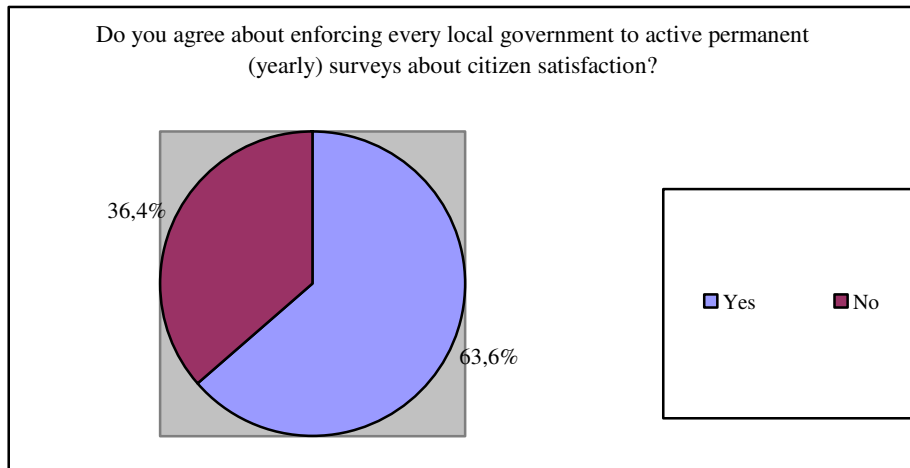
Finally all 14 respondents from towns with experience in citizen surveys in the last two years stated they were satisfied about their experience and 12 of them claimed they were planning to repeat the survey in the next two years.

Results about the institutionalization of citizen ratings in the budgetary process

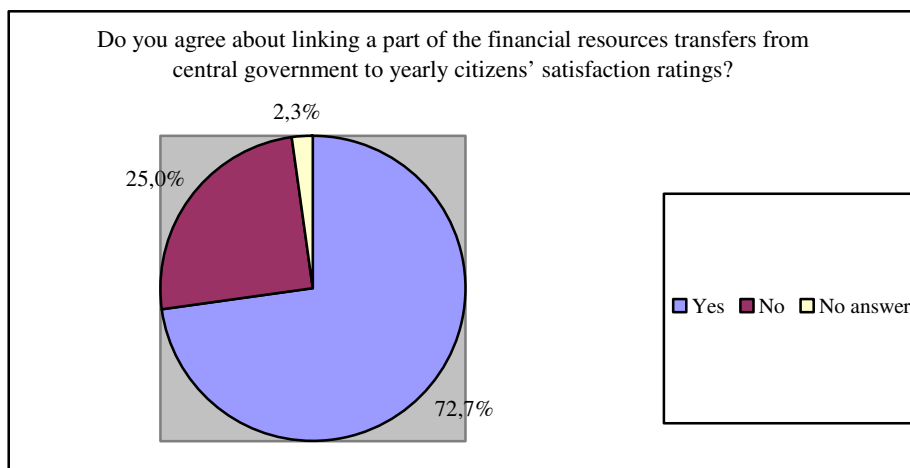
In order to study how citizen ratings could be institutionalized in the budgetary process, we tried to explore potential solutions. The aim of our analysis was to study the feasibility of mechanisms linking citizens’ feedback to services quality improvements. As mentioned before, given the specific context under observation, this link cannot be deterministic, meaning that citizens’ evaluations cannot lead to mechanical consequences in public officials’ decisions.

In particular, the objective of our study was to explore if the link between citizens’ ratings and services quality improvements could become real by binding a part of the financial resource transfers from central government to yearly citizens’ satisfaction ratings (referred to local government).

Obviously the prerequisite to activate such measures is to make yearly citizen ratings about every local government available. Therefore we asked to the respondents (all the 44 town majors included in the sample were considered, due to explorative nature of this part of the research) whether they agreed to enforce every local government to active permanent (yearly) surveys about citizen satisfaction, finding a large percentage of positive answers:



Finally 72.7% of respondents agreed about the possibility of linking a part of the financial resource transfers from central government to yearly citizens' satisfaction ratings:



Anyway, in the space left for personal comments, some majors signalled that the suggested mechanism to institutionalize citizen ratings in the budgetary process could create some difficulties for the smallest local governments, which do not own enough resources to carry out polls. Furthermore other respondents underline the importance of impartiality in determining citizens' satisfaction, which means that a central institution should verify data collections among local governments.

4. Discussion

Given the strong emphasis New Public Management is putting on external quality (together with internal quality) performance, the aim of this paper was to better explore the link between citizens' ratings and services quality improvements. This represents one of the main gap in New Public Management, since citizen surveys often do not lead to any decision about services provision.

Findings from the mail survey presented in the paper partially confirm previous insights, but at the same time highlight unexpected results about potential solutions to the problem under scrutiny.

First of all only about one third of the surveyed towns have conducted citizen surveys so far and the choice to do them has not been the result of legislative stimuli but of isolated political sensibilities. As regards the use of citizens' ratings 85.8% of respondents claim they have been useful, but only 57.1% report they have led to changes in services quality provisions. This gap can obviously be attributed to the fact that citizens could have given very high ratings to the surveyed services, thus indicating the absence of any need for changes. Anyway considering this finding together with other data that emerged from our study, one can observe that changes in services provisions were largely introduced in local governments where objective indicators were applied, as well as those where surveys were more "citizen surveys oriented".

This can lead to think that only in a group of towns, citizen surveys were coordinated within a real New Public Management approach, together with internal quality measurements, significant citizen orientation, and so on. In the remaining part of the sample, citizen surveys seem to be more a tool to measure political consensus and citizen satisfaction, without a real interest in linking them permanently to decisions.

The second part of the analysis highlights interesting results about suitable ways to institutionalize citizens' ratings in the budgeting process. As a matter of fact a very high percentage of respondents agree about the possibility of linking a share of the financial resource transfers from central government to yearly citizens' satisfaction ratings. Obviously this share of money cannot be too large. At the same time citizens' satisfaction ratings should be impartially measured in the same way for all local governments.

This insight is just an input from an explorative analysis but it demonstrates that suitable solutions to close the circle between citizens' ratings and services quality improvements are available. These solutions seem to act in the right way, in that they do not close the circle in a deterministic way, acknowledging that sometimes, given the particular nature of local governments, some requests from (groups of) citizens cannot (and must not) be satisfied.

Anyway this seems to be a central point, since without any kind of formal links between citizens' feedback and decisions about services quality, surveys and the so-called external quality risk to remain pure exercises of partial citizen involvement.

5. Managerial implications and conclusions

The "New Public Management" paradigm strongly relies on a commitment to performance measurement together with citizen (customer) orientation. In this perspective, both objective quality assessments and citizens' perceived (subjective) quality should become inputs for decision-making. Anyway according to available literature, it is still not clear if and how citizen ratings can be effectively translated into managerial decisions leading to quality improvements. This paper has tried to close this theoretical and managerial gap by surveying a sample of Italian town mayors.

Two main managerial implications have to be discussed. First of all in some cases citizen surveys seem to be applied as polls about political consensus without any linkage to services quality improvements. This indicates that "New Public Management" still often needs to be diffused within local governments. Secondly, according to the inputs from the analysis, potential solutions to link citizens' ratings and decisions / changes about services provisions must be carefully developed. As mentioned before, these links could pass through a share of

resource transfers from central government, but this idea is just a first insight for future developments.

Several limitations of this study should be underlined. First of all results could have been influenced by “New Public Management” degree of development within the specific research setting. Therefore attention should be paid when generalising the results to contexts characterised by more advanced practices. Moreover given the small sample size, further studies will be necessary to strongly corroborate findings. Finally the possibility of respondents self-selection should be mentioned, which means that majors who completed the questionnaire could have been more oriented toward “New Public Management” than the whole population.

New streams of research emerge out of the described research, as well. In particular future studies should verify the feasibility of the potential solutions which emerged from this analysis and/or should develop other alternatives. In any case the link between citizens’ ratings and services quality improvements remains a fruitful area for future research.

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CITY LOGISTIC: MODELS, APPLICATIONS AND TRENDS

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Key words: City logistic, governance models, territory, environment.

1. Introduction: from logistics to city logistic

The present study, starting from a brief introduction devoted to logistic basic concepts, intends to frame the city logistic field; special attention shall be reserved to the relation between mobility and urban transportation, without disregarding the effects on the economy and on the environment, in an Italian territorial reality, with a legislative as well as a territorial planning evolutionary process.

The main intent of this paper is to systematize literature reference and verify the state of the art in the so-called *Italian and foreign* “pilot” Urban Distribution Centers ¹, reporting data and research results.

Logistics, definable as “*all the organizational, management and strategic activities governing the flows of materials and relative information, from the beginning at the suppliers to the delivery of finished goods to the clients and to after sale service in the companies*” ², is a key process for each economical organization (a company, a city, a family, etc.), usually subject to *make or buy* type logic analysis ³, possibly considered among the most interesting strategic activities, able to improve the organizational efficiency and effectiveness.

Conditions pertaining to the economic situation – petroleum cost, traffic congestion, several organization governance levels, environmental impact - suggest the adoption of instruments allowing to plan, manage and coordinate the traffic of goods towards cities, aiming to improve its efficiency and effectiveness in the main territorial realities.

¹ Urban Distribution Centers, in Italian Centri di Distribuzione Urbana (CDU).

² In such sense, “business logistics” includes the Materials Management field (supplies, management of materials in stock, production planning) as well as the Physical Distribution Management one (management of finished products, storages and transportations). ASSOCIAZIONE ITALIANA DI LOGISTICA E DI SUPPLY CHAIN MANAGEMENT – AILOG – (a cura di), *Annuario dei logistici italiani*, Milano 2001, p.37.

³ R.VONA, R. VONA, “Riflessioni sul concetto di distretto logistico”, in *Sinergie*, n. 56, 2001.

In other words, there is a need of carrying out the exact concepts of the so-called city logistic, meant as *part of logistics which studies ways to meet the demand of urban transport of goods in order to guarantee the proper service level, minimizing congestion, pollution accidents and, if possible, also transfer costs.* (Conti, 2005).

For example, in the trade distribution field there was a concentration process of the purchase centers, with the intention of making use of economies of scale due to the reduction of storage costs, of costs connected with transport, etc... The adoption of rationalization oriented logics, imposed by market needs, becomes advantageous for society, especially in traffic decongestion, low cost transports and environmental preservation terms.

Similarly, in a perspective of optimizing available resources, cities are more and more orientated towards the realization of logistic *transit points*⁴, identifiable in the now famous CDU.

Interest for city logistic is increasing, especially because of significant pilot experiences- *Padova, Lucca, Frosinone, Reggio Emilia, Modena, Vicenza, Parma* – which are spawning important impact benefits. The advantages connected to city logistics, which turn into an improvement of the environmental conditions and, for sure, of the quality of life, noticed by who experiences the city day by day and/or works in the various sectors of the urban economy, can be measured by the means of performance indicators formulated and, in time, improved by experts from all over the world⁵.

The “logistic” management and organization of the spaces, according to a broader consideration of the environmental recovery and conservation, gain a prominent position even among urban plans, traffic, trade and linked urban plan activities. In this sense, persons in charge of territorial planning and urban spaces become aware of such issues: managers and the several stakeholders living and working in the Italian cities have to reconsider spaces, businesses and traffics in a perspective sustainable at an environmental level, observing EC regulations⁶, which set certain organization standards and modalities and “sustainable”⁷ planning, in the only aim of protecting and improving the quality of life⁸. Studies in relation

⁴ With the term logistic transit point (also known as cross-docking) we identify a distribution modality which plans flow of goods management, by the means of a multi-manufacturer/multi-distributor platform, towards the final delivery point (typically a point of sale) cutting middle storage stages of goods. A. PASTORE, *I nuovi rapporti tra industria e distribuzione. Le aree e gli strumenti per la partnership*, Cedam, Padova 1996.

⁵ On such point, these works should be considered: Taniguchi (2000) regarding methodology for city logistic performance evaluation by the means of dynamic traffic simulators, Visser (1999) for the researches concerning the relation between public politics and planning of urban transport and Yamada (2001), in reference to studies about optimization of logistic terminal location.

⁶ The start off of the project derives from the EU Directive, acknowledged with Ministry .Decree 60 of 02/04/2002, according to which having past the limit value of PM₁₀ allowed for 35 days, forces municipal districts to put into effect drastic measures as the total traffic block or the suspension of all activities involved in passing the limits.

⁷ The concept of sustainable development is connected to the consideration of broader concepts like human value, civil society, observance of laws, quality of life and environmental conservation. Development becomes sustainable when it is able to improve certain realities though keeping resources availability, their use and the possibility of conserving their potential final stock exhaust in balance. In this sense, a sustainable development can be achieved when:

- the integrity of the ecosystem in respect of nature is guaranteed, using compatibly resources and avoiding wastes;
- the depletion of the environment and its resources is avoided, developing employment, income and economic efficiency

⁸ In such sense, regional laws frame planning of spaces and businesses in the perspective of energy saving, of reduction of environmental impact and improvement of quality of life, in full respect of EU provisions. For example, consider the new regulations relative to urban trade planning or the urban legislations connected to the liveability of areas and to the reduction of energy consumption. The start off of the project derives from the EU Directive, acknowledged with Ministry .Decree 60 of 02/04/2002, The start off of the project derives from the EU Directive, acknowledged with Ministry .Decree 60 of 02/04/2002, according to which having past the limit

to urban mobility management and, in particular, to rational control of data and flow of goods have increased in these last years; starting from the fundamental concepts of logistics, some basic arguments that can outline the essential features of innovative professional figures and particular governance models.

Issues connected to city logistic and possible governance assets selected to enact such projects derive from the definition and the combination of aims at the base of government action of local administrations and market players; a great part of the best practises, which shall be presented and analyzed later, are mainly based on a public-private type of governance (public-private partnership), that is to say on forms of cooperation able to integrate competences and resources of each member towards the joint achievement of goals of general interest⁹.

In the light of considerations regarding the right equilibrium among traffic flow regulations, environmental impact and congestion in the urban distribution of goods, we can possibly affirm that the variation of only one factor doesn't mean a real improvement of the urban system,

On such purpose, some models (Box 1) which allow to study the evolutionary or worsening direction of provisions regarding urban traffic are pointed out (Newman-Kenworthy model, 1984).

Such models, useful to understand possible planning drifts or, better, effects of some provisions- traffic, urban environment, allocation of spaces, do not consent, however, a systematic and total view of a structured totality of variables (even casual) necessary for the development and the optimisation of a good city logistic project.

In such sense, Italian and European experiences suggest the importance of integrating territorial planning (municipal , provincial area or similar territorial group) with a "logistic" view of the spaces able to redefine the aims of urban management (traffic congestion, environmental support and need of social development) in the broadest design of territorial development in a macro-territorial area point of view.

The model of Newman e Kenworthy of "Planned Congestion " (1984) is based on the hypothesis of scenarios resulting from provisions taken in two different urban traffic conditions: free traffic and congestion traffic. As highlighted by the following diagrams, both examples, in a short period of time and monitoring only one traffic variable reach a same situation of equilibrium. Moreover, the so-called theory of "Planned Congestion" has as a plan mobility management by the means of congestion in points of the city where the phenomena is possibly considered to cause less damages.

The first hypothesis shown (Illustration 1) starts from a situation of free flow traffic and points out the effects of a possible improvement of the infrastructural network which could encourage the use of private automobiles, increasing fuel consumption and discouraging public transport.

value of PM₁₀ allowed for 35 days, forces municipal districts to put into effect drastic measures as the total traffic block or the suspension of all activities involved in passing the limits.

⁹The document COM (2004) 327, *Libro verde relativo ai partenariati pubblico-privati e al diritto comunitario degli appalti pubblici e delle concessioni*, has been approved by EU on 30 April 2004.

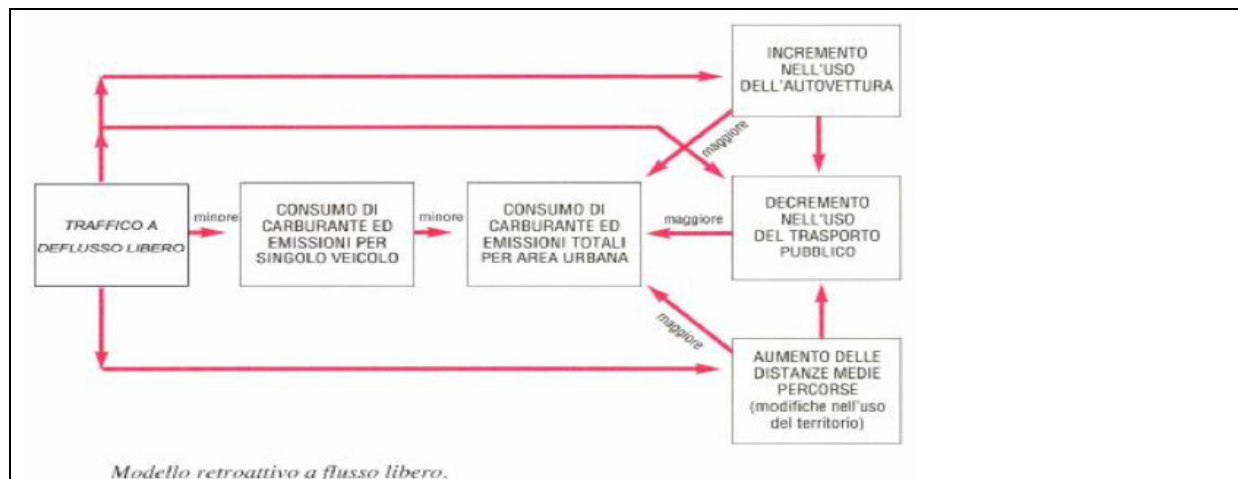


Illustration 1

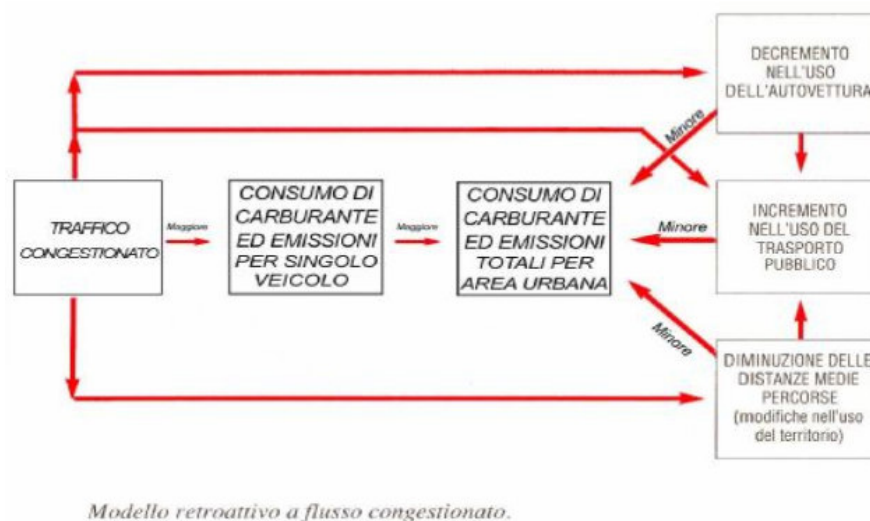


Illustration 2

The inverse hypothesis L'ipotesi inversa (Illustration 2) contemplates a situation of congestion traffic: improving public transports network and discouraging the use of private automobiles, shall tend to reduce environmental impact and increase the average speed travelling time.

In regards to integrated processes of territorial logistic planning, public administration capable of “interpreting” the territory, establish the priorities sustainable interventions and better address private and public resources gain considerable importance.

In such sense, the need of involving several stakeholders is perceived in order to recover resources external to public authorities, but also to trigger a strong impulse to local development, unable to be reached with an only public intervention.

Anyhow, an interesting contribute from Cattaneo¹⁰, where the author intervenes on the concept of city logistic consents to consider some weak points of the organization approach of urban distribution, suggesting to read over again – also in the light of the paradox of Braess¹¹ – the guide

¹⁰ M. CATTANEO., “City logistics e il paradosso di Braess”, *Il giornale della logistica*, Milano 2004.

¹¹ BRAESS, C., A. NAGURNEY., T. WAKOLBINGER, “ On a Paradox of Traffic Planning”, translated from the (1968) original Braess paper from German to English, *Transportation Science*, Vol. 39, No. 4, pp 446-450.

principles of traffic rationalization and reduction of environmental impact, besides the achievement of economic efficiency.

In fact, it is interesting to consider the observations about traffic congestion which is very hard to reduce, according to the mentioned paradox of Braess: the increase of the offer of mobility in a long period of time, as a paradox, makes congestion worse rather than improving it, given that traffic shall have the tendency of increasing until it compensates the new capacity reached and instead of having commercial vehicles, there shall be an increase of private automobiles present.

The complex way of functioning of a city often gives life to compensations for which who suffers a negative externality as a paradox is also the beneficiary of the activity generating this externality; on such point, in a city logistic each action meets with many reactions and, taking in consideration the 3 main elements (environment care, economical efficiency and social engagement attention) on which it is based, it shall be useful to balance them in the best way, paying particular attention to the governance type of project, costs (social and economical) to implement an ambitious project and incentives to allocate to persons involved (Cattaneo, 2004). The following table schematically illustrates strategic orientations for urban distribution of goods.

Table n.1: strategic orientations for urban distribution of goods.

Distribuzione urbana – orientamenti strategici		
semplificare	gestire i conflitti	sostenere il costo del cambiamento
individuare regole semplici e uniformi	condividere le basi tecnico-scientifiche degli interventi	quantificare i costi e i benefici delle alternative disponibili
privilegiare progetti e pacchetti di misure specifici per ogni singola filiera (obiettivi definiti)	prevedere l'evoluzione della domanda dei trasporti	identificare le migliori soluzioni in termini di costi e benefici
risalire alle cause della domanda di trasporto ed agire su di esse	definire gli effetti 'reali' delle politiche dei trasporti	condividere i costi del cambiamento

Source: CATTANEO, "City logistics e il paradosso di Braess", in *Il giornale della logistica*, Milano 2004.

The observations on urban distribution of goods suggest some similarities between the company logistic context and the urban one.

The phenomenon of the logistic concentration taking place in these last years, has lead manufacturing companies to keep under control the following variables:

- The ratio cost-unitary value of the product: in this case, the incidence of costs of handling and transport decreases when the unitary value of the product increases and vice versa;
- The cost of transport incidence: in regards to bulky products the incidence of transport costs is high and in such a case the distribution centre must be as near as possible to the final consumer;
- The distribution frequency: more stock available mean less distribution costs.

By the means of these elements, the CDU are like a solution for the enterprise in terms of rationalization of costs and, in the same time, they are responsible for the distribution of the *last mile* hard to manage evenly by all retail sales.

2. Territory government among mobility transports, economy and environment.

This part of the study concentrates on the relation between mobility and transports, economy and environment with the purpose of highlighting the constituents of the demand and offer emerging from new urban transport and mobility governance instruments, better identified by city logistic projects and by the so-called mobility management, as well as by projects -strongly influenced by the geomorphologic configuration and by the infrastructures identified and, sometimes, influenced the development of some areas- able to contribute to the development of areas by the means of an economical-trade type strategic planning.

Dealing with the mentioned arguments, some general considerations, regarding the territorial government and the relation with the economical related realities, are proposed. When defining its aims, the territorial government can consider the need of (Penati 2008):

- Identifying the performance to achieve with the aim of creating benefits for townspeople and for business (*improvement of the quality of life and competitiveness of local systems*);
- Identifying the performance to achieve for the system development;
- Identifying the performance to achieve through different moving forces: institutional and social, public and private (*diffuse partnership*).

In the years the territorial government, especially in Italy has modified its logics of operation: the role of the public performer, in comparison to the development of the great territorial politics, has strongly changed going from a layout based on the State as the only planner and central entrepreneur to a situation where local and territorial entities have developed special abilities when reporting to numerous bearers of interest, according to a logic of progressive self government of the territories. This change is of essential importance to understand the effectiveness and efficiency of governance models even public-private ones, subject to projects involving the territory, mobility transport and environmental preservation. In the following table (Table No. 1) the change of the role of public administration in the development of territorial politics recorded from the 50's to our days, is pointed out.

Table No. 1. Evolution of the role of public administration in the several development stages of territorial politics

<i>periodo</i>	Fasi di sviluppo delle politiche territoriali	Ruolo della pubblica amministrazione
Anni 1950 -1970	Centralità delle grandi infrastrutture e dei grandi poli di sviluppo industriali imperniati sulle grandi imprese	Ruolo decisivo dello Stato centrale pianificatore e dello Stato imprenditore
Anni 1970 – 1980	Valorizzazione dei distretti e del tessuto delle piccole-medie imprese, con centralità di territori storicamente rilevanti	Ruolo forte dello stato centrale ed enti territoriali e locali, visti ancora come amministrazioni indirette dello Stato
Anni 1980 – 1990	Rilevanza dell'innovazione tecnologica ed evoluzione del paradigma territoriale dei distretti nel paradigma del " <i>milieus innovatore</i> "	Rilevanza dell'interazione e collaborazione tra Stato centrale ed enti territoriali e locali, visti ancora come amministrazioni indirette dello Stato
Anni 1990 - 2000	Enfasi sull'interazione tra sviluppo produttivo e territorio e sullo sviluppo trascinato dalle variabili di natura sociale	Affermazione del paradigma dello "Stato leggero" che pone le premesse per attuare forme di sussidiarietà verticale e di partenariato pubblico privato e nascita dell'attore pubblico collettivo

Anni 2000 - 2010	Centralità del capitale sociale e dell'integrazione tra risorse endogene ed esogene dei territori locali	Centralità delle istituzioni territoriali e locali e sussidiarietà orizzontale in logica di autogoverno, in cui l'attore pubblico si integra con attori sociali e privati come promotore, attivatore e coordinatore
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Source: adapted by R. Camagni 1999.

This evolutionary process emphasizes the link between the economical fabric of a territory, the logistics market globalization and competitiveness (Tavasszy et al. 2003; Harrison e Hoek, 2001); nowadays competitiveness is played among the several supply chain organization (Ballou 2004) and not on the single business. In this type of process, belonging to the so-called *logistics management* (Fisher, 1997; Christopher 1998; Cooper, 1993), the infrastructures and in particular the territories themselves are immediately involved in the planning integrating political and business needs of the local government in a public-private perspective, towards the final developments of levers which provide the basic elements – *in infrastructure and technologically advanced terms* – necessary to efficiently and effectively interface with a network of companies extremely qualified able to provide also a good logistic outsourcing.

2.1 Towards the integrated planning of mobility and urban transports

The winning union between mobility and urban transport takes shape in the development plans of urban mobility and in city logistic project; in these last years Italy, also because numerous EU interventions, has had the need of organizing cities and traffics in a week territory by an infrastructural level point of view. The mobility and the planning of urban transports, not by chance are the first qualifying tool of the population life (as of today, the Italian population counts an average of 62automobiles for each 100inhabitants¹² - almost one third more than the European average).

The wholesale use of automobiles, the lack of adjustment of the infrastructures, an absence of incentive of public transportation, wrong urbane decisions, the lack of incentive of using bicycles and the residual valorisation of the pedestrian precincts have caused in a few years an increase of carbon dioxide emissions, notwithstanding the restrictions imposed by legislation according to which these should not go over, within 2012 the threshold of 130g CO₂/km.

Since 1998, in Italy the lawmakers haven't overlooked the sustainable mobility plans and, with the intention to recover and to protect air quality they have imposed regions to regulate the relation between public administration of the territory, mobility and transports, considering also the new reality of *mobility management*¹³ besides the introduction of new solutions to knock down urban traffic as *community taxi and car sharing*¹⁴.

¹² Source: euromobility 2008

¹³ With the Legislative Decree of 27March 1994 sustainable mobility in urban areas, Ministry of the Environment – G.U. No. 179, 3August 1998 – the figure of the business mobility manager is defined, where his role is to identify and evaluate of the availability of the company staff towards other options than using private automobiles suggesting to chose alternative transports which consent a redaction of traffic congestion, a redaction of the of greenhouse gas emissions, and therefore, a way of getting Italy closer to Kyoto's objectives – *in reference to Italy a 6.5% reduction of the emissions within 2010* -. This new figure is also present in municipalities "Piano degli Spostamenti Casa-Lavoro" (P.S.C.L.) is also recommended to municipalities where funds deriving from the Decree of the Ministry of Environment – 20 December 2000 – which in the section "incentive of projects proposed by business mobility managers", promotes the creation of interventions of organization and management of the demand of mobility, of persons and of goods with the intentions of aiming the structural and permanent reduction of the environmental impact deriving from urban and city traffic by the

Management mobility takes shape as an approach to demand mobility management in the perspective of efficiency, environment respect and optimization of the quality of life in the cities; in these years, in fact the figure of the *mobility manager* has gained a new role, even in territorial planning and within Public administration¹⁵.

3. Urban distribution centre: strong, weak points, governance and main cases of excellence in Italy and in Europe

The following paragraph concentrates on the concept of *UDC* in the Italian and foreign experience particularly referring to pilot project spreading, similar by a technical and governance structural point of view, but often contextualized in different realities which influence it's development and duration¹⁶.

CDU, located mainly near the outskirts of cities and in particular in strategic connection points are characterized by the possibility of concentrating goods storage trying to maximize urban transport efficiency; they support the so-called "tense flow" logistics, where goods are stored and delivered to final costumers through networks based on the *Hub & Spoke* concept¹⁷ (Dallari, Marchet, 2003) and of the *transit merge* activity¹⁸. Such structures usually characterized by a private-public governance need a know-how permitting to create types of cooperation among operators with different objectives¹⁹.

In this sense CDU have features in common with the so-called logistic *transit point*, able to coordinate the demand and the offer of logistic services and combining additional services to them additional services useful for the daily activity of retailers active in city centre²⁰. The offer of logistic services becomes realistic in activities where it is possible to reduce the issues caused by an interruption of the supply chain, in the perspective of an improvement of the quality of life as the activity of storage and reorganization of the goods of delivery by the means of carriers with low environmental impact, of control through satellite and computerized systems.

means of putting in act radical politics of sustainable mobility. With this Decree the incentive of the figure of the mobility manager is suggested to all municipalities with no limits to those with atmosphere risks.

¹⁴ Is generally supplied by a company set up by several body types and offers the possibility of sharing automobiles to its subscribers each of which pays for the real use of the automobiles. See note: BURLANDO, MASTRETTA, *Il Car sharing: un'analisi economica e organizzativa del settore*, Franco Angeli, Milano 2007.

¹⁵ Municipalities have to seriously consider the line of business "mobility manager", who's job is to promote the realization in the organization and the manage the demand of mobility, persons and goods with the intentions of aiming the structural and permanent reduction of the environmental impact deriving from urban and city traffic by the means of putting in act radical politics of sustainable mobility. According to some authors (Milone 2007), mobility management could include the all subject of city logistics because, while the latter is not controlled by the law, management mobility occupies a recognized role in the organization and management of spaces, mobility and urban transports.

¹⁶ For example, the incidences of being unable to manage the possible increase of costs or the lack of cooperation among operators in a short time and, in general, during the stages of *start-up*.

¹⁷ The *Hub & Spoke* concepts synthesizes a model of concentration of territorial maritime and air connections in a few points called *Hub* (points with more traffic or transit) from which goods later depart towards other junctions through direct rationalized connections called *Spoke* (Dallari, 1999)

¹⁸ This activity consists in splitting the customer's order in parts dispatching them from different deposits of production locations, organizing them by lines of product and then reassembling them in a logistic platform – which in our case should be represented by the UDC – guarantying only one delivery to the costumers, and only one transport document (Leonida 2003)

¹⁹ We refer to the objectives of the several retailers connected to a UDC – differential timing of deliveries, coordination of the different suppliers, time spent receiving the goods – as well as to the public operator ones – different needs of storage logistics and issues regarding distance management according to the use of loads inside eco-compatible carriers

²⁰ CDU could offer the possibility of renting spaces for the storage of goods to trade operators involved in the project

Therefore the concept of total logistic cost emerges (McCann 1998) – a series of components of cost which affecting logistic activity – not to be considered as an absolute value, but inside a broader project with the objective of balancing possible limits to the Just in Time and to the specific supply chain regarding the retailer, thanks to possible fiscal incentives and collaboration prospects between private people and the public section. A great help for the development of the project can come from a subsequent aggregation of retailers – maybe through promoted associations – with the possible identification of only one person in charge of the relations with the UDC; the UDC would optimize delivery times and modalities of the goods²¹, referring to one only interlocutor.

Of course the benefits connected to the realization of a UDC are in contrast with some weak points, among which the reluctance of haulage contractors of goods on behalf somebody, who could consider such product as not very profitable, the difficulty of centralizing the distribution of goods with different perishableness and unitary value, the need of guarantying an adequate utilization of the capacities of the load capacities of the vehicles employed.

Therefore, the need of identifying an organization strategy adjusted to the expectations of the varied stakeholders involved in the project for each CDU emerges from here. For example in a private public management, it is necessary that the economical-financial balance of the organization is also guaranteed by the ability of generating income, besides the presence of public contributions; moreover to avoid conflicts of interest between governance and distribution operation carriers employed in the transport of products to the UDC's maybe involved in the governance should not opportunely take part to delivery activities of the so-called “the last mile”.

3.1 European and Italians experiences

The organization and structural interventions suggested by the city logistic (Limited Traffic Zones, circulation time slots, limitation in relation to the dimensions of the means of transport, creation of UDC's, night time transport of goods, etc.) have been several at a world level.

In Europe the organization models have been distinguished in reference to the structure of UDC²².

We talk about *German model* when we refer to voluntarily constituted cooperations of private carriers with the aim of creating and managing the distribution centre, in this case the public operator only corresponds a percentage of funds by the means of financial baking or specifically participating to the capital at risk. Such model has had a good reply in Brema – *operative from 1998, by the means of a 40% public financial baking, where the 13% of the number of daily trips and more than 28% of the average rate of load of the vehicles have decreased* – and in Freiberg – *a reality founded in 1993, by the means of a private cooperation of carriers able to guarantee a 30% felling average rate, with 33% reduction of the trips and a 50% knockdown of the km covered in the same referring time period.*

The Dutch model instead expects that the municipal district shouldn't only support the creation of urban platforms but it should intervene also with specific provisions regarding the delivery of goods giving out urban distribution licences to drivers with particular requirements which permit them to organize deliveries in broader circulation time slots (up to 16hours a day).

²¹ A similar experience is now put into practise by some manufacturers and grocery distributors, even if with different modalities and objectives: the manufacturer/distributor uses only one carrier for all deliveries, who uses the so-called *cross docking*, the only platform for temporary storage of goods coming from several manufacturers to be sorted and then to several distributors

²² www.logisticamente.it

Thun and the Swiss experience

Since 1997 a project of city logistic, which is gaining today a lot of success in the terms of the results reached, has been realized in the city of Thun; we must underline the operation of the public-private governance framed in an organization called “SpediThun”²³ which manages the related UDC.

In fact, the partnership is composed of five participants, two of which belong to the local transport. The project is aimed to provide at least 200 shipments a week, and at the moment it has already zeroed the presence of lorries with trailers downtown, with a reduction of 20% of the number of trucks moving inside the urban area: SpediThun delivery vans manage an average of 50 tons of goods a month. Among the success factors we find the collaboration with private customers, the trade operators, the suppliers and a good internal organization of UDC whose management in operation, strategic and management terms is incorporated in the urban mobility planning.

The public part, in this case represented by municipal district, is now in charge of the financial backing of the marketing and institutional communication activities, while the private parts contribute to the project funding.

Groningen (Netherlands)

The city of Groningen (Netherlands) has already started an interesting project of city logistic since 1994, the success of which is connected to the proper planning of delivery times, based on the different needs of traffic and availability of operators receiving goods. The retailers, involved from the beginning, have now an important relevance in the operative activities planning of the CDU – *at the moment three are operating and another three are planned.*

Private-public partnership is fundamental for reform activities of the infrastructures, of their modernization and dialogue for a future development.

London (United Kingdom)

After a period of study and a two year experimentation, since 2005 also London has started its project of city logistic and it deserves to be considered for the environmental and organization advantages achieved.

75% of the emissions of CO₂ have decreased as well as PM₁₀ dusts thanks to the 68% reduction of carriers downtown; the improvement of the quality of life encourages territorial planners because it guaranties an increase of real estate areas – *for living uses as well as for trade uses* – by the means of changes which interest the entire city.

The managing agency, named LCCC²⁴ moves more than 200,000 pallets a year in a very close downtown location, which among its strong points, also reduces the delivery times of the goods – *a two hour reduction in comparison to the previous average* – as well as improvements regarding waste management – *especially packaging* – with control operations of reverse logistic flows.

For what concerns Italy, the following city logistic projects regarding three cities must be taken in consideration.

Frosinone (Italy)

The province of Frosinone has created the C-DISPATCH project which plans to intercept the goods destined to a specific area of the city near a sorting logistic platform where the loads are

²³ A. SCHMAUSS, http://www.eltis.org/study_sheet

²⁴ LCCC) London Construction Consolidation Centre in partnership with Transport for London (TfL) Wilson James, Stanhope, Constructing Excellence and Bovis Lend Lease.

packed together to be later delivered to the final addressees with the help of two impact reduced environmental means of transit. 52 businesses of the old town have taken part to the experimentation, all located on the main road of the city; the experimental phase has ended in December 2007 and it has put up very good results. the cost of the service (at full speed) has an estimated value of 328.589,00 Euro including staff costs, warehouse and office rents, operating costs and other expenses.

Padova

The cityport of Padova is a project already in life since 21 April 2004 and it is based on an extremely simple model the operator (at the beginning carriers) deliver the goods to a logistic platform (Interporto) behind the city, from which ecological methane gas powered means of transport get going to distribute downtown. The area initially interested by the project is set up by a "L.T.Z." (Limited Traffic Zone) and the vehicles utilized for the service can use preferential lanes, with free access and the possibility of parking inside the L.T.Z. 34 hours a day. The cityport of Padova has balanced the scales in 2007 and is being rerun in Venice as well as Trieste. Still in 2007 a project agreement between the Italian Ministry of the Environment and the Mexican one has been signed to export the model of the Cityporto of Padova in a district area of Mexico City.

Lucca

The CEDM (Goods Ecological Distribution Center) of Lucca is governed by a Consortium which involves the Commune of Lucca (the coordinator), the Tuscany Region, ENEA, Softteco Sismat, COTAS Logistica, the Ministry of the Environment and of the Land and Marine Conservation.

The project has had a total cost of 1.423.204,00 Euro with a co-financing of 711.602,00 and has ended the experimental phase on 30 April 2008 and at the moment, the control of the whole structure has been assigned to the Commune of Lucca.

The CEDM, located less than 1 km away from the old town and 1km from the tollgate entrance, consents a reduction of traffic congestion inside the served area, a decrease of polluting emissions, a reduction of external heavy traffic, as well as an improvement in regards to liveability for residents, tourists and visitors.

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THE LOCAL GOVERNMENT OF PUBLIC SERVICES

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1. Introduction

From the contents of the Universal Declaration of the Rights of Man to the United Nations Pacts on civil, political and socio-economical rights up to statements contained in numerous European and Extra-European conventions, the principles of human dignity and equality constitute the “humus” where ideas of democracy and pluralism have been able to develop. It is not by accident that the Public Administration “humanizing” process is the chosen expression to label criteria and principles which are the basis for an observation on the Public Administration reform process. In other words, on the positive results obtained at the beginning of the Nineties up until nowadays in the enhancement of the public services quality, the increase of investment on information and communication technologies (e-government), the improvement of the adjustment quality, and the correct management and training of human resources.

The normative interventions carried out over recent years hold the idea of participation of private subjects interested in the formation of the procedure, strictly connected with the administrative activity subjection to the principle of transparency¹. Moreover, they track guidelines to address the public work towards mechanisms inspired by private derivation criteria. Political system crisis, connected with the contextual economical problems and the subsequent fiscal crisis thus favour the changing of basis which are the foundation of public administration relationships, increasing privatization of public services, as well as the research of a better proximity of the public power to the internal territorial dimension.

Today, the values of “public” cross the reason of the “private”, the resistance of the “centre” compares with periphery needs, principles of “autonomy” meet managerial limits which are sometimes binding. The same management of human resources keeps, constantly, being influenced by economical resource flows. On one hand, this pure list of ambiguity highlights the reasons which are at the basis of an underway changing process of public administrations. While on the other hand, it sets the need to investigate on the basic choices which the ordination has to take. In reality, due to the increase of citizen expectations, it has been assisted a progressive filtering of citizen orientation culture as well as the evolution of managerial quality instruments in the public administration.

One of the primary targets of the public administration is represented by the full satisfaction of the needs expressed by the citizen. It therefore the identification and the achievement of a quality process of performances as the fundamental element which qualifies the supply system of each public company assumes a larger importance.

By placing users’ satisfaction at the centre of the administration organization cycle, the approach indicated is that of using the best combination of contact modalities with the user,

¹ Cfr. G. ARENA, 2006, Voce *Trasparenza amministrativa*, in Dizionario di Diritto Pubblico, a cura di S. CASSESE, Giuffrè, Milano, vol. VI; F. MERLONI (a cura di), 2002, *L'informazione delle pubbliche amministrazioni*, Maggioli, Rimini; G. ARENA (a cura di), 2001, *La funzione di comunicazione nelle pubbliche amministrazioni*, Maggioli, Rimini. Cfr. anche F. GELLI (a cura di), 2005, *La democrazia locale tra rappresentanza e partecipazione*, Franco Angeli, Milano; L. BOBBIO, 2005, *La democrazia deliberativa nella pratica*, in Stato e mercato, n. 73, pp. 67-88; L. PELLIZZONI, 2006, *Decidiamo insieme! Conflitti tecnologici e deliberazione pubblica*, in Quaderni di Sociologia, vol. L, n. 41, pp. 91-114.

which best respond to the real need of the different user targets as well as organizational administrations. The aim of the directive dated July 27th 2005 is to promote the use of on line services in order to best satisfy the users' needs and, at the same time, reduce risks that innovation efforts cannot generate a real added value for the users. In the directive this risk has been called "auto-referential" in the action of Public Administration².

In this process of changing, the need to state a systemic approach to quality in the Public Administration through management systems, which from one side integrates an overall organization and on the other side interacts with processes that constantly develop, found collocation. The E-Government process which is characterising the reshaping of public administrations is directed at modifying the relationship between the single administrations and the citizens, to change the producing procedures, as well as services distribution³. The system and technological innovation, therefore, have to rise to a privileged path so that Public Administrations could provide services of quality and efficiency in the fulfillment of public policies, shortening and keeping expense under control. Public service structure therefore has to be formulated on the basis of an open and dynamic approach compared to the change, since Public Administrations represent the plurality of a reality in which, besides the juridical dimension, has to be regarded as the economical and sociological sphere in a balanced picture of factors⁴.

The innovation of processes and services in the PA has to consider, indeed, all the different playing components: from the administrations involved to technical and juridical problems. Therefore on the basis of an integrated vision, it is important to regard not only the application of technologies, but especially the simplification of administrative processes as well as the interaction of services among the different administrations that have to be able to operate according to systems of quality. In this way, if the technological innovation represents only an instrument of the more general system innovation of the Public Administration, it is

² The directive on the "Quality of on line services and measurement of users' satisfaction (July the 27th 2005) and "For a High Quality Public Administration (December 19th 2006) joins the centrality of the private in the formulation of the demand for public services, their management and supply of accessibility to those services, in other words this aspect as the qualifying element for user's orientation. This last directive of the 2006 indicated the quality as the strategic lever to trigger and keep during the time the public administration process of improvement, using those last ones to insert accurate improvement targets of quality in their activity of strategic and operational programming, and to evaluate even on this basis their managers. Even the Public Job Memorandum Agreement of the 01/18/2007 carries back the concept of quality in the public not only in the organizational structure (processes, resources, responsibilities) but also in the institutional one. In this last document, the concept of quality, so far intended to be applicable with the respect to single services or processes of supply, and to organizational structure processes (with the identification of the resources, roles and responsibilities), is also employed as the interpretative key. The conjoined reading of the last two documents quoted above - the Memorandum and the Directive "For a High Quality Public Administration" - which identifies in the guard, in the management of levers, and quality instruments the core activity of the public administration, necessarily leads to draw a conclusion according to the governing of the quality is a strategic and primary activity that cannot be completed from the outside because it is strictly connected with the internal control basic theme.

³ As far as public innovation and computerization are concerned, M. CORSI, A. GUMINA (a cura di), 2007, *Innovazione e buon governo*, Luiss University Press, Roma; A. MASUCCI, 2006, *Informatica pubblica*, in *Dizionario di Diritto Pubblico* a cura di S. CASSESE, Milano, Giuffrè, vol. IV; F. MARTINI, 2006, *Il sistema informativo pubblico*, Giappichelli, Torino, 2006; M. MORCIANO, 2006, *Politiche di e-government e progetti*, 1996-2006, in Astrid, *Rassegna*, n. 29; F. MERLONI, 2005, *Introduzione all'e-government*, Giappichelli, Torino; ANSELMINI L., 2003, *Percorsi aziendali per le pubbliche amministrazioni*, Torino, Giappichelli.

⁴ The qualification of innovation demand, moreover, has to be connected with the awareness that the PA has to be not only the object of innovation, but also the subject that promote the innovation. The fundamental turning point in the development of an e-government system has to be not only driven by a widespread "digital thinking and projecting", but it has to be conceived and finalized to targets which, besides the shortening of the costs and the increase of productivity, concretely employ as primary requirement the centrality of receiver of PA's services, in other words citizens, social system, and productive system.

possible to avoid the risk that the introduction of technologies can be conceived as a pure “substitution of subjects” in administrations, thus even reaching, as it has happened in some cases, negative and unwanted effects⁵. The New Public Management doctrinal strand has not only limited its work to highlight the need for a reshaping of the constitutional model in the Western countries, but it has faced, in more wider terms, the causes of public administration bad functioning and the present gap between the demand and the supply of public service, finding in the opening towards a greater managerial ability the path to follow in order to make the State more closer to citizen and company needs⁶.

2. The quality of public services between a new normative framework and a new value framework.

Policies for a reform and modernization of the Public Administration cannot not consider the supranational level, in the first place the European one⁷. In this picture, the institutional commitment for participating to the construction of a European administrative space and the aim of multilevel governance on an internal plan indissolubly links together. It clearly results that the aim of creating a government organism which is able to put on the convergence between public service and new technologies represents a requirement that cannot be renounced for every changing action, and that it is exactly this convergence which coincides with the directions employed by the technological development and the European policies. In this set-up, even Italy, as other countries, will have to compare with a new age of technological development defined “digital convergence cycle”, which is made up with the research and the offer of high knowledge content products, realized through one and indissoluble convergence of networks and services. A significant turning point, compared with other forms of juridical guarantee inspired by principles of transparency and citizen tutelage, has been realized on the 27th January 1994, with the publication of the Prime Minister directive on “Public services principles of supply” also known as Services Card, which has foreseen the obligation of setting definition modalities, improvement, evaluation and services quality checking. Obviously, this whole elaborate picture of Public Administration modernization cannot consider the relevant novelties introduced - in terms of administrative relationship - by the reform of Constitution Title V. By ratifying the vertical and horizontal subsidiary principle and by giving it a constitutional degree and tutelage, both the subject who exert government functions and the legislator are placed before a new normative and value framework of reference⁸. It perceives the need to find new paths, more

⁵ It is not a causality that despite the evolution of available instruments and the wider recourse to new technologies, in the public administration the attention to the quality is still not enough spread.

⁶ Cfr. HOOD C., 2000, *Paradoxes of public-sector managerialism, old public management and public service bargains*, in *International Public Management Journal*, n. 3.

⁷ Among the European policies, the larger initiative connected with the Lisbon Agenda (June 2005), named “i-2010 - A European Information Society for Growth and Employment”, adopts the improvement of public service and the quality of life as one of the three fundamental pillars (“Better Public Services and Quality of Life”), using directly the state members for technological modernization and innovation of the PA, in particular plans able to realize a quantitative and qualitative jump to the “e-government”. The intervention “i-2010” foresees among the three pillars of intervention, the “Better Public Services and Quality of Life”, in other word a program of development in advanced public services and new services directed to the citizen, and also a program for the development of solutions and intelligent products in order to improve the quality of life into territorial areas and work places.

⁸ See, BALDUCCI A., 2000, *Le nuove sfide della governance*, in *Territorio*, Milano, n. 13, 7; BOBBIO L., 2002, *I governi locali nelle democrazie contemporanee*, Laterza, Roma-Bari; BILANCIA P., 2000, *La riforma dei servizi pubblici locali nell'ottica della sussidiarietà orizzontale*, in *Non Profit* n. 2, 215 ss; CALAMO SPECCHIA M., *Regioni ed enti locali dopo la riforma del titolo V della Costituzione fra attuazione e ipotesi di ulteriore revisione*, in www.associazionedeicostituzionalisti.it. Cfr. anche GUADINI E., 2006, *Governance dello*

modern, and especially more balanced with a different social and institutional reality. On one side, the reform of Constitution Title V and federalism, on the other side globalisation and technological development require a new complex balance. The local autonomy system⁹ is no longer founded on the hierarchical principle and on the control system, but on the principle of responsibility, cooperation, and especially reliability. The latter entails that the normative picture and the operational picture - where supplying services are placed - are not inspired for a formal checking, but a tendency to simplification is required, with the double goals of not creating useless obstacles to activities as well as citizen's individual, relational, social and productive venture, and additionally of moving resources and processes towards a subsequent "real control" directed to unveil the wrong acts and customs. Indeed, Public Administration efficiency and effectiveness, even though they represent a goal that cannot be renounced in the public action, do not become exhaustive in the admission of an ideal qualitative level of the administrative activity, but they are a fundamental instrument in order to realize the legality principle which is the foundation of our institutions. The reform of Constitution Title V, together with the failing of external controls on local institutions, determined the need to create within the same institutions a guarantee mechanism of correct and good function of the administration, which fits with the new constitutional set up. Therefore, the same local leadership is also called to cover a role of better responsibility in the activation of control systems which have to verify the efficiency, the respect of legality as well as good financial management¹⁰. Consequently, it is in the regard of functions given to everybody that it is possible to achieve the identity valorisation of each institution, and this becomes the fundamental condition to guarantee to citizens a high quality of services due to them, as well as consolidate their sense of membership within a national and European community¹¹.

The quality of performance given to the users depends, therefore, on the abilities of public administration to achieve continuous improvement. On one hand, it requires a constant optimal use of the resources available and the processes of production and supply of services. While on the other hand, administrations have to renew both processes - final services and policies coherently with the modification of needs to be satisfied - thus interpreting in advance and strategically their institutional mission¹². In order to address a function of

sviluppo locale e nuove forme di territorialità: mutamenti nell'azione dello Stato, in Rivista italiana di scienza politica, fasc. n.1, 27; PIZZETTI F., 2001, *Le nuove esigenze di governance in un sistema policentrico "esplosivo"*, in Le Regioni, n. 6, 1153 ss; PIZZETTI F., 2001, *Il cambiamento istituzionale in Italia tra governance e governabilità democratica dei sistemi complessi*, in Studi parlamentari e di politica costituzionale, n. 134, 7 ss.

⁹ Since 1990, when the law nr. 142 has given a strong urge to the devolution of powers and administrative functions, and to strengthen local institutions' role, the efficiency of the public action has been measured using as standard the quality of life of citizens and of the public areas, exploiting the innovation of the administrative process and the management of public service. The so called system of public utilities has found itself in the middle of a changing process which has involved itself, not only from the administrative ownership point of view - through a reshaping of corporate governance - but also, and especially, by the introduction of a new company culture directed to the market, through a transit from a simple administrative principle to that of quality and productivity. This last point is the more complicated one, since the institutional function carried out by the public institution are in this process divided between financial management and control of the society which supply services and political management of citizen quality of life.

¹⁰ Local leadership has, indeed, the duty of developing every mean of connection with the state leadership and, together with it, with the European Union leadership.

¹¹ ATRIPALDI V., MICCÙ R., 2003, *L'omogeneità costituzionale nell'Unione Europea*, Cedam, Padova, 302 ss; PEPE C., 2004, *Modelli di stato federale e potere normativo penale*, Cedam, Padova, 28 e 280.

¹² Particularly, a larger integration of function is necessary among those that are typically financial, budgeting, and service ones in order to carry out, harmoniously, the double role that the local organization is currently called to cover, which is, from one side the role of regulation, orientating and coordination of public service system, while on the other side is the role of answering to social and political instances of the targeted communities. The basic hypothesis is that the externalization has to be read, doubtless, as an opportunity for Municipal Districts and Province to empower their own orientation to the citizen. However, in order to realize the latter, it has been required to local organizations a significant adjustment of their role to a new context. Specifically, the adjustment changed role and competences of local organizations, which were connected with

modernity and technological innovation¹³, local leadership has to embody that double role without being extraneous to the strong renewal which modern society requires, and at the same time it has to maintain ethics values such as loyalty and respect of the Constitution. The innovation of modern technologies is the vehicle through which it is possible to impose a new model and a cultural-ideological change before an organizational one, considering the specific use of more advanced technologies in order to assert a new role of the Institutions. Actually, the central institutions, along with the local autonomies are the promoter and actors of a strong modernization and innovation process, especially thanks to the Electronic Identity Card, the INA-SAIA system, with all the effects that the use of these instruments give to organizational and functional models, starting from electoral and registry ones, services, up to the simple recognition by the citizen of the information held by Public Administrations.

The system of collaboration among Public Administrations structures, in regard of single autonomies and responsibilities, is a key factor for a jump towards high quality service, particularly for more complex services to the citizen, companies, social organization, and for country government's central and peripheral structures. It is about those services which the user perceives as a functional one but which requires data, information, documents, certificates from different offices and administrations. The realization of a Public System of Connection and Applicatory Cooperation - SPC is currently underway, which offers technological infrastructures, architecture of system, models, norms, techniques, regulations, and enabling security standards, in respect of citizen rights and of the functional and organization autonomies, web connections, and applicatory cooperation. However, it is illusory to consider that the infrastructures and the entire enabling system, even though they are essential, are able to encourage the development of an eco-system of collaboration which is aimed at producing. Indeed, it seems necessary to provide incentives and developing services founded on inter-administrative procedures, in other words services founded on tasks and on different administrative activities, and therefore that come from the integration of the services which they offer. By assuming that the PA has realized a large quantity of data banks which constitute a real informative heritage of a significant importance, it is needed to found services, web connections and cooperation mainly on the evaluation and evolution of this heritage. In this context, it is also true that the Public System of Connection and Cooperation constitutes the infrastructure and the environment which allows the use - for the entire PA and external to it - of data banks, but the attention from the qualification of the real and large data transmission access to this data heritage needs to be moved. Additionally, it has to keep on developing through digitalizing, record keeping and evaluation of the non-structured information heritage, which administrations use and produce, but that continue to be useless.

In this context, it is fundamental to increase public register management and data transmission access, which are a basic element for Administrative action as well as the life of the country. There are numerous public registers, run by different organizations and administrations, which collect data and important information, for instance the register for personal and real properties, commercial, productive activities, and more in general, specific and indispensable information for a more in depth knowledge of the citizen, families, territory, and productive system status. All of this information is extremely relevant for

function of supply and guarantee to service access to a role of addressing and control. At the present state, the central issue for local institutions is a governance problem as a set of rules, processes, and behaviours which allow to guarantee a responsibility of choice, coherence of the instruments used, and measurement of the effectiveness of the action undertaken, apart from the evaluation efficiency/effectiveness in the conduction of local utilities with proper parameters and procedures of control.

¹³ See BONARETTI M., 2005, *Governo locale e innovazione organizzativa: le amministrazioni in trasformazione*, in *Risorse umane nella PA*, n.2.

central and local administrations committed to the definition and supply of services and to public interest's tutelage¹⁴.

The development of an e-government national system gives the opportunity for a deeper innovation of the system in the model of planning and realization of public administration services. It is a matter of moving from a model founded on the centrality of the administration - the bureaucracy primacy and its organizational structure - to a model founded on the centrality of the public services recipients, in other words citizens, companies, and social organization.

As a matter of fact, public institutions have to operate with the maximum possible proximity to the citizen-user, in order to interpret his relative needs, and in order to make the expected quality and the supplied quality to coincide. The thing that justifies, within a public institution, the orientation towards the quality is the necessity to listen in order to best comprehend the needs expressed by the citizen, recognising a greater relevance to his judgment and improving the communicative ability of the organisation.

The citizen/user concept, which comes from the attention to the orientation towards the quality of the "public service", particular to an e-Government setting-out, is integrated with a return, in a modern key, to the ancient principle of "active citizenship", as a proposal of active cooperation forms to public and administrative action, within a more general discussion on organizational-new institutional renewal of the complex state public structure. Public Administration represents the key-actor of a good democracy, operating on the basis of two legitimizations: one orientated to citizen consensus and participation, the other to the output, grounding on governing performances and, therefore, on the ability of guaranteeing the public interest.

The electronic democracy can be functional for stimulating a greater civil commitment into citizens, and a more active use of the internet, mobile communications and other technologies. If we consider the larger influence that the mass media has on public opinion, this destabilization of the balance between forms and institution of the political reality can create dangerous distortions in the democracy system itself. In the middle of this pattern, there is the citizen who, as user and consumer of public services becomes potentially participating in first person to the "public thing" management.

The web, with its own democratic potential expressed from "the bottom", has to become an instrument to revalue and increase citizens' participation to public life, strengthening both participating and representing democracy. The e-democracy¹⁵ is a necessary dimension to the

¹⁴ For instance, public policies such as the realization of tax federalism have foreseen the strengthening of convention used to favour the supply of data, supports and services for the rationalization of the imperative local system management procedures. It has also employed absolute priority for the definition and activation of a normative and operative picture able to give a propelling push to the land register decentralisation toward a Local Organization management. Thus, it is possible to realize a full access of all PA information, as well as to project and realize a procedural integration between the central and local administration with the final goal of giving to institutional users and citizens efficient and effective services. Likewise, it has been noticed the need to support further the action of the local organizations in taking charge of an own role for the economical and productive development in their area: the growth and development of the Companies Integrated Services Portal, indeed, has to go on with services and instrument which enable Regions and Municipal Districts to program their intervention in order to favour the local development of entrepreneurial activity, but everything requires local organizations' access to the companies register, as well as the functional diffusion and growth of Productive Activity Counters.

¹⁵ On the e-democracy, P. COSTANZO, 2003, *La democrazia elettronica*, in Dir. inf., 465; P. COSTANZO, 2003, *Profili costituzionali di Internet*, in E. TOSI (a cura di), *Commercio elettronico e servizi della società dell'informazione*, II ed., vol. I, Giuffrè, Milano, 85; R.M. DI GIORGI, 2004, *L'informatica nell'attività della pubblica amministrazione*, in R. BORRUSO, R.M. DI GIORGI, L. MATTIOLI, M. RAGONA, *L'informatica nel diritto*, Giuffrè, Milano, 276.

digital citizenry and finds its own juridical foundation in the horizontal subsidiary principle¹⁶, according to it, citizens and administrations establish even lasting relationship, founded on collaboration, reciprocal respect and integration rather than on the rigid separation of roles.

“The culture of fulfillment”, therefore, sets against a new “culture of satisfying the citizens' needs”. It is no longer sufficient to ensure the correspondence of the activity carried out with the normative order and political-institutional principle, but it is necessary to develop a cultural attitude orientated towards the creation of a new relationship with the citizen, giving him a central role in the administrative activity. In this set-up, the institutional communication, in its different forms, becomes the central lever of public action, of the relationship between institutions and citizen, so that the institutional communication inevitably entwines, overlaps, and blurs with political communication¹⁷. The separation principle between politics and administration, which already established itself in the last decade, becomes fundamental in the communication field, where the overlap and interweave between politics and administration entails the risk of a political use of institutional messages and, consequently, a dangerous change of the administration-citizen relationship.

Thanks to law n. 150 dated August 7th¹⁸, the communication has not only been legitimated, but it has become an institutional duty, a strategically element for each real process apparatus change, services improvement, and procedures simplification. It has therefore, wanted to execute the principles of access to documents, and citizens' participation to administrative procedures ratified by the law on transparency, in order to favour the dialogue between citizens and administration, to lead the relationship between institutions and citizens toward higher modern comparison levels, to create a new culture in the citizen-authority relationship. This arrangement denotes deeper motivations compared to the simple revision of the service-user relationship, due to it being connected to the fulfillment of the substantial equality constitutional principle.

If we want the citizen to be the real centre of the administrative activity, it is necessary that Public Administrations “communicate to each other” - which is something different from simple informing - since citizens can be users or customers but cannot be “sovereigns”. Public

¹⁶ ANTONINI L., 2000, *Il principio di sussidiarietà orizzontale da Welfare State a Welfare Society*, in Rivista di diritto finanziario e scienze delle finanze, n. 1, 99; MANGIAMELI S., *Sussidiarietà e servizi di interesse generale: le aporie della privatizzazione*, in www.issirfa.it; D'ATENA A., 2001, *La Costituzione e il principio di sussidiarietà*, in Quaderni costituzionali, vol. 21, 13; FROSINI T.E., 2000, *Profili costituzionali della sussidiarietà in senso orizzontale*, Rivista giuridica del Mezzogiorno, n. 1, 15 ss; ALBANESE A., 2002, *Il principio di sussidiarietà orizzontale: autonomia sociale e compiti pubblici*, in Dir. Pubblico, 548; RINELLA A., 1999, *Il principio di sussidiarietà: definizioni, comparazioni e modello d'analisi*, in A. RINELLA A., COEN L., SCARMIGLIA R. (a cura di), *Sussidiarietà e ordinamenti costituzionali*, Cedam, Padova; DURET P., 2000, *La sussidiarietà "orizzontale": le radici e le suggestioni di un concetto*, in Jus, n. 1, 95; COTTURRI G., 2001, *Potere sussidiario. Sussidiarietà e federalismo in Europa e in Italia*, Roma.

¹⁷ On the role of communication, ARENA G., 1999, *Il ruolo della comunicazione nell'amministrazione condivisa*, in Rivista italiana di comunicazione pubblica, n. 1; ARENA G. (a cura di), 2001, *La funzione di comunicazione nelle pubbliche amministrazioni*, Maggioli, Rimini; BACCARANI C., GOLINELLI M. G., 1992, *L'impresa inesistente: relazione tra immagine e strategia*, Sinergie, n. 29; BENTIVEGNA S., 2002, *Politica e nuove tecnologie della comunicazione*, Laterza, Roma-Bari; CONTALDO A., 1992, *La comunicazione pubblica: profili organizzativi ed amministrativi*, in A. VIGNUDELLI (a cura di), *La comunicazione pubblica*, Maggioli, Rimini; FREGOLI A., *La circolazione delle informazioni e delle conoscenze all'interno dell'ente locale ai fini del processo decisionale*, in Nuova rassegna di legislazione, dottrina e giuris., n. 11, SEPE S., 2001, *Cittadini e cittadinanza*, in S. ROLANDO (a cura di), *Teorie e tecniche della comunicazione pubblica*, Etas, Milano.

¹⁸ In first place, the number 150/2000 law identifies the activities referable to the institutional communication category, thus codifying for public administration the possibility to make use of all instruments of mass communication which can be useful to show and favour the normative arrays, to show institution activities and their functioning, to favour the access to public service.

Administrations, indeed, communicate not only through their communication structures, but also with services they offer, their way to approach the citizen. In reality, public administrations opened themselves to logics, criteria, and management instruments, thus creating change processes which have involved their organizational, managerial dimensions, and in order to satisfy citizens needs and to give quality to the carried out service, they started using, thanks to the new normative, instruments such as the “service card” or strategy for modelling services on citizen needs such as “Customer Satisfaction”¹⁹. The latter, in reality, expresses the overlap between perceived quality and expected quality, and it detects any potential gaps which non-quality levels express, thus favouring the continuous improvement strategy²⁰.

3. Web public services between adjustment principle and equality principle.

At this point of the analysis, it cannot be highlighted that the real accomplishment of computerization in public administrations cannot be irrespective of a clear and unambiguous normative picture, especially in regard of the field novelty and the consequential absence, at a normative level, of procedures which can, although only partially cover the potential gaps in the subject matter. In reality, both Act n. 82/2005 as well as other laws used dealing with the information society until today, do not have a full legislation of the communicative activity carried out with the use of the World Wide Web by public administrations. The explanations brought about with the ratification of the Code, besides with the regulation of the certified email, have been able to drive out some important doubts in the matter of using data transmission correspondence in the relationship with citizens.

Act n. 82 dated March 7th 2005, which contains the Code of the digital administration and modifies the rules on the juridical value and the computerized document probationary efficacy with the digital signature, has foreseen a general discipline of the c.d. “computerized file” as a basic instrument for the entire procedural course. For the c.d. “computerized file” finds use rules which govern the discipline of the computerized protocol, and the public system of connectivity, as “set of technological infrastructure and technical rules for the development, sharing, integration and diffusion of the public administration computerized heritage and data” necessary for the creation of web connections, in other words of services qualified to favour the exchange of data and information within public administrations and between the latter ones and citizens²¹.

The priority goal, which Act n. 82 2005 aims to achieve, is to trigger a deep improvement in the public administration, giving a clear discipline of juridical instruments and institutions that govern technological innovation, and the following corrective act intends to strengthen the entire code perceptive importance, expressively calling the government political organs' responsibility to implement code regulations themselves²². The Code, indeed, after

¹⁹ M. GUASTAMACCHIA, 2007, *L'evoluzione del concetto di qualità nelle PA: assetti e scenari d'avanguardia*, Forum PA, Roma, in www.forumpa.it; S. BATTINI, 2007, *Per una nuova qualità dei servizi e delle funzioni pubbliche. Sì, ma come?*, editoriale in *Giornale di Diritto Amministrativo*, n. 2; L. LO SCHIAVO, 2000, *La customer satisfaction e l'analisi delle aspettative degli utenti dei servizi pubblici*, in *Qualità*, periodico AICQ, n. 7; G. FABRIS, S. ROLANDO, (a cura di), 1999, *La customer satisfaction nel settore pubblico*, in *Rivista italiana di comunicazione pubblica*, supplemento al n. 3.

²⁰ See TANESE A. NEGRO G. GRAMIGNA A., 2003, *La customer satisfaction nelle amministrazioni pubbliche*, Rubbettino editori, Catanzaro.

²¹ The computerized file, set within the public system of connectivity and rules of computerized protocol, becomes the transversal instrument and the place through which public administration and private-public interested subjects interact.

²² Indeed, the introduction of article 5 array contained in the act has a clear purpose which is that of calling the political organ to the need of promoting the fulfilment of digital code array, leading the public administration to

introducing the possibility to exercise the participation and the access right through the use of technologies, claims that the State favours every use of technologies in order to promote larger citizen participation. Consequently, the access to information media becomes a true and real social right that is instrumental for exercising other fundamental rights²³.

The realization of an administrations²⁴ network - which is addressed to their interaction as digital an administration element - requires a sharing and cooperation attitude, a real communicative interchange between the information and communication activities, both inside and outside the P.A²⁵. The web public service, therefore, has to be intended in terms that the supply service has to adjust constantly and promptly to users' needs and the demands of the majority (c.d. adjustment principle).

The arranged Code, in which citizens and companies have the right to ask and obtain the use of data transmission technologies in the communication with the central public administration and administrator of public services, increases the list of next generation rights²⁶. The web access to information and services of the PA is a new right to citizenship ratified by the law, which has to be guaranteed to all citizens. Therefore, it is needed to ensure the access to public sites to disabled citizens, as it is recognised by Law n. 4/2004 as well as by the "Riga Card", overcoming the existing gap between in force normative - which is very advanced even in a European context - and its actual application. Additionally, it is needed to work over the evolution of public administration services access portals, which have to allow citizen and companies to maximize the advantage which comes from the on line interaction with the public service, but also to reveal information and services in an international context. This new citizenship form is set up as e-Democracy.

At the same time what has been discussed so far clashes, indeed, with the strong inequality that is registered within and outside the Administration, and among the different Administrations, as well as among citizens in the access to ICT. The inequality cannot be reduced to the technological aspect only - which represents a marginal implication - but invests, on the contrary, a wider analysis of complex discrepancies which involves social, economical and cultural level. The real modernization, in terms of Public Administration change through the use of technological instruments, will not be accomplished if to those "new rights" procedures and behaviours of the Public Administration addressed to processes rationalization will not correspond, and to the reduction of the public expense with the support of a responsible and outcome oriented ruling class²⁷.

give a real realisation of the institute governed by it, promoting innovation trough an organizational and procedural change which adopts a direct responsibility.

²³ See what has been claimed by the Constitutional Court in the 13/10/2004 nr. 307 verdict.

²⁴ M.P. GUERRA, 2005, *Circolazione dell'informazione e sistema informativo pubblico: profili giuridici dell'accesso interamministrativo telematico. Tra testo unico sulla documentazione amministrativa e codice dell'amministrazione digitale*, in *Diritto pubblico*, n. 2; G. CAMMAROTA, 2004, *Circolazione cartacea e circolazione telematica delle certezze pubbliche. Accertamento d'ufficio ed acquisizione d'ufficio*, in *Foro Amministrativo T.A.R.*, n.11.

²⁵ G. ARENA, 2004, *La funzione di comunicazione nelle pubbliche amministrazioni*, Maggioli, Rimini, pag. 39.

²⁶ BIFULCO R., 2001, *Federalismi e diritti*, in Groppi T. e Olivetti M., (a cura di), *La Repubblica delle autonomie*, Torino, 114; ALES F., 2002, *Diritti di cittadinanza e "livello essenziale di prestazione" nel nuovo disegno costituzionale: brevi considerazioni sull'"eguaglianza solidale"*, in *Riv. dir. sic. soc.*, 349; BALBONI E., 2001, *Il concetto di "livelli essenziali e uniformi" come garanzia in materia di diritti sociali*, in *Le istituzioni del federalismo*, 1103 e ss.

²⁷ D. A. LIMONE, 2001, *Verso un sistema procedimentale e documentale informatico*, in *L'Amministrazione italiana*, pag. 992 ss.; M. CAMMELLI, 2005, *La pubblica amministrazione*, Bologna, pag. 27 ss.

4. Conclusions

In the last decade there has been a large increase of websites and institutional portals, but often they have been only a display window of the Organisations' activities, without representing the access point to services. It often happens that services offered do not allow the structure identification, and they are not clear as well, lacking the procedure course description and representative identification. Few administrations supply on line services and, very few, offer citizens instruments of participation and involvement, therefore it seems necessary to reset the gap in order to avoid the existence of a two speed paradoxical administration. One theoretical which is able to evolve and innovate, and another one real which is unable to adjust to new social demands. The innovation process is coming into its own as a simple transposition of administrative norms and practices from personal and papery relationship to data transmission one. It is not only the spread of on line services that, but also the consequential possibility of supplying services through more channels, are connected with the certainty of norms, for example adaptable technical solutions and on standards, as well as the simplicity of interaction practical solutions with the audience.

Plans and simplification programs have to be matched and supported with a new technological innovation stage which the PA has to start and, particularly, with the digital convergence cycle that develops on a worldwide level. However, this new stage, in order to reach its real fulfillment, needs that the entire PA adjusts itself to starting technological levels which should be already reached. At the moment, the latter concept has not been completely reached, creating the presence of a “digital divide” in the local and central PA, which could enlarge further on. The endless development of new technologies proliferation shows, even clearer, as general policies and market free evolution set also the strengthening of exclusion phenomenon from this development and economical - social growth that it makes possible. It is the “digital divide” phenomenon which affects geographically-economically poor territorial areas. Additionally, the digital infrastructural gap adds itself to the “applicative digital divide” one, which defines itself when - even though there are infrastructures - there are not possibilities to develop services and application. In addition, the “educational digital divide” which happens when the citizen does not have elementary knowledge and skills in order to access to the web and use its data transmission services.

Consequently, central and local public administrations should eliminate the constant tendency to be “auto - referential”, since one of the most important steps that they still have to perform resides in the strengthening of the confident relationship between public administrations and citizens. Consultation and informed participation can lead to policies which better orientated to user needs, and increase the support and confidence in public institutions and their policies.

In the end, it is evident from these short considerations the necessity to overcome a vision of the public administration which is purely operational, in order to compare, without confusing, with the political problem, intended as “problem to common good orientation, in every forms of the society from the simpler one to the more complex one”. Therefore, if it is true that the public administration looks at the organization of person or things in order to fulfill a predetermine task, it is also true that the administrative apparatus instrumental function has to be addressed toward the accomplishment of the community wealth, considered in its whole but also in its single components. Consequently, the administrative relationship interweave has to be featured by the consensus research, intended as sharing of decision, in charge of a “common feel”. In this context full meaning acquires the reference to the subsidiary principle, which goes on with the competence reorganization “of the public institutions in lights of their real ability to reach common relevance targets”. The question advanced by public subjects, which is the idea to be “closer to citizen”, commands a real “cultural” transformation in order to make “the life of the institutions” fully available to “the life of citizens”. In this perspective, it is necessary to avoid the danger of reducing subsidiarity to a simple bureaucratic formula in the administration of the power, in the awareness that “it is not the place”, more or less close, where a decision is taken in order to

guarantee that it is close, meaning that is the right one, convenient, suitable to a particular community demands, but it is instead the ability of distinction the goods which aggregate the community.

PRODUCTIVITY AT THE SUMA TAX OFFICES

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Introduction

In the last few decades, the growing increase in competitiveness driven by the generalisation of neoclassical theories has encouraged interest in increased productivity both in the private and public sectors. Public services have specifically been the subject of special attention given the widely spread opinion that there is a need to reduce the burden of the public sector and to reform its performance criteria. This reform has centred on redirecting the provision of these services through improvements in management techniques with the aim of implementing efficiency and effectiveness criteria that at the same time guaranteed the State's objectives and tackled the challenges of globalisation (**González-Páramo & Onrubia, 2003**). Within this context and during the last few years, studies focussing on the analysis of efficiency in the provision of this type of service have obviously increased.

However, analysing the efficiency of bodies that provide public services is not an easy task. On the one hand, service sector output is generally characterised by a number of special features, such as intangibility or heterogeneity, which make it difficult to measure and quantify efficiency and productivity in this sector (**McLaughlin & Coffey, 1990**). On the other hand, public services themselves display other specific characteristics, such as lack of sales prices or the existence of certain prices with specific profitability that is difficult to calculate, which make this quantification even more difficult.

This is the context within which this study aims to analyse productivity. In particular, the units under study are tax administration offices in Spain (SUMA). SUMA is an autonomous public administration office created in 1990 with the aim of overseeing the management and collection of local taxes for city councils and any other public authorities that may require this service.

Methodology

The productivity analysis of these tax offices has been undertaken using Data Envelopment Analysis (DEA) and the calculation of the Malmquist Productivity Index (**Malmquist, 1953**). DEA allows the units analysed to be organised into a hierarchy as regards efficiency levels, whilst the Malmquist index permits changes in productivity to be estimated dynamically.

DEA is a technique based on obtaining an efficiency frontier using a set of observations considered without having to understand any kind of functional relationship between inputs and outputs (**Charnes et al., 1997**).

In terms of the output-oriented evaluation process, a decision-making unit (DMU) is considered to be efficient when it produces the maximum output empirically obtainable from any observed DMU given its input vector (**Charnes et al., (1981)**). In other words, a DMU is inefficient when it cannot generate maximal output levels with minimal input consumption (**Cooper et al. (2004)**).

Following **Fare et al. (1994)**, a DEA-based measure of any change in the unit's productivity over time will be calculated using the Malmquist Productivity Index (M) (**Malmquist (1953)**). The main issue is that changes in productivity can be the result of efficiency progress, but sometimes they can be caused by technological improvements and M allows changes in productivity to be divided into two initial factors referring to technical efficiency (E) and technological change (TC). This index is based on the calculation of distance functions.

A generic output-oriented distance function can be defined as:

$$D_t(X_t, Y_t) = \inf \{ \theta : X_t, (1/\theta) Y_t \in P_t \}$$

where θ represents the smallest factor by which the output vector in year t can be divided when it is generated with the given input vector and the technology for year t is fully utilised; Y is a vector of outputs; X is a vector of inputs; and P_t represents the feasible production set given the technology in period t, which is defined as:

$$P_t = \{ Y_t : X_t \text{ can produce } Y_t \}$$

As regards the above, the output-oriented Malmquist index between time periods t and t+1 would be defined as:

$$M_{t,t+1}(X_{t+1}, Y_{t+1}, X_t, Y_t) = \left[\frac{D_t(X_{t+1}, Y_{t+1})}{D_t(X_t, Y_t)} \frac{D_{t+1}(X_{t+1}, Y_{t+1})}{D_{t+1}(X_t, Y_t)} \right]^{(1/2)} \quad (1)$$

As mentioned before, this index can initially be broken down into two components: technological change (TC) and technical efficiency change (E). The breakdown is as follows (**Fare et al., (1994)**):

$$M_{t,t+1}(X_{t+1}, Y_{t+1}, X_t, Y_t) = \underbrace{\left[\frac{D_{t+1}(X_{t+1}, Y_{t+1})}{D_t(X_t, Y_t)} \right]}_E \cdot \underbrace{\left[\frac{D_t(X_{t+1}, Y_{t+1})}{D_{t+1}(X_{t+1}, Y_{t+1})} \frac{D_t(X_t, Y_t)}{D_{t+1}(X_t, Y_t)} \right]}_{TC}^{(1/2)} \quad (2)$$

The first ratio (E) represents changes in technical efficiency between two periods (t and t+1). The second ratio (TC) is a measure of technological progress between the same evaluated periods.

The four different distances shown in equation (2) can be achieved using mathematical programming. In particular, an output oriented approach is used to estimate the Malmquist Productivity Index because the main aim of SUMA offices is to obtain maximum output levels generated by a given level of inputs and technology. The general outline of the linear programming problems is:

$$\begin{aligned}
 [D_{0t}(X_{t+1}, Y_{t+1})]^{-1} &= \max_{\theta, \lambda} \theta \\
 \text{s.a. } \sum_{k=1}^K \lambda^{k,t} \cdot X_r^{k,t} &\leq X_r^{k',t+1}, \forall r \\
 \sum_{k=1}^K \lambda^{k,t} \cdot Y_s^{k,t} &\geq \theta Y_s^{k',t+1}, \forall s \\
 \lambda^{k,t} &\geq 0, \forall k
 \end{aligned} \quad (3)$$

where θ denotes an efficiency score for a particular DMU ($DMU_{k'}$ with $k:1\dots K$ - the sub-index k' shall be used to name the DMU under analysis-); $X_r^{k,t}$, represents the r th input respective observed at DMU_k in year t (with $t:1\dots T$); $Y_s^{k,t}$, is the s th output respective observed at DMU_k in year t ; and $\lambda^{k,t}$, is a coefficient that shows the proportion of DMU_k used to evaluate $DMU_{k'}$ in year t .

A key assumption when calculating technological change is the fact that this change has a common effect on all outputs (inputs). This change may however only affect a subset of outputs (inputs) or it could affect some more than others.

By using a modified Quasi-Malmquist Index, we can see the degree to which each of the outputs (inputs) is affected by technological change. Thus the benefits of incorporating new technology and the outputs (inputs) that would be most influenced by it can also therefore be seen.

The procedure to be applied was developed by **Herrero and Pascoe (2004)** and is based on a modification of the generalized Quasi-Malmquist Index previously suggested by **Grifell-Tatjé et al. (1998)**.

In particular, and in the case of outputs, the procedure is based on the calculation of the following linear programme:

$$\begin{aligned}
\left[Q_0^t (X^{k',t+1}, \hat{Y}^{k',t+1}) \right]^{-1} &= 1 + (s)^{-1} \max_{\theta \lambda} \sum_S (S_s^{k',t+1} / \hat{Y}_s^{k',t+1}) \\
\text{s.a. } \sum_{k=1}^K \lambda^{k,t} \cdot X_r^{k,t} + S_r^{k',t+1,-} &= X_r^{k',t+1}, \forall r \\
\sum_{k=1}^K \lambda^{k,t} \cdot \hat{Y}_s^{k,t} - S_s^{k',t+1,+} &= \hat{Y}_s^{k',t+1}, \forall s \\
\lambda^{k,t} &\geq 0, \forall k
\end{aligned} \tag{4}$$

where $S_r^{k',t+1,-}$ represents the input slack variables for the period t+1 for the unit under evaluation (k'), $S_s^{k',t+1,+}$ are the output slack variables and $\hat{Y}_s^{k',t+1}$ is the value of output s for unit k' adjusted for its projection to the boundary in order to eliminate the effect of efficiency level differences, thus clarifying the effect of technological change on the production process.

Finally, the following expression

$$100 \cdot (S_s^{k',t+1,+} / \hat{Y}_s^{k',t+1}) \tag{5}$$

indicates the change percentage in output s of unit k' as a result of technological change between period t and period t+1. If the expression has a positive value, it indicates a worsening in the efficiency of this output's production in the aforementioned unit as a result of technological change (technological regression). Where there are negative or zero results, the reasoning is similar (negative implies technological improvement and zero implies that there has been no technological change).

Defining input-output factors

The data used in this study have been provided by SUMA, are broken down for each of the 32 offices that exist [1] and refer to the '04-'06 period. Table 1 shows a statistical summary of the data.

Table 1. Characteristics of inputs and outputs

OUTPUTS	PERIOD		2004	2005	2006	
	NUMBER OF TAX RETURNS	AVERAGE		93491.73	104355.23	115423.67
SQUARE DEVIATION			52876.44	56072.87	62180.53	
NUMBER OF TAXPAYERS DEALT WITH		AVERAGE		11095.67	12661.20	13695.80
		SQUARE DEVIATION		10743.53	10557.31	9612.69
INPUTS	AREA	AVERAGE	192.85	192.85	192.85	
		SQUARE DEVIATION	90.54	90.54	90.54	

	NUMBER OF EMPLOYEES	AVERAGE	6.73	6.93	7.19
		SQUARE DEVIATION	3.97	4.02	4.20
	ACTUAL AVERAGE COST PER EMPLOYEE	AVERAGE	29603.84	30349.05	31341.06
		SQUARE DEVIATION	4457.80	4913.66	4585.97

Source: Own design using SUMA data

The decision about which variables to use was taken on the basis of both the experience and knowledge of the management teams at the regional government office as well as on the pragmatism that reality demands of current statistics.

Likewise, existing studies on the topic [2] provided useful information for choosing the most suitable information and for constructing the variables in the most appropriate way.

On the one hand, the inputs deemed most suitable for analysing the efficiency and productivity of the units were: the average cost per employee in real terms (year '06) per office, the number of workers per office and the area of the offices (the latter as a proxy variable of each unit's fixed costs and provision of equipment). On the other hand, the chosen outputs were the number of tax returns and the number of taxpayers dealt with at each office.

Results

Table 2 shows the Malmquist productivity indices (M) for the '04-'05 period (sixth column) for each of the offices and the breakdown of the index into its components [3] (other columns). In this period, 26 of the 30 offices demonstrate a Malmquist index that is higher than one or, in other terms, only four of the total offices presented M values lower than one. In fact, the average level for the period is 1.1029, which indicates an average productivity increase of 10.29% during this period and therefore signals a very notable improvement in overall productivity levels.

Table 2. Results of M for '04-'05

PERIOD 04-05					
DMUk'	E	SEC	PEC	TC	M
1	1.0737	1.0029	1.0706	1.0679	1.1466
2	0.9547	0.9547	1.0000	1.1183	1.0676
3	0.9711	0.9210	1.0543	1.1170	1.0847
4	1.0000	1.0000	1.0000	1.0573	1.0573
5	1.2822	1.2274	1.0447	0.9873	1.2660
6	0.9052	0.8818	1.0265	1.1600	1.0500
7	1.0000	1.0000	1.0000	1.0503	1.0503
8	1.0637	1.0111	1.0520	1.0375	1.1036
9	1.0825	0.9898	1.0937	1.1165	1.2086
10	0.9129	0.9898	0.9223	1.0956	1.0001
11	0.8924	0.8924	1.0000	1.1215	1.0008
12	0.9449	1.0134	0.9324	1.0966	1.0362
13	1.0774	1.0989	0.9805	1.1261	1.2133
14	0.9325	0.9849	0.9468	1.0822	1.0091
15	0.9588	0.9588	1.0000	0.9510	0.9118
16	1.3909	1.3909	1.0000	1.1112	1.5456

17	1.0000	1.0000	1.0000	1.0354	1.0354
18	0.9351	0.9354	0.9997	1.0601	0.9913
19	1.0547	1.0477	1.0067	0.9717	1.0249
20	1.0000	1.0000	1.0000	1.1571	1.1571
21	1.2343	1.1833	1.0431	0.9823	1.2124
22	0.9340	0.9340	1.0000	1.1157	1.0421
23	1.7115	1.9950	0.8579	1.1210	1.9186
24	1.0411	1.2591	0.8269	1.1053	1.1508
25	1.0404	1.0336	1.0066	0.9547	0.9933
26	0.8469	0.9481	0.8933	1.1990	1.0154
27	0.9787	1.0069	0.9720	1.1102	1.0866
28	1.0000	1.0000	1.0000	1.0623	1.0623
29	0.8469	0.8920	0.9495	1.1748	0.9950
30	0.9197	0.9456	0.9727	1.1162	1.0266
AVERAGE	1.0210	1.0348	0.9867	1.0802	1.1029

Source: Own design using SUMA data

The first component factor of M, which is shown in the second column of Table 2, is the efficiency change index (E). The fact that the average level for the period reaches a value of 1.0210 implies that the average efficiency progress is 2.10 % for that period.

The efficiency change index can be broken down into two components: Scale Efficiency Change (SEC) and Pure Efficiency Change (PEC). The first component (SEC) represents the extent to which a DMU is close to its most productive scale size over time. When a DMU is scale inefficient, efficiency improvements can be achieved by increasing or reducing production levels if there are increasing or decreasing returns to scale respectively. The second component (PEC) measures changes in the distance of offices to the frontier, completely lacking in scale effects.

It is worth highlighting the fact that of its two components (SEC and PEC), the last one does not exceed the unit, indicating that pure efficiency change has generally worsened, which has been compensated for by the improvement in scale efficiency (1.0348 and 0.9867 respectively). The worsening of PEC reveals that there was a poor balance between the use of resources and the outputs achieved. A possible relaxation in the organisation and management aspects could have led to this situation. On the other hand, the development of the other component of E, the SEC, has been favourable and has shown an average improvement of 3.48%. Its positive development indicates that the units have been reaching a suitable size that allows them to work with economies of scale. Probably, the unification of tax management procedures from various city councils under the same teams seems to have been a good decision.

Column five in Table 2 contains technological change (TC), which is the geometric mean of change in technology between 2004 and 2005. If TC is greater than one, there is a technological innovation process. The fact that the average value for the period was 1.0802 reflects that some measures have been taken by management in that direction.

Table 3 contains the same information as before but in relation to the '05-'06 period. The first thing we notice is that in this last period, the improvement in productivity has been 6.83%, which represents a significantly lower value in comparison to the previous period. However, it demonstrates a very considerable level of progress.

Table 3. Results of M for '05-'06

PERIOD 05-06					
DMuk'	E	SEC	PEC	TC	M
1	1.0258	1.0258	1.0000	1.0076	1.0336
2	1.0475	1.0475	1.0000	1.0418	1.0912
3	1.1388	1.1757	0.9686	0.9791	1.1150
4	1.0000	1.0000	1.0000	1.0661	1.0661
5	0.9014	0.9753	0.9242	1.0374	0.9352
6	1.1414	0.9888	1.1544	1.0273	1.1726
7	1.0000	1.0000	1.0000	1.0310	1.0310
8	1.1642	0.9690	1.2015	0.9881	1.1503
9	1.0808	1.0808	1.0000	0.9929	1.0731
10	1.0828	0.9434	1.1478	1.0181	1.1025
11	1.5169	1.5169	1.0000	0.9684	1.4690
12	0.9622	1.0503	0.9161	1.0274	0.9886
13	0.9506	0.9942	0.9562	0.9882	0.9394
14	0.9644	1.0027	0.9618	1.0560	1.0184
15	1.1088	1.1088	1.0000	1.0376	1.1505
16	1.0312	1.0312	1.0000	1.0073	1.0387
17	1.0000	1.0000	1.0000	1.0216	1.0216
18	1.0760	1.0736	1.0022	0.9640	1.0373
19	0.9265	1.0231	0.9055	1.0344	0.9584
20	1.0000	1.0000	1.0000	1.1077	1.1077
21	0.8447	0.9989	0.8456	1.0438	0.8817
22	0.8669	0.8669	1.0000	1.1872	1.0293
23	1.0923	1.2254	0.8914	1.0296	1.1246
24	1.2352	1.0043	1.2299	1.0173	1.2566
25	0.9303	0.9648	0.9643	1.0003	0.9306
26	1.1085	1.0458	1.0599	1.0514	1.1655
27	1.1296	0.9382	1.2040	0.9383	1.0600
28	1.0000	1.0000	1.0000	1.0542	1.0542
29	1.1865	1.2024	0.9868	0.9459	1.1223
30	1.1174	1.0515	1.0626	0.9665	1.0799
AVERAGE	1.0472	1.0380	1.0089	1.0201	1.0683

Source: Own design using SUMA data

On an aggregate level, we can also see that the other values of M's components have attained good levels of improvement. In fact, they are higher than in the previous period, except in terms of technical change (TC). Specifically, there is a decrease of -5.56 % in TC relating to the '04-'05 period but the rest of the M's components are higher. This latter development is particularly remarkable given that during the '04-'05 period, PEC had deteriorated and during the '05-'06 period the trend changed and the value was higher than the unit. This evolution could be explained through an improvement in the specific aspects of management (such as the implementation of reforms to improve the more balanced use of resources, for example).

When broken down, Table 3 reflects that there are more units that have deteriorated in terms of productivity growth in relation to '04-'05. Now there are six whereas before there were four, which is in line with the decrease of the aggregated M value.

As is shown in Table 4, which contains the aggregated development of M and its components for the whole '04-'06 period, total average productivity increased by 8.55%, with a simultaneous improvement in all components but PEC. In fact, PEC decreased by 0.23%. On the one hand, it emphasises the fact that there is room for improvement in terms of pure efficiency factors by achieving a better balance between resources and outputs. On the other hand, it underlines the fact that the increase in the levels of TC and SEC were the reason why the final productive growth was positive ($M > 1$).

Table 4. Aggregated development of M for '04-'06

PERIOD	E	SEC	PEC	TC	M
04_05	1.0210	1.0348	0.9867	1.0802	1.1029
05_06	1.0472	1.0380	1.0089	1.0201	1.0683
AVERAGE	1.0340	1.0364	0.9977	1.0497	1.0855

Source: Own design using SUMA data

Finally, tables 5 and 6 contain the results of the evaluation showing the degree to which each output and input is respectively affected by technological change. In particular, the tables contain the result calculated using the expression (5) applied to outputs and inputs for the periods 04-05 and 05-06.

Table 5. Change percentages for each output as a result of technological change in the periods 04-05 and 05-06.

DMU _k	04-05		05-06	
	$[(S_1^{05,+})/\hat{Y}_1^{05}]_a$	$[(S_2^{05,+})/\hat{Y}_2^{05}]_b$	$[(S_1^{06,+})/\hat{Y}_1^{06}]$	$[(S_2^{06,+})/\hat{Y}_2^{06}]$
1	28.55	96.90	13.06	128.83
2	60.70	3532.04	187.40	331.80
3	268.32	629.33	217.85	408.96
4	-6.92	3.42	-4.47	6.72
5	364.68	496.61	315.74	491.87
6	346.01	540.77	324.68	650.83
7	166.25	345.69	123.49	268.02
8	132.22	314.46	132.79	332.11
9	234.23	769.60	241.71	547.88
10	36.67	72.20	52.98	70.55
11	444.65	990.76	295.55	458.69
12	303.54	364.89	188.30	220.76
13	111.82	247.43	131.42	208.86
14	49.66	183.92	58.28	175.58
15	463.12	845.63	440.40	669.77
16	464.98	2807.58	581.92	900.87
17	121.55	469.39	118.38	430.87
18	130.34	202.02	121.34	146.16
19	72.41	136.88	79.20	99.59
20	43.68	406.42	45.18	395.34
21	363.19	509.24	317.77	495.23
22	200.80	759.08	213.96	1492.46
23	223.26	342.94	154.24	259.54
24	12.69	32.23	96.11	131.37
25	31.09	62.39	37.36	53.24

26	227.94	403.03	187.40	331.80
27	302.42	579.47	271.90	897.96
28	132.22	314.46	132.79	332.11
29	238.79	474.86	217.56	409.42
30	152.27	338.27	187.40	331.80

Source: Own design.

a Output 1 is the “number of tax returns”

b Output 2 is the “number of tax payers dealt with”

Table 6. Change percentages for each input as a result of technological change in the periods 04-05 and 05-06.

DMU _k	04-05			05-06		
	$[(S_1^{05,\cdot})/\hat{Y}_1^{05}]_a$	$[(S_2^{05,\cdot})/\hat{Y}_2^{05}]_b$	$[(S_3^{05,\cdot})/\hat{Y}_3^{05}]_c$	$[(S_1^{06,\cdot})/\hat{Y}_1^{06}]$	$[(S_2^{06,\cdot})/\hat{Y}_2^{06}]$	$[(S_3^{06,\cdot})/\hat{Y}_3^{06}]$
1	70.83	46.95	65.17	71.15	43.61	65.17
2	22.22	28.80	-0.21	25.00	16.82	-0.21
3	12.50	18.64	27.67	16.67	19.77	17.95
4	82.93	15.45	75.85	82.56	16.03	75.85
5	12.50	20.42	14.19	6.25	21.32	4.99
6	12.01	13.53	-0.06	6.25	18.26	15.15
7	50.00	-0.14	2.64	46.43	7.61	2.64
8	17.22	18.74	22.24	23.50	16.81	2.44
9	12.50	20.43	33.94	6.25	24.59	33.94
10	66.07	24.25	51.81	67.17	12.91	52.78
11	0.00	20.24	20.27	6.25	2.17	20.27
12	41.67	19.31	6.01	33.65	13.53	3.72
13	41.67	23.38	37.24	37.21	12.61	1.19
14	58.73	36.76	59.71	59.02	28.38	47.84
15	6.67	4.61	0.00	0.00	23.72	0.00
16	-7.69	46.36	70.08	-15.38	43.08	70.08
17	41.67	27.45	16.44	37.50	27.37	16.50
18	53.33	19.76	44.49	50.00	19.75	45.17
19	57.87	25.64	40.05	54.54	18.60	29.42
20	56.25	40.88	63.34	53.13	37.52	63.34
21	8.88	11.06	5.69	0.00	23.72	0.00
22	41.67	21.94	-2.77	37.50	18.95	-2.77
23	28.23	3.00	0.94	15.93	15.50	18.00
24	74.91	8.55	61.98	76.56	24.08	67.78
25	69.99	5.89	52.57	63.40	15.25	50.94
26	26.81	19.08	0.39	20.89	18.36	-0.17
27	12.50	16.12	12.55	6.25	13.65	62.29
28	30.00	30.95	41.90	31.82	33.18	41.90
29	22.22	15.70	18.88	16.67	21.02	1.19
30	10.48	11.15	-0.04	4.57	22.75	-0.10

Source: Own design.

a Input 1 is the “Number of Employees”

b Input 2 is the “Actual average cost per employee”

c Input 3 is the “Area”

As can be seen in relation to both inputs and outputs, broadly speaking there have been no changes that indicate technological improvement, except for very few exceptions.

In particular, and in terms of outputs, only the number of tax returns for DMU₄ has improved as a result of technological changes made in both periods. The remaining units have worsened for the same reason.

In terms of inputs, more units have experienced technological improvements, but even so, the number is still very small and they are principally focused on the office area.

Conclusions

The purpose of this piece of work was to observe levels of productivity in a set of productive units carrying out their activity in the service sector. This activity involves managing the collection of local taxes that town councils and other government departments may transfer to these units. At the same time, the study has aimed to estimate the effect of technical efficiency change and technological change on these productivity levels, as well as the influence that technological change may have had on each input and output.

According to the results, we can see that productivity developed positively in the two periods analysed (04-05 and 05-06). However, during the first period, pure efficiency change (PEC) worsened and had to be compensated for by an increase in scale efficiency change (SEC). In fact, as can be seen in table 4, the average productivity variation in both periods was 8.5% and all relevant components, except PEC, also improved. This fact particularly emphasises the need to implement measures aimed at improving organisational factors in the DMUs.

Specifically, the adoption of measures to help managers generate team spirit with their employees or to encourage the existence of a work environment where responsibility and professionalism prevail without foregoing relative flexibility could improve productivity. Likewise, measures aimed at improving employees' skills, which, at the same time, also increase their interest in taking part in business improvement processes could also be effective.

Finally, and in relation to the small set of inputs and outputs that are genuinely influenced by technological change (tables 5 and 6), it is important to point out that measures to better utilise this kind of change are required.

The most logical way of moving forward and maximising technological change in units would be to adopt measures aimed at generalising the exploitation of technological change in units with improvements in each input or output.

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Remarks:

¹ Two offices were excluded from the analysis given that their outputs were not homogenous in relation to the other offices. The analysis was therefore limited to 30 offices.

² In particular, the authors that have analyzed other tax offices are González & Miles (2000), Moesen & Persoon (2002), Barros (2005) and Forsund et al. (2006).

³ The individual name of each DMU has been excluded for the purpose of maintaining the minimum level of confidentiality that the company stipulated when it provided the necessary information for this study.

EVALUATING CITIZENS' SATISFACTION ABOUT PUBLIC ONLINE SERVICES.

Note 2. The questionnaire reliability and validation

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Introduction

In the paper "Evaluating Citizens' satisfaction about public online services. A methodological approach" (Note 1), the experimental methodological approach used to identify a set of transversal meaningful dimensions and quality drivers was discussed.

Indeed, the aim of the research project, that is being carried out by CNIPA in cooperation with the University Roma Tre, is to define a model that will be able to compare information during time and space, in order to measure citizens' satisfaction about the online services for all public administrations. The tool chosen to measure citizens' satisfaction is a questionnaire. In detail, Note 1 dealt with the approach by a set of dimension and quality drivers relevant to monitor citizens' satisfaction were identified. This set has shown itself to be constituted by cross-factors that can be used to measure satisfaction for different central public administrations. So, a first set of seven dimensions and thirty-six quality drivers was defined and this set was shared with the purchaser (CNIPA).

The questionnaire and its reliability

Since the final questionnaire will be submitted to citizens using a variety of services, it should have several properties:

- i. its proposed items and dimensions should be transversal (this is the focus of Note 1);
- ii. its items and dimensions should be equally understandable by all citizens (this is the focus of this paper);
- iii. it should be properly tested by a pilot survey to check its capability to measure citizens' satisfaction and service quality relative to different public administrations (this will be addressed near in the future).

To build a successful questionnaire, able to appropriately measure what is planned by the survey objective, it is necessary to adjust the tool by a test to verify reliability and validity of the scale. Reliability can be defined as the level of agreement or consistency among independent measures of the same logical construct, while validity is faithfulness of measures. Precision, accuracy and stability should be taken into account to measure reliability and validity (Cronbach, 1951), since they allow to verify internal consistency among items and the level of correspondence between the measured construct and reality.

Italian citizens are the target of the final survey, therefore we decided to ask them whether the items are understandable and consistent with dimension they are associated with. To this aim, a specific questionnaire has been defined. It is structured in two sections:

1. in the first section, items and their dimensions clarity have been investigated (notice that in this section dimension clarity is tested as any other item);
2. in the second section, items were investigated for their consistency with their corresponding dimensions.

The scale used for both sections goes from 1 to 4 points (where 1 is the lowest score = not at all clear/consistent, while 4 is the highest = very clear/consistent). An even scale has been chosen in order to avoid any neutral score. Some socio-demographic questions have been finally added to the questionnaire.

The questionnaire was submitted to a random sample of 1770 internet users (979 males and 791 females), through face to face interview. Constrains on age groups have been fixed. The distribution of the sample by age and gender is shown in the Table 1 below:

Range	Gender		Tot.
	Male	Female	
18-30	9,94%	10,06%	20,00%
31-45	17,18%	12,82%	30,00%
46-60	15,03%	14,92%	29,94%
over 60	13,16%	6,89%	20,06%
Tot.	55,31%	44,69%	100,00%

Table 1: the distribution of the sample by age and gender

Another important information obtained is related to a frequency for use of internet and the use of services online as we can see in the following Table 2.

Use of internet	Use of online services		Tot.
	Yes	Not	
Rarely	4,24%	14,80%	19,04%
Frequently	27,01%	15,54%	42,54%
Always	34,12%	4,29%	38,42%
Tot.	65,37%	34,63%	100,00%

Table 2: the distribution of the sample by use of internet and use of online services

Moreover, data also highlights that about 80% of the sample are at least frequent users of internet and that among them the about 76% also use services online.

We now pass to reliability analysis and to this aim a well-known psychometric tool has been used.

The reliability of a questionnaire is related to score credibility, that is their consistency and stability over time. In literature, statistical methods for measuring reliability are divided in two classes (Petrabissi and Santinello, 1997):

1. methods for tests administered twice to the same group of people;
2. methods for tests administered once.

Methods for tests administered twice to the same group of people are processes able to measure, score stability over time through data. These methods are the Test-retest (Guttman, 1954) and the Parallel form. Methods for tests administered once to the same group of people are practices able to measure internal consistency among the items of a test. These methods are: Split-half Coefficient (Brown, 1910); Kuder-Richardson Coefficient (Kuder and Richardson, 1937) and Cronbach's Alpha Coefficient (Cronbach, 1951). In this context, the choice of the right coefficient depends on the kind of gathered information. For instance, when the items are homogeneous (measuring a single factor) it is better to use Kuder-Richardson Coefficient, when the items are heterogeneous (measuring many factors) split-half coefficient has a better performance. Cronbach's Alpha measures the internal structure of tests and it is suitable for heterogeneous factors that deal with opinion and behaviour measurement. This coefficient has the following expression:

$$\alpha = \frac{k}{(k-1)} \left(1 - \frac{\sum s_j^2}{s_x^2}\right)$$

where s_j^2 and s_x^2 denote item variance and internal scaling variance respectively and k is the number of items.

To have a good level of internal consistency (and so a high value of Alpha) it is necessary that variance component, coming from each item, is low compared with the internal scaling variance.

Generally, for values of Alpha between 0.70 and 0.90 the questionnaire can be considered as reliable (Nunnally, 1978). Higher values of Alpha (say >0.90) suggest to reconsider the length of the questionnaire eventually excluding some items (Streiner & Norman, 2003).

In our analysis, the Cronbach's Alpha is used to test the scaling reliability and it has been computed for every dimension in both sections of the questionnaire. The results are shown below.

Accessibility	Alpha value
Clarity	0,8228
Consistency	0,7431

Adequacy of information	Alpha value
Clarity	0,7978
Consistency	0,7363

Capacity to respond	Alpha value
Clarity	0,8822
Consistency	0,8287

Site design	Alpha value
Clarity	0,8275
Consistency	0,7754

Handling user contacts	Alpha value
Clarity	0,8926
Consistency	0,8780

Improvement of the relation between citizens and public bodies	Alpha value
Clarity	0,7536
Consistency	0,6259

Security	Alpha value
Clarity	0,7632
Consistency	0,6969

Table 3: The values of Cronbach's Alpha for each dimension in both sections of the questionnaire

As we can see from the Tables above, the values of Cronbach's alpha are high for some dimensions. For this reason, if on one side the results support the hypothesis about internal consistency among items, on the other side, they suggest the possibility to reconsider the length of the scale and an elimination of a few items.

The critical item identification

Critical items were first pointed out by means of descriptive statistics. We focus our attention on negative opinions (marker: 1=not at all clear/consistent; 2= not much clear/consistent) and on their frequency in our sample as possible symptom of lack of clarity and/or consistency. We decided to consider as critical items with a percentage of 1-2 greater than 20% (the threshold value we fixed).

We further focus attention on the subsample of people who “often or always use internet” and their clarity and consistency perception. This kind of information is crucial because the final aim is to build a questionnaire that will be administered on the internet meaning that frequent users of internet will be the target of the future survey on services online.

Critical items resulting from this analysis are summarized in the Table 4 where the opinions coming from the sample and subsample of frequent internet users are compared. Critical items for clarity/consistency are highlighted in the Table 4 by an exclamation mark; the corresponding percentages are reported in bold figures.

The Table 4 shows that items perceived as not very clearly defined are also perceived as not very consistent with their corresponding dimension. For these items (variables), the statistical dependence between the clarity and the consistency was tested by Chi-square test. The item about “FAQ” results to be the most critical; 51% of the sample did not know the meaning of this acronym although is largely used in the web language. Also considering only people that “usually or always use internet” we obtained a great percentage of people (44%) that consider this item not clear and not consistent (47%). The result of Chi-square test calculated for these variables (clarity of “FAQ” and consistency of “FAQ” and “Capacity to respond”) was of perfect dependence.

In this analysis we studied clarity of dimensions as well as of items. Table 4 shows that the dimension definition “Improvement of the relation between citizens and public bodies” was perceived as not clear by about 27% of interviewees (24% considering only subsample). This result suggested that it was necessary to provide a new dimension definition.

Hence, these items and the others critical items underlined in the Table 4 were considered as potential items to edit or remove. Before acting, we decided to investigate the fundamental structure of the questionnaire using a multivariate statistic technique as factor analysis¹.

¹ Factor analysis is due to psychometric field to measure the intelligence impartially (Spearman, 1904). This first model was generalized to obtain a better fitting on the experimental data. For details of the model the reader can see Thurstone, 1938.

DIMENSIONS AND ITEMS						
SAMPLE	TOT. =1770		STRATIFIED SAMPLE CONSIDERING THE USE OF INTERNET FREQUENTLY/ ALWAYS =1433			
DIMENSION/ITEM	clarity	clarity	consistency	consistency	Critical point considering whole sample	Critical point considering stratified sample
	% answers1, 2	% answers 1, 2 of who uses frequently/always internet	% answers1, 2	% answers 1, 2 of who uses frequently/always internet	!	!
ACCESSIBILITY						
Ease and speed of access to site and on-line services	5,42%	3,91%				
1.1 The site is easy to reach	12,00%	10,40%	7,00%	7,33%		
1.2 The services on the site are easy to access	6,28%	5,09%	3,50%	2,93%		
1.3 It is easy to register prior to using the services on the site	19,00%	13,19%	19,00%	15,42%		
1.4 The pages of this site load quickly	13,00%	10,12%	22,00%	20,80%	!	!
1.5 The site is not subject to blockage	26,00%	23,24%	39,00%	37,75%	!	!
INFORMATION ADEQUACY						
Updating, reliability, certainty and completeness of the online information	9,00%	8,65%				
2.1 This site offers me all the information I need to use the online services without	12,50%	10,89%	11,00%	10,40%		
2.2 This site contains reliable information	11,00%	10,61%	6,60%	6,49%		
2.3 This site contains complete information	11,00%	10,96%	8,00%	8,09%		
2.4 This site contains updated information	6,40%	6,00%	7,00%	7,05%		
2.5 FAQ section is useful	51,00%	44,10%	52,00%	46,89%	!	!
2.6 The instructions for using the services on this are clear	13,22%	12,35%	28,00%	27,22%	!	!
CAPACITY TO RESPOND						
The suitability of the service to meet user needs	10,00%	9,14%				
I find that using the services of this site is more advantageous than traditional						
3.1 means (telephone, fax, email, front office)	9,00%	8,09%	16,00%	15,21%		
3.2 The offer of services on the site meets all my needs	7,00%	6,14%	7,00%	6,35%		
3.3 I can easily make use of the service I need	9,00%	8,16%	21,00%	20,10%	!	!
3.4 Possible mistakes occurring during the data entry process are clearly pointed out	15,00%	12,21%	29,00%	28,40%	!	!
3.5 It is easy to obtain the documents and/or receipts I need	11,50%	10,19%	15,00%	13,89%		
3.6 I can complete the procedure in my first session	28,00%	25,68%	23,00%	21,00%	!	!
3.7 The time required to use the service is acceptable	12,00%	11,24%	15,40%	14,79%		
3.8 It is easy to acquire personalised information on the service according to my specific needs	24,00%	22,33%	15,60%	14,72%	!	!
SITE DESIGN						
Graphic design and content organisation	14,00%	12,14%				
4.1 Navigation on this site is intuitive	30,00%	26,17%	24,00%	20,73%	!	!
4.2 I find the site innovative	18,00%	17,24%	32,00%	31,61%	!	!
4.3 The site has an attractive graphic design	23,50%	20,87%	23,00%	21,70%	!	!
4.4 I can find the information I need with a few clicks	12,00%	9,98%	16,00%	14,72%		
4.5 The site's pages are well organised	9,00%	7,89%	7,00%	7,47%		
4.6 The contents of the single pages on this site are arranged in an orderly manner	14,00%	13,96%	11,00%	10,75%		
HANDLING USER CONTACTS						
Suitability of the site for gathering questions, providing answers and resolving disservices	15,00%	14,58%				
5.1 This site offers adequate tools for submitting specific questions to the authority	28,00%	27,70%	14,00%	13,33%	!	!
5.2 I obtained adequate replies to the questions I put through the site	10,00%	10,05%	8,00%	7,82%		
5.3 I quickly received the replies to the questions I formulate through the site	11,60%	11,72%	15,50%	15,49%		
5.4 This site offers appropriate tools for filing a complaint	11,00%	10,26%	10,40%	9,77%		
5.5 The complaint I made through the site was resolved with one contact	18,00%	16,26%	19,40%	18,56%		
5.6 The complaint I made through the site was resolved quickly	13,00%	12,84%	17,00%	17,45%		
IMPROVEMENT OF THE RELATION BETWEEN CITIZENS AND PUBLIC BODIES						
Capacity of the services offered through the site to optimise the relationships between citizens and public bodies	27,00%	24,98%			!	!
6.1 Services this site offers simplify my activities	12,00%	10,89%	17,00%	16,26%		
6.2 Services this site offers provide better answer to citizens needs	19,00%	18,56%	10,00%	9,28%		
6.3 I believe this site contribute to strengthen public body's image	16,00%	14,52%	28,00%	27,49%	!	!
SECURITY						
Site overall security and privacy protection level	9,60%	8,93%				
7.1 This site protects my privacy	10,50%	9,63%	6,60%	5,93%		
7.2 This site makes sure that transactions requiring the use of personal data be adequately safe	29,00%	24,42%	12,00%	10,61%	!	!

Table 4: Critical items identified with descriptive data analysis

Factor analysis

The aim of factor analysis is to reduce a large number of observed variables combining them into a smaller set of "underlying factors". Latent factors help explaining the dependence relations among the observed variables. Factor analysis is helpful in applied science that deal with large quantities of data and that study as complex concepts as behaviour or attitude.

The extracted factors, not directly observable, are linear combinations of the original variables (items). The factor loadings measure the strength of the relevance of each latent variable for the observed variables. The new set of "underlying variables" could explain a large part of the variability of the observed variables.

According to the aim of the analysis, it is necessary to decide how many factors identify and choose the approach for the factors extraction.

In the context of questionnaire design, after doing a pilot test of a questionnaire, it is often necessary to study the dependence among items. So, factor analysis is usually used to decide how modifying or grouping the items of every dimension into a new set of quality drivers.

Our aim was to reduce the number of items since the final questionnaire that will be administered online has to be constituted by two parts: a general one dealing with general aspects of online services; a specific one dealing with aspects of each specific service.

We decided to use factor analysis to redesign a new smaller questionnaire (relative to general aspects only). To do this, we started from markers given for clarity² and reduction was performed leaving unchanged the number of dimension. Factor analysis was applied to each dimension to discover its underlying factors. The number of factors was chosen according to a fixed desirable threshold of explained variance. Factors were extracted by the principal component approach. For an easier interpretation of the factors "varimax rotation" (Kaiser, 1958) had been used.

The following figures represent, for each dimension, the original observed variables and the extracted latent factors.

Accessibility

These factors explain 68% of the total variance; the first one, that alone explains 57% of the total variance, is constituted by three items related with the aspect of "internet surfing". The items constituting the second factor take the aspect of "access facilities".

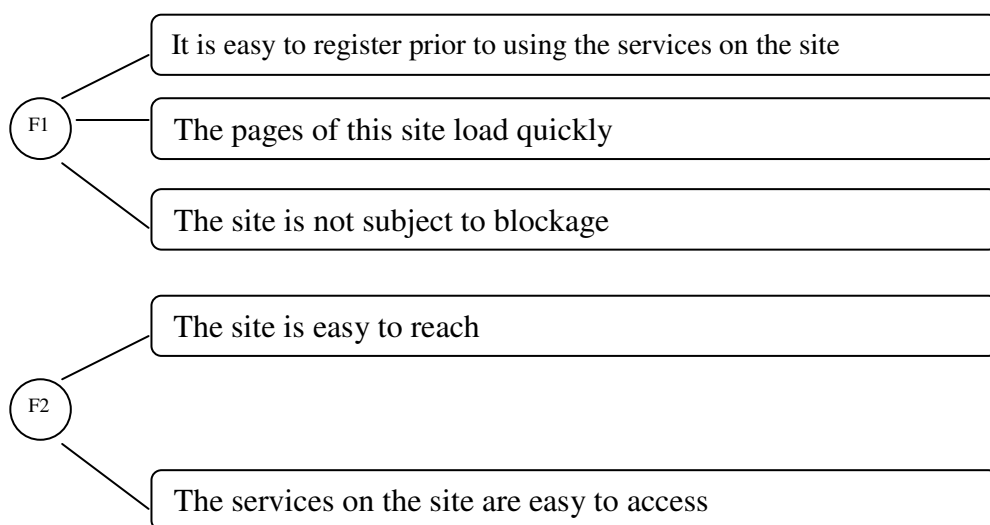


Figure 1: structure representation of *Accessibility*

² We considered only the clarity score of items and not the clarity score of dimension definition.

Adequacy of information

The two factors extracted from the original variables explain 76% of the total variance. Each factor is constituted as follows:

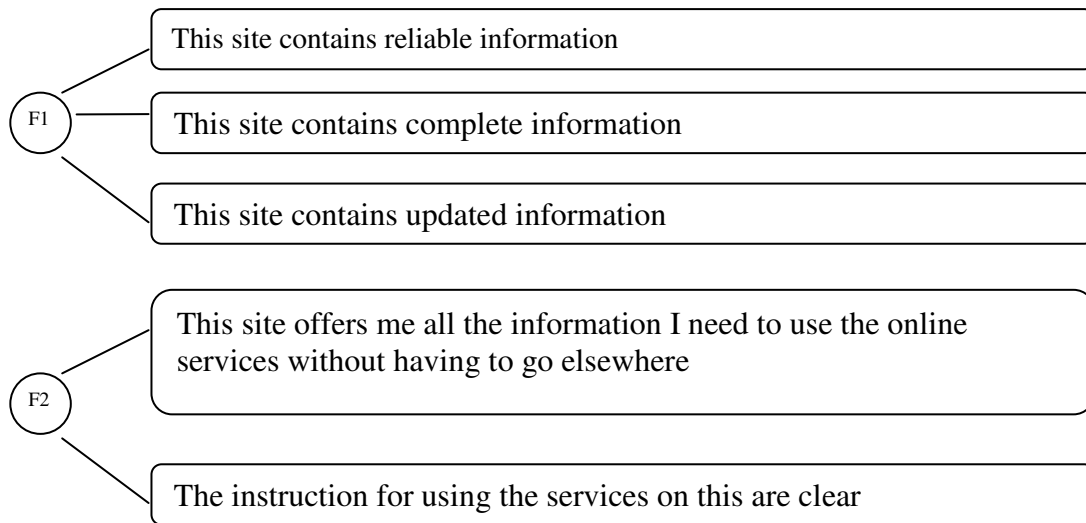


Figure 2: structure representation of *Adequacy of information*

In detail the first factor refers to “information aspect”, while the second one to the “usefulness of information”.

Capacity to respond

This dimension is constituted by eight items but two factors explain 75% of total variance. The factors are related to the aspects of “online service usefulness” and to “facilities of service”.

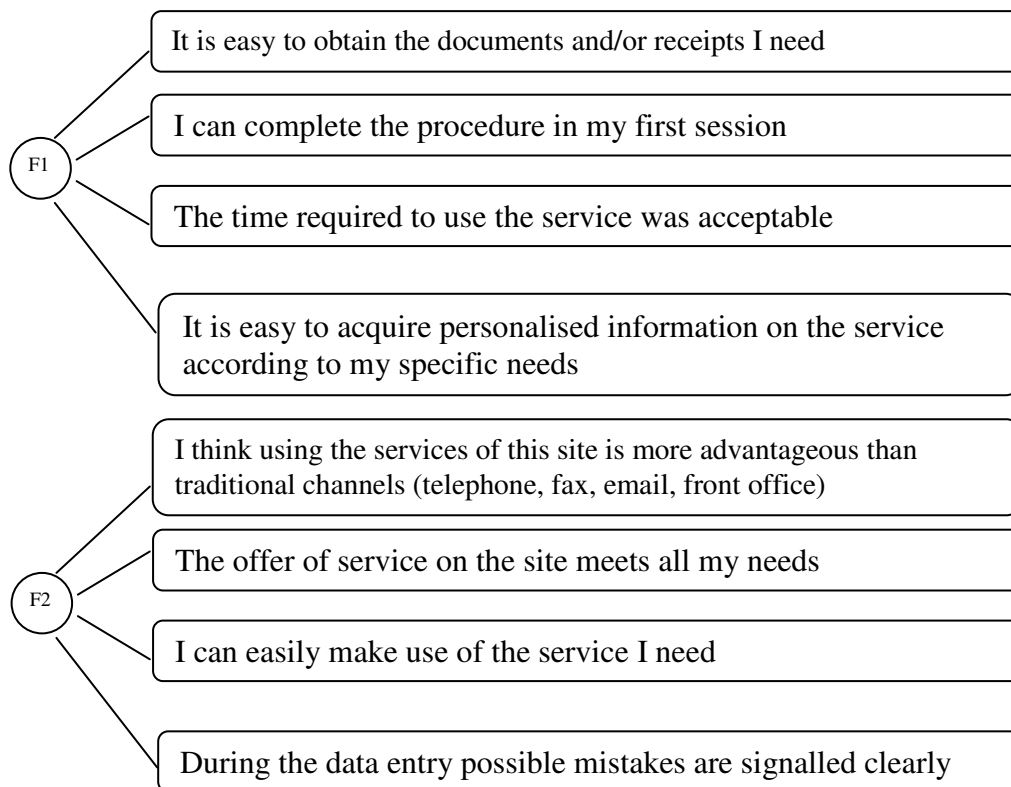


Figure 3: structure representation of *Capacity to respond*

Site design

For this dimension it is possible to extract two factors that explain 84% of total variance: the first one represents aspects of “web contents”; the second one picks aspect of “site layout”.

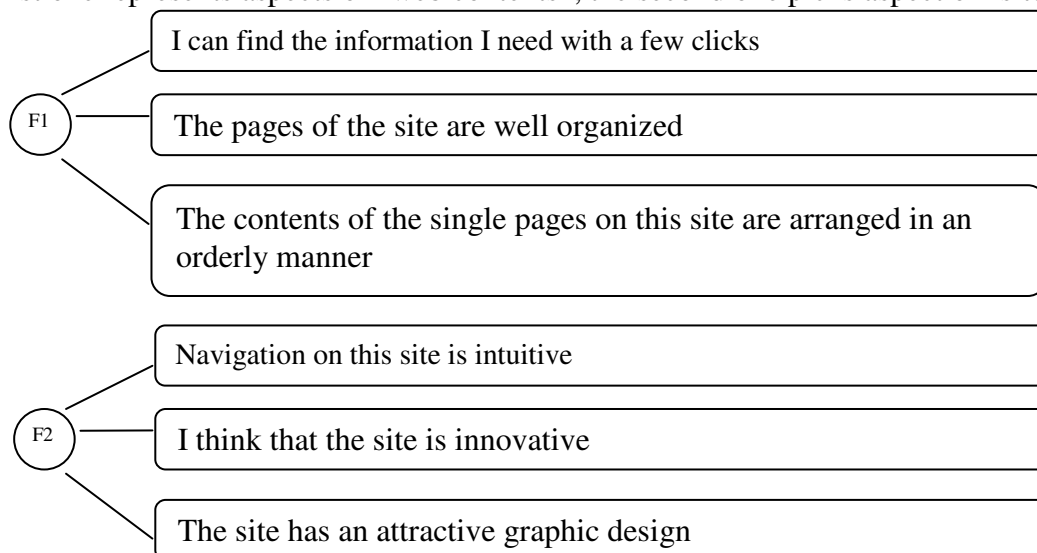


Figure 4: structure representation of *Site design*

Handling user contacts

Two factors can be extracted also here: the first can be interpreted as relative to “complaints” while the second to “reliability of answers”. These factors explain the 78% of total variance.

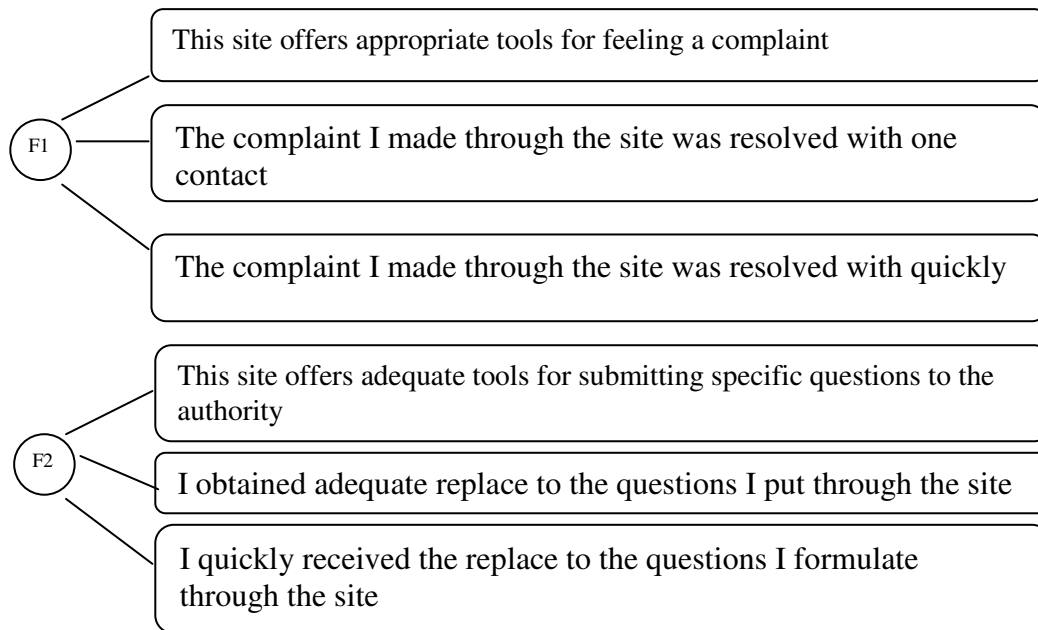


Figure 5: structure representation of *Handling user contacts*

Improvement of the relation between citizens and public bodies

Factors of this dimension explain 50% of total variance. The first factor is related to the aspect of “advantages provided by online services” while the second factor is entirely explained by the item “I believe this site contributes to strengthen public body’s image”.

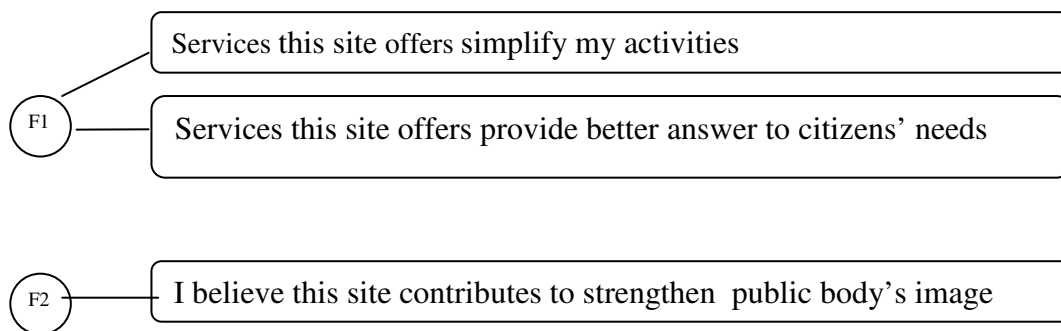


Figure 6: structure representation of *Improvement of the relation between citizens and public bodies*

Security

For this dimension we can extract only one factor because both items logically refer to the same aspect “privacy”.

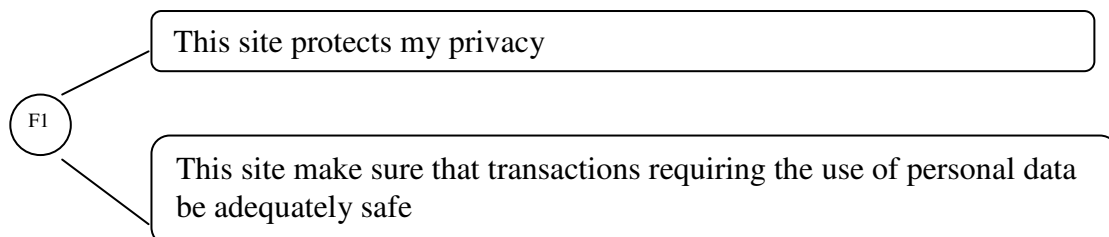


Figure 7: structure representation of *Security*

The information gained from factor analysis is consistent with the critical items highlighted from data analysis. The critical items are absorbed in the extracted factors. In detail, an integrated analysis of the results produced by descriptive statistic and factor analysis together with a final brainstorming of experts allowed to decide about editing, assembling, modifying and re-defining items.

We obtained a new set of twenty-three quality drivers and seven dimensions (see Table 5) that, after the choice of the scaling, will constitute the general part of the final questionnaire.

FINAL DIMENSIONS / ITEMS	
ACCESSIBILITY	
Ease and speed of access to site and on-line services	
1.1	The site is easy to reach
1.2	The services on the site are easy to access
1.3	It is easy to register prior to using the services on the site
INFORMATION ADEQUACY	
Updating, reliability, certainty and completeness of the online information	
2.1	This site offers me all the information I need to use the online services without having to go elsewhere
2.2	This site contains complete information
2.3	This site contains updated information
CAPACITY TO RESPOND	
The suitability of the service to meet user needs	
3.1	I find that using the services of this site is more advantageous than traditional means (telephone, fax, email, front office)
3.2	The offer of services on the site meets all my needs
3.3	Possible mistakes occurring during the data entry process are clearly pointed out
3.4	It is easy to obtain the documents and/or receipts I need
3.5	The time required to use the service is acceptable
SITE DESIGN	
Graphic design and content organisation	
4.1	Navigation on this site is intuitive
4.2	The site has an attractive graphic design
4.3	I can find the information I need with a few clicks
4.4	The site's pages are well organised
HANDLING USER CONTACTS	
Suitability of the site for gathering questions, providing answers and resolving disservices	
5.1	This site offers adequate tools for submitting specific questions to the authority
5.2	I quickly received the replies to the questions I formulate through the site
5.3	This site offers appropriate tools for filing a complaint
5.4	The complaint I made through the site was resolved quickly
IMPROVEMENT OF THE RELATION BETWEEN CITIZENS AND PUBLIC BODIES	
Capacity of the services offered through the site to optimise the relationships between citizens and public bodies	
6.1	Services this site offers simplify my activities
6.2	I believe this site contribute to strengthen public body's image
SECURITY	
Site overall security and privacy protection level	
7.1	This site makes sure that transactions requiring the use of personal data be adequately safe

Table 5: The final set after the factor analysis

Conclusion

The analysis of data obtained by the survey, allowed us to verify items and dimensions, identified in Note 1 through an empirical methodological approach. Through this intermediate phase we verify validity and reliability of the questionnaire and we edited and reduced some items.

The significant reduction of items allowed us to prune the questionnaire general part dealing with general aspects of online services. We obtained a simple and flexible tool to measure citizen's satisfaction. In addition to this part, near in the future, we will add a specific part dealing with aspects of each specific service. The final questionnaire should be properly tested by a pilot survey to check its capability to measure citizens' satisfaction and service quality relative to different public administrations.

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URBAN BLOGS AS A STRATEGIC INSTRUMENT IN THE LOCAL DEVELOPMENT AND IN THE GOVERNANCE OF URBAN AREA

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Introduction

Nowadays the internet is rich of applications which allow the dynamic interaction between people within a bidirectional and instantaneous experience of communication. Blogs¹ and social networks are very popular tools and represent an evolution of applications such as forums and newsgroups (communication methods belonging to the Web 1.0). These tools enable the user to start a virtual discussion with other users about a specific topic just by writing a message. This message will be published together with messages or answers written by other users.

Blog is a compound noun deriving from "Web" and "log" and identifies that place where people can virtually meet and freely give their own opinion. It is an independent website where to log thoughts, like you would do on a personal diary. Everyone can write his own studies, researches, ideas, thoughts or just curiosities in real time. It is therefore possible to write every kind of news, information or stories concerning one's private or professional life, adding links to websites according to one's own interests².

A blog makes it possible to share thoughts and remarks about different situations and to come across people who may be physically far but, in fact, close to one's own ideas and points of view. It is possible also to ask questions and to find possible solutions throughout a common debate.

It is easy to create a blog and quickly become the editor of a personal "newspaper" which can become anything you may want.³ You do not need to know computer programming: a basic computer knowledge is enough. All you need to have is something to say and to be willing to communicate it to other people.

A blog allow you to express freely your own creativity, by interacting directly with the other *bloggers*⁴. The opportunity to publish your own documents on the internet is, therefore, no longer a privilege for few people (like universities and research centres) but it is everybody's right (the bloggers).

The most popular types of blog can be classified as follows⁵:

- **Personal blog:** the author uses this kind of blog to write his experiences. It may contain poems, tales, wishes and protests. The readers' contribution is very much appreciated and it represents a starting point for debates. This type of blog is often

¹ The word "blog" derives from the contraction of web-log. This word was created by Jorn Barger in December 1997 and appeared for the first time in his personal web site. The short version *blog* was created by Peter Merholz who in 1999 used the sentence "we blog" in his website, inventing the verb "to blog".

² The section which contains links to other blogs is called blogroll.

³ Maurizio Dovigi "Weblog Personal Publishing" Apogeo, 2003

⁴ A *blogger* is somebody who writes and manages a blog. All blogs as a whole are identified as *blogsphere*. Every blog is made up of different articles, which are identified with a number and indicated with a unique permalink, (this is a direct link to that article).

⁵ Giuseppe Granieri "Blog Generation" Bari, Laterza, 2005; Sergio Maistrello "Come si fa un blog. Tecniche Nuove" 2004.

used by young students (from College or University). Often there are crossed links between different blogs.

- **News blog:** this type of blog is used by journalists to give their opinion on current affairs or events. It is often used to speak about issues which do not normally appear on the newspapers. Everybody is allowed to put comments on the news.
- **Corporate blog:** this type of blog is managed by one or more employees within a company: it is generally more informal than the company website. The bloggers must comply with the company code. Usually these blogs are appreciated for their simplicity and straightforwardness.
- **Thematic Blog:** It is a meeting point for people with common interests (for examples hobbies).
- **Blog directory:** it is a blog whose purpose is to gather links on a peculiar subject.
- **Photoblog:** it is a blog dedicated to the publication of pictures rather than texts.
- **Blogames:** this kind of blog deals with games rather than texts.
- **Display Blog:** this type of blog shows the artworks of the authors, like comics, videos or other peculiar topics.
- **Political blog:** it is used by many politicians as a way to communicate with people, in order to speak about problems and share solutions especially on a local level.
- **Urban blog:** these blogs refer to a well defined area (such as a town, a village or a quarter) and aim to the direct and indirect socialization of people. They may use images and videos regarding the community. It is interesting to see the use of maps and systems of social bookmarking in order to increase the level of cooperation and sharing.
- **Watch blog:** this is a blog used to criticize the so-called “mistakes” found in the on-line news, website or other blogs.
- **M-blog:** they are used to spread one's own music discoveries and let the other people participate through the publication of mp3 or audio file in different formats.
- **Vlog or video blog:** their main contents are videos, often accompanied by texts and images. The vlog is a sort of distribution of audiovideo contents generally used by artists or film directors.
- **Audio Blog:** these blogs are made up of audiofiles published through the Podcasting, whose peculiarity is the chance to download updates automatically onto your computer, or onto your mp3 player via the RSS feeds with the encapsulated audio file.
- **Nanopublishing:** this is a monothematic blog, whose content is generally easy and written by many people.

- **Moblog:** this blog uses the mobile technology, in other words mobile phones. Its contents are often images (sent via MMS) or videos (in some cases they are recorded directly during a video call).
- **Multiblogging:** this represents the possibility to manage more blogs with just one script. They often support multi-user access.
- **Blog novel** or **blog fiction** are a poem or a tale divided into short parts, which develops on a blog and therefore turns to the public. Most of times the bloggers/visitors comments can give useful direction to the development of the story by the author.

The meaning of Urban Blog

The expression “Urban Blog”⁶ identifies those blogs which refer to well defined urban areas (such as towns, villages or quarters) which try and develop indirect and direct socialization by “digital word of mouth”. They also make use of images and videos regarding a certain community.

These are networks of citizens who create a new form of dialog between themselves and the institutions; the same intuitions which are the foundation of the internet are applied to the public administration: “the area as a net, the citizen who interacts, the borough as a social network” (Maistrello)⁷.

The bloggers can be individuals or organized heterogeneous groups, who have something to say even in a small area or quarter.

Urban blogs are mapped on Frapp⁸, a web site where everyone can add his own link; please see the following examples of institutional blogs (Santucci)⁹:

- *Urban 2 Crotone:* this is a program based on a European initiative aiming to the economic and social revitalization of the town and its surroundings. The aim is to promote a sustainable urban development.
- *Sanpablog:* this is the result of the cooperation between the Town of Torino, the Vigone Laboratory which is involved in the Project “Periferie” and SmartLab, which is a CSP application laboratory – an innovation in the ICT. Their purpose is to realize a public instrument of expression, communication and sharing of experiences and opinions.
- *Blog Imperia:* it mainly contains complaints on local problems, such as the town condition and the tax system.
- *Bergamo blog:* urban blog about the whole town.

Urban blogs also offer local services, such as reviews about restaurants, opening hours of pharmacies, the list of local town festivals, local news.

We believe that this tool is a great instrument for the growth of an area, since it offers a knowledge which is distributed and easily accessible. It can answer the questions of young

⁶ This term has been created by Andrea Toso in 2004, he presented the “Urban blog theory” for the first time during the Webbit 2004.

⁷ Quotation from Sergio Maistrello in “Internet, la città, la rete sociale”, Apogonline 2006.

⁸ It is managed by Andrea Toso: new media project manager and social media researcher (University of Turin).

⁹ Umberto Cantucci “Dall’urban blog alla piazza interattiva” Apogonline 2006

and old people, as well as of entrepreneurs and unemployed people or immigrants and tourists, association and institutions.

E-Government and E-Governance

The emerging phenomenon of the urban blogs has set models of interactions with the area, giving a concrete chance to dialog with the local institutions as well as to create initiatives realized through bottom up processes.

It is possible to distinguish three phases in the development of the electronic tools and in the use of the internet by local communities and institutions (Berra, 2007)¹⁰:

The first phase, before 2000, represents the origin of sporadic and discontinuous initiatives based on rudimental tools. These low profile projects were worked out by citizens. A significant example is the Berkley's Community Memory, which was created in the 70's. It was an electronic board where the citizens could leave messages. In this phase, the interaction processes are characterized by a low effectiveness and visibility. In many cases these were one-sided operations originated by the initiative of few citizens.

The second phase (between 2000 and 2005) is characterized by e-government projects and is linked mainly with an electronic reorganization of the administrative structures. With respect to the first phase where the citizens were the main "actors", in the second phase the local institutions are more involved. The most important result in this stage is the creation of information web sites, such as the council, borough and tourism entities' web sites. These web spaces offer mainly unidirectional (from the institution to the citizens) informative tools and represent the first step towards the realization of the E-government National Plan which was worked out by the Minister for Innovation and Technology. The eighth Report on Digital Towns (Rapporto Città Digitali), worked out by Censis and presented in 2004, stresses the realization of many goals of the National Plan.

The e-governance, which characterizes the current electronic infrastructures and that can enhance the active participation of citizens, does not fully appear in the second phase. (Bagnasco, Le Galles 2001¹¹)

The third phase is identified as *Technology Building Democracy* and represents the evolution of the web 2.0 showing the change from the e-government to the e-governance. In other words, the change to a type of active participation where the citizens can give their contribution to the decision processes through bottom up models. In the table below you can see the improvements in the tools made available to the citizens for the creation of local communities.

¹⁰ Mariella Berra, *Sociologia delle reti telematiche*, Laterza, 2007.

¹¹ Bagnasco Arnaldo, Le Gales Patrick, *Le città dell'Europa contemporanea*, Liguori, Napoli, 2001.

Growth of Useful Web technologies in Italy.

	Regions		Provinces		Chieftowns		Other cities	
	2002	2004	2002	2004	2002	2004	2002	2004
	Val. %	Val. %	Val. %	Val. %	Val. %	Val. %	Val. %	Val. %
Presence of online citizen registration	2	11	19	21,5	18,6	31,1	n.d.	3
Web 2.0 technologies (blog, forum) for the citizen.	1	5	8	27,5	10,8	25,2	n.d.	14,4
Newsletter and mailing list.	12	12	25	37,3	23,5	35,9	n.d.	18,1

Reference: Rur-Censis, 2004

E-Government identifies the use of technologies as a support to the institutions' activity. The purpose is the improvement of the services offered to the citizens through electronic transactions. In this context, you can mainly detect top- down movements: the institutions provide the citizens with services and information without allowing an interaction and a democratic participation.

E-Governance refers, on the other hand, to the creation of web spaces where citizens can participate directly to the town management's activities, suggesting ideas and pointing out news with the classical web 2.0 instruments: blog, forum and wiki.

The model of analysis

In order to better understand an urban blog, it is crucial to consider the following subjects:

- The social capital
- The theory of nets and social networks.

The social capital is not assigned to certain individuals or social structures. It is a quality of those social relations which enhance relational goods.

It is necessary to distinguish between primary capital (relations which enhance primary relational goods, by employing more informal criteria) and secondary capital (relations which enhance secondary relational goods, which are more formal and closer to the civic and civil culture)¹².

The primary social capital refers to environments such as the family and the primary informal networks (between family members, relatives, neighbours, friends); it is based on a primary form of trust (face-to-face and intersubjective trust) and on the interpersonal reciprocity as a symbolic exchange (in other words, a gift is considered as an action in an exchange circle

¹² P.DONATI, La famiglia come capitale sociale primario, in *Famiglia e capitale sociale nella società italiana*, Ottavo Rapporto Cif sulla Famiglia in Italia, Edizioni S.Paolo, Cinisello Balsamo, 2003.

based on a giving-receiving- having in return relation, with no exchange of money). The primary social capital is the main factor of the civility. This means that you are civil since you use good manners and have a good consideration of the other people, so that you can help them.

The secondary social capital refers to an environment linked to associations within the civil society (associations and civic networks made of individuals and/or families); it is based on a secondary form of trust (which turns towards individuals with a common affiliation to a certain association or civil/ political community) and on an extended social reciprocity (it is a sort of extension of the symbolic exchange to people belonging to the same association or civil/ political community). The secondary social capital shows the good practices through which the citizens exercise their rights and responsibilities concerning the public life within the town or borough. (Donati, 2003).¹³

In the analysis of an urban blog, we usually refer to the secondary social capital. We especially focus on the affiliation that connects the inhabitants of a specific area and on the practices that from this membership.

The “wish” for a community (Bauman 2001)¹⁴ can push some open-minded citizens to join the urban blogs. In this paper we intend to focus on the more active citizens, or people who spontaneously decide to spend some of their time for a local blog.

Speaking about the creation of the social capital, it is clear that urban blogs can help its growth, making relationships between citizens easier and more virtuous. Such relationships can bring some improvements to the area. The case study of this paper represents just an example of the way the inhabitants of a certain urban area can improve the quality of life, by increasing the sense of membership in a local community.

The goals set by the creators of the Sanpablog project are: “*creating, supporting and encouraging the active participation of the people in the area, giving the community a public instrument of expression, communication and sharing of identity, experiences as well as opinions*”¹⁵

A social network is a group of people interconnected by different social relationships: for example, random acquaintance, work relations, family links. The social networks can often be used as a basis for intercultural studies in sociology and anthropology and are built by a series of “nodes” – which represent people – and links – which identify the relations between individuals within the network.

The Social Network Analysis¹⁶, which is the mapping and measuring of the social networks, is used to represent and study the dynamics within a network. In order to study the social networks, you must refer to the graph theory, which is a map of the connections and “nodes” within a network.

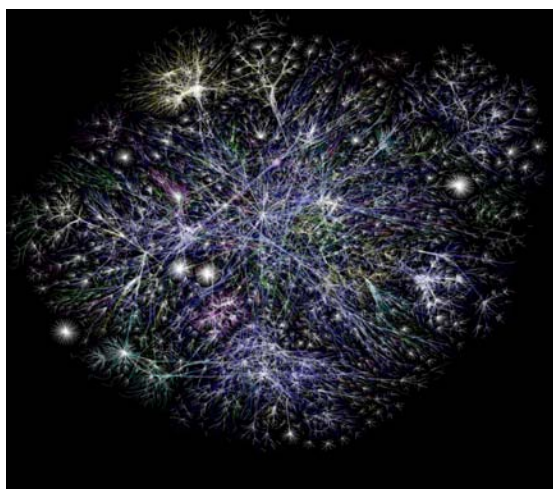
¹³ P. Donati, L'approccio relazionale al capitale sociale, in “Sociologia e Politiche Sociali”, a. 10, n. 1, 2007.

¹⁴ Community: Seeking Safety in an Insecure World, by Zygmunt Bauman. Cambridge, UK: Polity Press, 2001

¹⁵ For a presentation of Sanpablog see: www.sanpablog.it

¹⁶ Freeman, L.C., White, D.R., & Romney, A.K. Research methods in social network analysis. New Brunswick, NJ.: Transaction Publishers. 1992

Social network theory analyzes social relationships in terms of nodes and link. Nodes are the individual actors within the networks, and link are the relationships between the actors. There can be many kinds of link between the nodes, usually, we consider “strong” and “weak” ties¹⁷, the strong ties are the familiar and the friendship relations, they exist when people see each other frequently over long periods of time, in this case the relationship is close and intimate, instead, the weak ties are the opposite; weakly tied individuals see one another occasionally and their relationships are casual rather than intimate. In its most simple form, a social network is a map of all of the relevant ties between the nodes being studied. The network can also be used to determine the social capital of individual actors¹⁸. These concepts are often displayed in a social network diagram, where nodes are the points and ties are the lines.



Example of a Social Network Map. Opte Project, 2008

The network theory allows us to describe an urban blog by demonstrating its potential effectiveness. If we consider the active users of an urban blog as “nodes” of a network made by all residents in the area, it is possible to identify quite well the community's network. This characteristic is in inverse proportion to the degrees of separation between each member of the local community and an active user. (Barabasi, 2001)¹⁹

In order to analyse the Sanpablog case study we will use the networks theory, in particular the models worked out by Albert-Laszlò Barabasi, focusing on the Hub idea.²⁰ The Hubs are nodes characterized by a number of links above the average. When we analyze a social network, the hubs are the people with a large amount of weak and strong ties, in our hypothesis, the Urban Blogs are hubs, with the potentiality to connect other hubs that are represented by citizens or institution of a specific area.

Case Study: Urban Blog SANPABLOG

¹⁷ Granovetter, Mark;” The strength of weak ties”; The American Journal of Sociology, Vol. 78, No. 6., May 1973, pp 1360-1380

¹⁸ P. Donati, L'approccio relazionale al capitale sociale, in “Sociologia e Politiche Sociali”, a. 10, n. 1, 2007.

¹⁹ Réka Albert and Albert-László Barabási, Statistical mechanics of complex networks, Review of Modern Physics 74, 47-97 (2002).

²⁰ G Bianconi, A.-L Barabasi ,Competition and multiscaling in evolving networks, EPL (Europhysics Letters) 54 2001.

The Sanpablog is an initiative for the San Paolo quarter in Turin, which was created by the cooperation between the Città di Torino, the Vigone Laboratory involved in the Progetto Periferie and SmartLab, which is an application laboratory of the CSP – innovation in the ICT. Sanpablog is realized for the San Paolo quarter, which is just a part of the District Nr. 3 in Turin. This District counts around 130.000 inhabitants²¹.

The aim is to create, support and encourage the participation of the active people within the area providing the local community with a public instrument of expression and communication as well as a way to share people's identity, experiences and opinions.

Any inhabitant of San Paolo quarter can decide whether to join the community by registering with a normal online form. Within a few hours the blog's editorial office sends a confirmation email to the new user and from that moment on, the user can write articles and stories regarding San Paolo area in the blog.

Different contributions and experiences coming from the quarter join in the blog: they may arrive from entities, communities and individual citizens. *Sanpablog* is an instrument that allows people from the San Paolo quarter to make themselves heard by encouraging the communication between citizens and institutions as well as the creation of a well defined local identity, stimulating the participation of its members.

By analysing tags and posts added in the past two years, we have clustered the most popular topics among the bloggers. We would like to stress the following:

1. Discussions concerning the history of the quarter: these articles concern the quarter's past. In some cases they are written by elderly users and this shows how easily accessible the blog's platform is. We would like to stress that an eighty years old lady has spontaneously decided to join the project. These articles allow to increase the sense of membership within the quarter by giving information to the new people, like the immigrants, whose number is growing in the San Paolo quarter.
2. Events: these articles and discussions aim to inform on local events, enabling the inhabitants of the quarter to be constantly updated and involved in non commercial initiatives.
3. Complaints or enquiries regarding local problems: these articles deal with local issues linked to the quarter. For example a people's spontaneous investigation concerning an asbestos building in the quarter has arrived to the Council after the appearance of this post in the blog. The possible concrete effects of a log can be far more visible than an enquiry coming from a single person. In a blog, the problem pointed out by a single person can be supported by comments of other people. Until April 2008, Sanpablog has been visited by 52.000 people and this can give us an idea of the blog great potential.
4. Places within the quarter: these articles focus on public or social structures. These type of post allow a better knowledge of the area, by developing structures that can offer a service to the citizens or help them gathering. Therefore, we can say that there is a

²¹ We would like to express our most sincere thanks to Dott. Lara Marcellin (CSP - Innovazione nelle ICT s.c.ar.l) for the precious help and informations about Sanpablog.

close relationship with the area. It is possible to forecast a new geographic organization of the contents for the future.

In order to analyse the Sanpablog capillar diffusion, we have calculated the theoretical distance between the inhabitants of the quarter from Sanpablog. We have referred to Milgram's degrees of separation theory²². Considering that 100 are the blog's active users, out of 132.000 inhabitants within the District Nr. 3 (which is wider than the actual San Paolo quarter), it is possible to assume no more than three degrees of separation between the writer of an article and any inhabitant of the quarter²³. This number decreases to one degree of separation, by considering the number of single annual visits (58.000). This result underlines the blog proximity to the territory and to the local citizens.

Sanpablog can be analysed as a "node" that connects citizens with several links and, therefore, we can see it as a Hub. In other words, Sanpablog represents a virtual square where citizens can interact in a different way from the way they would do in reality. Sanpablog is a Hub that interacts with every citizen but also turns to local institution and other Hubs which are linked to many subjects, such as the Turin Council. These links stress the great value of a project like Sanpablog, that represents the gathering of many subjects, whose ideas and initiatives, created by a bottom up process, become stronger and more visible.

Sanpablog is not only a Hub within a network. It is also a creator of secondary social capital with special regard to the secondary trust, and the widen sociality. From the analysis of posts we can monitor how frequently the users decide to join an initiative, by sending a message that shows their intention to participate. We would like to quote a post that stressed the creation of a cultural laboratory in the quarter. If we analyse the comments of the users, we can find that many of them confirmed their presence at the event and their curiosity towards the new activity.

²² Milgram S., The Small World Problem, *PHysiology Today*, 1967.

²³ We have considered an average of 100 link per person, that is less than the quantity estimated by Duncan Watts's studies, mathematician and sociologist of Columbia University. Watt's estimated that a person has between 200 and 5000 weak ties. Watts D. J. Strogatz S.H., *Collective Dynamics of "Small-World" Networks*, *Nature*, 393, 1998.

Conclusions

The Urban Blogs originate and develop in a specific area, and are strictly linked to the people living there. In the case study discussed before, we wanted to demonstrate that a blog is by nature an instrument that stimulates the participation and the debate through the comments, requiring a low technologic knowledge to access it. Sanpablog represents an emerging, and therefore still instable, example of interaction with the territory. Many Sanpablog discussions and post highlight that the web 2.0 technology could improve the local development and the quality of public service, proposing a new approach to the local dimension: the e-governance. The activities carried out so far and the projects for the future let us forecast improvements and increase of effectiveness in the development of the area and the social capital.

Limits

The research carried out so far represents just a first step of a wider study, whose purpose is to measure the diffusion and effectiveness of an urban blog in reaching every inhabitant of the quarter. For this purpose, it will be useful to carry out a quantitative research on the bloggers and on the long term results of the users' enquiries and spontaneous suggestions. During this research, we found a small number of concrete results obtained by the blog towards the local institutions. Though this is probably due to the early stage of the blog (which exists since about two years) and to the public institutions' attempt to find resources as well as new instruments which were not existing just a few years ago.

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ASSESSING SERVICE QUALITY IN A MUNICIPALITY: A STUDY BASED ON THE PERCEPTIONS OF CITIZENS AND FRONTLINE EMPLOYEES

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1. INTRODUCTION

Worldwide, and despite important differences in the approaches followed, public administration reforms have constantly been oriented towards the need to deliver better and more efficient public services. In accordance with the quality management movement, customer focus has become a key issue, with the satisfaction of customer needs and expectations being a major concern (Flynn, 1997; Nwankwo, 1995).

In Portugal, as in the generality of the developed countries, customer orientation is thus the common theme of every effort to reform and modernise public administration.

Acknowledging the need to involve the customers both in service design and service evaluation, the application of quality models in Public Administration raises considerable interest among academics and practitioners.

Given their role as service providers and the fact that they are in close contact with the customers they serve, municipalities provide an attractive field of study. Frontline offices, in particular, are interesting, since, in customers' eyes, they represent the service itself or, as usually highlighted in marketing literature, it is there that the "moments of truth" take place (Fitzsimmons and Fitzsimmons, 1998, Soteriou and Chase, 1998). Consequently, as recognized in the service quality literature, the evaluation made by the customers of the municipal services they get is primarily linked to aspects such as the service setting, the performance of frontline employees and other non-human elements of service delivery.

Collecting customer feedback on such determinants is essential to guide improvement and to achieve higher degrees of excellence. Thus, in this research a questionnaire, built along the SERVQUAL dimensions, was administered to the users of two municipal services: the licensing department (private construction) [Departamento de Obras Particulares – DOPA] and the general dispatch and customer service division [Secção de Atendimento e Expediente Geral – SAEG].

However, in comparison to most studies, we went a step further in considering also the views of the frontline employees. In fact, although customer service research includes in some cases

employees as critical stakeholders (Hartline and Ferrell, 1996; Fitzsimmons and Fitzsimmons, 1998), few studies compare the perspectives of customers and employees relative to expectations of service quality or perceptions of the level of service quality. Our research intends to contribute to address this gap.

In fact, capturing the perceptions of frontline employees is strongly justifiable since they have a critical role in service delivery, including such of listening to customers, understanding and interpreting their needs, and performing according to the service standards that have been set. Having an alignment between customers' and frontline employees' perceptions is of major importance to avoid many of the service quality gaps.

The aim of this study is therefore to measure service quality from the perspective of both customers and frontline employees using a customised version of the well-established SERVPERF instrument. In doing so, we expect to contribute to give further insights into the validity of the scales in the local government context and to identify major improvement opportunities for the services under study.

The remaining of the paper is structured as follows. In the next section, the conceptual background of the research is presented, looking in particular at the determinants of service quality, the problems associated with their operationalisation and some empirical studies concerning the measurement of service quality in local government. Subsequently, the methodology used to carry out the current study is explained. Then, the main findings are presented and discussed. Finally, in the conclusion, a reflection is made on the theoretical and practical implications of the study.

2. CONCEPTUAL BACKGROUND OF THE RESEARCH

2.1. The measurement of service quality

Service quality has been the subject of innumerable studies, mainly driven by the fact that services increasingly represent an important part of the world economy and have characteristics that differentiate them from products, namely intangibility, heterogeneity, inseparability between production, delivery and consumption and customer participation as co-producer (Soteriou and Chase, 1998; Parasuraman, 1987). These characteristics represent additional problems for service firms in terms of managing and controlling the factors which affect quality, and consequently increase the degree of uncertainty they face in the production and delivery process (Gowan et al., 2001). Customers' involvement means that consistency and uniformity are particularly difficult to be sustainably achieved. The intangibility of services makes hard to set standards and to measure them. Given the lack of tangible attributes, consumers tend to look for signs of quality, such as the service surroundings, reputation and communication. As a result, frontline staff and physical facilities assume a key importance in customer judgements.

In what the measurement of service quality is concerned, the model proposed by Parasuraman, Berry and Zeithalm in 1985 is clearly the most widely used. The underlying premise is that customer satisfaction depends on the comparison between expectations and actual service performance (Zeithalm et al., 1988; Grönroos, 1995; Parasuraman et al., 1985; Robledo, 2001). Accordingly, the customer makes an assessment based on the confirmation or disconfirmation of what he/she expected to receive. If expectations are met or exceeded, satisfaction (or even delight) is achieved. When the (global) expected service-perceived service gap exists, it can be explained by a series of other (partial) gaps: customer

expectation-management perception gap (lack of customer focus), service quality specification gap, service delivery gap, and external communication gap (Parasuraman's *et al.*, 1985).

To measure service quality five dimensions are used: tangibles (the appearance of physical facilities, equipment, personnel, and communication material), reliability (the ability to perform the promised service dependably and accurately), responsiveness (the willingness to help customers and provide prompt service), empathy (the caring, individualized attention provided to the customer) and assurance (the knowledge and courtesy of employees and their ability to convey trust and confidence) (Parasuraman *et al.*, 1988). Each dimension is represented by a set of measurement items in a questionnaire. That instrument is called SERVQUAL and includes 22-items (Parasuraman *et al.*, 1988).

Despite its popularity, the SERVQUAL model is not without criticisms (Barabakus and Boller, 1992; Buttle, 1996; Cronin and Taylor, 1992). Bennington and Cummane, (1998) summarise the most important criticisms, as highlighted by several researchers:

- it confuses outcome, process, and expectation;
- it suffers from multicollinearity, as indicated by the strong inter-correlations between the dimensions;
- it is not generic and needs to be customised to the service in question;
- it neglects the price factor;
- due to psychometric problems, the five dimensions may in fact not represent five different constructs.

Buttle (1996) also questions the disconfirmation paradigm upon which SERVQUAL is based, arguing that service quality would be better conceptualised as an attitude. The author further has some reservations concerning the questionnaire administration and the way the scales are presented.

Several other methodologies for service quality evaluation exist. Franceschini *et al.* (1998) compare SERVQUAL with SERVPERF (proposed by Cronin and Taylor (1992) and focused exclusively on customers' perceptions), Normed Quality (developed by Teas (1993) to explore the meaning of expectations) and QUALIMETRO (conceived for the evaluation and "on-line" service control). In general, these alternative approaches can be grouped into what have been called perception models (Robledo, 2001). They result from examinations and assessments of Parasuraman *et al.*'s gap theory, and sustain that service quality can be better measured based only on perceptions of performance.

Yet, there are also service quality frameworks that do not explicitly incorporate perceptions and/or expectations as key autonomous constructs.

Lehtinen (1983, cited in Soteriou and Chase, 1998) defines service quality in terms of corporate (image) quality, interactive quality and physical quality. Grönroos (1983, cited in Soteriou and Chase, 1998) identifies two main dimensions of service quality: 'technical quality' (what is delivered) and 'functional quality' (how it is delivered). In any case, it is stressed that these are interdependent dimensions.

2.2. Service quality in local government: critical issues

The difficulties associated with the measurement of service quality in local government start with the identification of the customer. Indeed, the issue is complex given the multiplicity of the relationships existent between Public Administration, service users, beneficiaries and

citizens in general (Swiss, 1992; Alford, 2002; Ancarini and Capaldo, 2002; Gaster, 1995; Skelcher, 1992).

Often, some conflicts arise from the contradictory needs and expectations associated with these different roles (Sanderson, 1992; Ingrahm, 1995). That is particularly the case when we consider the requirements of taxpayers (that ultimately funders) and those of users (the direct beneficiaries of the services provided).

Additionally, situations exist when, for instance, there is no possibility of choosing between service providers or when the access to the service is subject to eligibility criteria (Flynn, 1997; Morgan and Murgatroyd, 1994).

It adds to that the existence of public service values (such as equity or universal access) that to a certain extent limit the individual customer sovereignty and the idea of customization (Elcock, 1996).

Applications of the Parasuraman- Zeithaml-Berry model (or the SERVQUAL model), described in the previous section, have been reported in the literature (Curry and Herbert, 1998; Wisniewski and Donnelly, 1996; Winieswski, 2001). Such studies have been contributing to the validation of service quality determinants in the local government.

3. METHODOLOGY

Derived from the general aim of measuring service quality from the dual perspective of customers and frontline employees, this study addresses two major questions:

- What is the level of service quality perceived by the municipality service users? In which SERVQUAL dimensions does the municipality have its strengths? And weaknesses?
- Is the customers' perception in accordance with the assessment made by the frontline employees of the service they provide? And, if a gap exists, which are the major points of divergence?

The study is based on data collected through questionnaires administered to service users and frontline employees of two (ISO 9000 certified) services of a Portuguese municipality. The questionnaires, though adapted to the specific context in which they were applied, follow the items proposed in the SERVQUAL model.

Although it would be possible to advance a relatively strong case for using the SERVQUAL scale, we have chosen to use the SERVPERF scale primarily because of the criticisms of SERVQUAL discussed earlier (Barabakus and Boller, 1992; Bennington and Cummane; Buttle, 1996; Cronin and Taylor, 1992; Teas 1993) and the fact that the resulting questionnaire is shorter and easier to fill, thus enhancing both response rate and clarity. Furthermore, according to Cronin and Taylor (1992), the unweighted performance-based SERVPERF scale is reliable and exhibits both convergent and discriminant validity.

The questionnaire versions prepared to customer and frontline employees are as similar as possible to facilitate comparison. Yet, some items had to be removed from the frontline employees' version and the language had, naturally, to be adjusted. A brief description of the questionnaire items is presented in Table 1.

Dimensions	Items	Customers' version	Frontline employees' version
Tangibles	<ul style="list-style-type: none"> • The service is conveniently located (Q1) • It is easy to know where to go to get the service I am looking for (Q2) • The general appearance of the setting is nice (Q3) • The setting is comfortable (Q4) 	<p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p>
Reliability	<ul style="list-style-type: none"> • The employees are professional and competent (Q5) • The information given is reliable (Q6) • The information given is clear (Q7) • It is easy to understand the information requested in the forms (Q8) • The complaints system is trustworthy (Q9) 	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>
Empathy	<ul style="list-style-type: none"> • The employees are friendly and courteous (Q10) • The employees are committed to serve the customer as well as possible (Q11) • I get all the support I need from the employees during the service delivery process (Q12) • The employees are prompt to respond to any demand (Q13) 	<p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p>
Responsiveness	<ul style="list-style-type: none"> • The opening hours are convenient (Q14) • The payment procedures are appropriate (Q15) • The service delivery process is personalised (Q16) • There is a concern to adapt the service to individual customer needs (Q17) • I feel that my opinion is taken into account to improve the service (Q18) 	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>
Assurance	<ul style="list-style-type: none"> • The employees are willing to answer my questions (Q19) • The employees are capable of 	<p>√</p>	<p>√</p>

	doing what is expected from them (Q20)	√	
	• The service delivery process is efficient (Q21)	√	√
	• The deadlines and service standards are complied with (Q22)	√	√
	• The employees have the skills needed to perform their roles in service delivery (Q23)	√	√
	• The organisation shows a concern in selecting and recruiting the frontline employees (Q24)		√

Table 1. Questionnaire items

Content analysis and pretesting of the instrument were used to ensure the questionnaires were suitable given the nature of the sample that would be completing the survey. In particular, readability and comprehension were key concerns.

All in all, responses from 100 customers were obtained, while all the 21 frontline employees that work in the organisational units analysed – DOPA and SAEG – filled the questionnaire. Likert 5-points scales were used to record the level of agreement with each questionnaire-item. The importance associated with each item was also collected in a 1 to 5 scale. Customers and employees perceptions, when possible, were compared and differences tested using an appropriate statistical test.

The psychometric proprieties of the scales were assessed to ensure internal consistency, convergent validity and divergent validity. As an indication of validity, average intra-scale items correlations are (with the exception of “responsiveness”) systematically superior to inter-scale items correlations (Flynn and Saladin, 2001). At the same time, cronbach alphas are higher than 0.7, as recommended by Nunnally (1967). The only exception is, once again, “responsiveness”. Even in this case, the value exceeds 0.6, thus indicating that the scales are internally consistent.

4. MAIN FINDINGS

Based on the data collected by means of the questionnaires administered to service users and frontline employees of two ISO 9000 certified organisational units of a medium-sized Portuguese municipality, the level of performance in each service quality dimension was analysed.

Dimension	Customers	Frontline Employees
Tangibles	4.24	3.63
Reliability	3.92	3.61
Empathy	3.97	3.95
Responsiveness	4.10	4.10
Assurance	3.71	3.56

Table 2. Mean values (customers and frontline employees)

As depicted in Table 2, customers assessed the performance of the two units analysed in a very positive way. In fact, both the importance given to most items and the level of

performance achieved in the various dimensions tends to be close to 4 (out of 5). The *tangibles* dimension gets the highest mark (4.24), whereas *assurance* gets the lowest (3.71).

Looking in greater detail at the various items, it is possible to observe that customers are particularly satisfied with the general appearance of the service settings and their level of comfort. In fact, some services were recently relocated to the ground floor, benefiting also from air-conditioning and modern equipment. On the other hand, customers have some difficulties in knowing exactly where to go to get the service they are looking for.

In the *reliability* dimension, the average performance level is 3.92; with the item referring to the accuracy of the information provided getting the highest value of the whole questionnaire (4.67). On the opposite, customers do not trust on the complaints system (3.53). This is particularly interesting given the high importance customers give to the issue (4.62) and the idea that prevails among service providers that having a complaint system implemented is sufficient (Sá and Kanji, 2003).

Regarding *empathy*, the average score is 3.93. In this dimension, the item that received a lowest score was “the opening hours are convenient” (3.67). This finding is in line with the results of other surveys conducted in the municipality that systematically identified this parameter as an important area for improvement. It is worthwhile to mention that, in this case, the municipality do not comply with the administrative modernization law (law-decree 135/99) that requires the services to be open at lunch time.

Responsiveness got an average performance level of 4.10. Customers generally acknowledge the effort carried out by the municipality to provide customised services. Satisfaction is high regarding the options they have to pay for the services they get (4.58). Yet, when it comes to the feeling of being listened to the results are rather more negative (3.67).

Finally, *assurance* (3.73) emerges as the major opportunity to improve. In fact, customers have considerable doubts concerning the capacity of the municipality to comply with deadlines and other service standards.

Table 2 also summarises the results obtained in the frontline employees’ survey. From the employees’ point of view, *responsiveness* gets the highest score (4.1). Payment procedures (4.24) are once again recognised as a strong point of the municipality. Similarly to external customers, employees feel their opinions are not sufficiently taken into account in service improvement. In the *tangibles* dimension (3.63), in the same way, employees are aware of the fact that there are some signalling problems (3.48) that difficult the task of knowing where to go to get a particular service. In respect to *reliability* (3.61), employees feel that forms are easy to understand (3.90) and agree with the customers’ view regarding the complaints system (3.35). *Empathy* got a general score of 3.95. The level of commitment is particularly high (4.29), whereas opening hours are also acknowledged as not being very convenient to the customers (3.62). Equally to what was found in the customers’ survey, *assurance* is the dimension with a lowest performance level (3.56). Selection and recruitment, with a score of 3.10, strongly contributes to this relatively low average score.

It is interesting to notice that customers’ perceptions in almost every item exceed those of the frontline employees. Since that self-assessments tend to be higher and employees are directly involved in many aspects of the service delivery process, we would expect quite the opposite.

In order to further investigate and assess the statistical significance of the differences a T-student test was performed. It was found that H0 could be rejected in 10 out of the 17 cases

were comparisons could be made. That means that, in a significant number of cases, relevant differences in perceptions between customers and employees exist.

In line with the results obtained in Gowan et al (2001) research, employees are less satisfied than customers with the quality of the services being provided. Some explanations to this apparently surprising finding can be put forward. Customers' expectations regarding public services are in many cases still low, which, according to the disconfirmation paradigm, result on a high satisfaction level. This can be happening here. Furthermore, as Gowan et al. (2001) emphasise, in the public sector context, service providers often are not in competition among them and, in absence of alternatives, customers might be more likely to perceive that they are receiving "quality" service. In addition, employees, in line with the TQM culture that is being implemented in the municipality, might be developing a continuous improvement attitude that creates a sense that is always possible (and necessary) to do better. This might result on a feeling of less satisfaction that, to a certain extent, is positive since it fosters learning and change.

Based on the results obtained for the organizational units analysed, some recommendations can be done:

- To implement extended opening hours, including the lunchtime period, thus complying with what the law already establishes;
- To reinforce participation and feedback mechanisms so that customers and employees feel more listened to;
- To improve the complaints system providing evidence that it is efficient and that information gathered is actually guiding improvement.

5. CONCLUSIONS

Despite the profusion of studies reported in the literature, the debate concerning the measurement of service quality is far from being closed. In the local government field, due to the nature of the services provided and the complexity associated with the customers' profile, there is a need to further investigate the determinants of service quality and validate the models and tools developed in the private sector context.

Since performance is a multi-dimensional concept (Jackson, 1995) and different stakeholders have distinct needs and priorities (Sá and Kanji, 2003), the measurement of the quality of the services provided needs to be done from a multiple stakeholders' perspective (Gowan et al., 2001).

In this paper, and acknowledging the critical importance of frontline employees in service provision, their views were incorporated in the assessment of service quality.

By means of a questionnaire survey administered to service users and frontline employees of two municipal departments, built along the lines of the SERVPERF instrument, it was possible to validate the quality determinants proposed by Parasuraman et al. (1985, 1988) and to compare the performance perceptions of customers and direct service providers.

Findings show that the municipality services generally perform well in the various determinants, although, consistently, satisfaction is higher in the *tangibles* dimension and lower in the *assurance* dimension, indicating that there is a confidence deficit in the real capacity of the municipality to consistently comply with the standards, especially in what concerns deadlines.

The fact that customers' and frontline employees' views converge in the identification of the areas of strength and weakness is a good sign, meaning that customer needs are being adequately interpreted and that resources are in fact being directed towards the aspects that customers value most.

An interesting finding, calling for a deeper analysis, is the fact that employees perceptions regarding the service provided are lower than those of the customers they serve. In this case, using the SERVQUAL scale would be of some assistance by allowing the investigation of the role of expectations. The importance of the organisational culture in fostering continuous learning and improvement on the part of the employees deserves also attention.

Some limitations of the current study need to be acknowledged. First, empirical data comes from a single municipality, what clearly raises some problems in the generalization of the results. Second, two ISO 9000 certified services were analyzed. It is not clear whether or not similar findings would emerge in non-certified services of the municipality. Moreover, from a more methodological standpoint, criticisms can be done to the use of the SERVPERF instrument that, although the advantages discussed, does not take into account some elements (namely aprioristic) that influence satisfaction.

In the future, it would be interesting to replicate the study in other services and municipalities. Also, incorporating the views of other stakeholders, in particular those of back office employees and managers, would give important indications on the existence (or not) of common mindsets, contributing, in any case, to a wider performance assessment.

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PUBLIC POLICIES AND CORPORATE STRATEGIES FOR SUCCESSFUL MODELS IN WASTE MANAGEMENT

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1. The determining factors for quality of urban hygiene service

The municipal waste management sector is characterized by monopolistic management of the service on territories of different extension assigned, accordingly as foreseen by the relative national and regional provisions, to companies controlled by public bodies or, following the principle of market competition, through public procedures.

The monopolistic nature of the service therefore allows leaving out service quality seen as a determining element of client attraction and client fidelity as for a traditional company. Furthermore, the quality delivered by the operators of the field only partially depends on the corporate choices and is determined in greater measure by the institutional governance system defined by the European and national provisions.

The service quality perceived by the user can be assessed taking into consideration three dimensions of primary relevance: the economic, functional and environmental dimensions.

The economic dimension essentially refers to the costs sustained for the service management, which represents the reference parameter on which the cost for the user is calculated. The management decisions that can affect cost reduction for the entire service, often based on the standards established by European and national provisions, refer to the waste cycle management, meant as the number of phases and technologies used in the process, the operators' ability to innovate and to exploit economies of scale, their learning skills and range of action, as well as the range of users included in the action (i.e. the greater the number of users, the lower the cost per user for the service management).

A system aiming to satisfy exclusively, or at least greatly, the economical dimension could have the following consequences:

- resorting greatly to non-separate waste collection, much cheaper than separate waste collection even when compared to the benefits obtained through recycling of waste or parts of waste;
- shortening the cycle of waste management, which allows a reduction of both the finances necessary for plant creation and maintenance and the plant operational costs;
- resorting on vast scale to waste disposal in dumps, or in waste-to-energy plants, possibly sponsored by public funds;
- increasing the corporate dimensions of the operators in order to benefit from economies of scale, such as the development of more efficient technologies and waste collection procedures and the optimal sizing of the waste disposal plants;
- organizing the service based on greater participation of the user, for example, by reducing the number of collection points and the cycles of waste management.

The scale of the functional performance is assessed in terms of its ability to satisfy the users' expectations, which vary greatly based on social, economic and cultural factors of the

users themselves, their previous experience and on the environmental context they are in. The needs connected to this kind of service manifest in a big variety depending also on the territories, due to the historical, environmental, social, demographic and productive origins of the areas.

It is thus more difficult to measure the functional performance compared to the economic dimension, due to its greater complexity. It depends on a variety of factors and can be assessed only partly in quantitative and objective terms. Amongst the elements which can affect the satisfaction of the functional performance we can count, for example, the capillarity of the points of waste collection, represented by how close the waste bins are to the where the waste is produced (i.e. houses, offices, etc.), the frequency and regularity of the waste collection service, the reduction of the visual and olfactory impact of the collection points and of the waste disposal plants, the level of commitment required of the users. Some of the above elements can be contrasting. Consider, for example, trying to reduce the visual impact of skips by adopting less frequent door-to-door waste collection, forcing people to keep waste at home for longer periods.

A system aiming to satisfy the dimension of functional performance could result in the following consequences:

- resorting to extreme diffusion of the collection points, verging towards door-to-door collection;
- defining frequent collection and sanitization of the waste bins;
- developing solutions to camouflage the collection points, such as underground bins or creating “screens” in town centre areas;
- placing the waste disposal structures far from the points of waste production and collection, therefore increasing the transportation costs;
- greater commitment in terms of aesthetic planning and using more prestigious material to build the waste processing and disposal plants (e.g. the waste-to-energy plant in Vienna).

The environmental dimension is measured through the ability of the waste management system, guaranteeing the efficiency of the service, the preservation of environmental and landscape resources through optimal use of natural resources, the reduction of waste destined for disposal and of the risks connected to pollution. As for the functional performance dimension, the environmental dimension can also be assessed through a series of factors that are not easily measurable as on the one hand they are susceptible of qualitative and subjective evaluation and on the other they depend greatly on the social, economic and environmental characteristics of their context. Some of the elements that can influence this dimension are the level of waste production and of separate waste collection, the ability to re-use and recycle waste, how complete the cycle of waste processing/disposal is, the treatment technologies used and the obsolescence of the plants and of the waste treated.

A system aiming to mainly satisfy the environmental dimension could result in the following:

- imposing strict limits on materials and technologies used in the production of products and packaging, possibly through economic incentives for those using alternative solutions;
- imposing very high levels of separate waste collection, limited only by the potential of recuperation or recycling possible with current technologies;
- resorting to extreme recovery policies and technologies, beyond their economical benefits;
- completing the cycle of waste disposal resorting to the most phases and technologies able to allow the reduction of solid waste landfilled;

- adopting the best waste plant technologies available in order to reduce harmful emissions as much as possible, regardless of the economic sustainability of such investments and the timescale for their recuperation.

Based on the all the above, it is evident that a lot of the purposes behind the three different dimensions are in conflict with one another. This therefore means that any given political and management decisions aimed at optimising the satisfaction of one of the above dimensions would jeopardize the other dimensions.

For many years the attention of public bodies and the citizens themselves has been, at least those not directly involved in the activities of waste treatment and disposal, those who do not live next to waste disposal or incinerating plants, has been focused first on the economic dimension, and only secondly on functional and environmental dimensions.

Extensive use of cheap treatment/disposal procedures (dumps) associated to the tendency of local bodies to cover most of the cost of the service using taxes, have contributed to a delay in awareness in a great part of the population regarding the real costs of the service, in some cases even thought free of charge. Similarly, the availability of appropriate sites to host the treatment/disposal plants in this first phase has delayed the awareness of issues in conflict with the local communities affected by the location of dumps and incinerators.

This substantial tendency to relieve users of responsibility has delayed their taking action in adopting responsible behaviour, which would reduce the total costs of the service.

Furthermore, a widespread ignorance on the effects that waste treatment and disposal have on the environment and the health of people themselves, has promoted even further the adverse behaviour of the population, both in terms of quantity of waste produced and of the waste disposal habits.

These habits started changing in the 1970s, following the first protests against the degradation of the ecosystem attributed mainly to the level of exploitation of natural resources imposed by the model of economic and industrial growth in developed countries, with the birth and rapid diffusion of environmental awareness in the global public opinion.

The rapid take of environmental awareness across Europe (confirmed by the related successive policies) and extended to all the other developed countries, has determined a shift in the focus on quality assessment of municipal waste management services, balancing once again the weight of each of the three dimensions previously recalled in favour of the environmental dimension.

In addition to the abovementioned elements, the objective quality of the urban hygiene service is strongly influenced by the role played by users, who can contribute to making the service delivered better or worse simply through their behaviour and habits. We can consider their care in reducing the amount of waste produced, their will to personally take part in the cycle of waste and specifically to separating waste.

The quality of a given urban waste management system, as regards both the structure of the institutional governance imposed by the policies and the nature of the companies working within the system itself, must therefore be assessed based on its ability to find and pursue combinations of goals and duties towards each of the abovementioned dimensions and at the same be acceptable by the users of the service and more generally by the communities.

2. Community principles and service quality

From the 1970s on waste has been the focus of European environmental politics. The relative EU legislation, in its progressive redefinition, has tried to find a point of balance between the need to ensure the correct functioning of the common market through the

definition of homogeneous rules for waste disposal and for the need to maintain a high standard of environmental protection.

Whereas the first European environmental program (1973-1976), and also the Policy of 1975 ⁽¹⁾, primarily aimed at establishing a definite normative context for waste disposal in order to reduce the distortions of internal market competition, from the second program the focus was mainly turned to the goal of reducing waste production and of preserving natural resources.

It is at this point that the foundations for the current European strategy for waste were created, with the definition of a management principles hierarchy which put reducing waste production in first place, followed by recycling and recovering, placing the safe disposal of non-recyclable waste last on the ladder⁽²⁾. Other main points of European policies concern the principle of self-sufficiency regarding waste disposal ⁽³⁾, at European and national level, the principle of proximity of disposal and the principle of “pay as you pollute”, according to which the cost of disposal must be covered by whoever gets rid of the waste and/or whoever had the waste before and whoever produced the waste ⁽⁴⁾. The following interventions by the European Commission, Council and Parliament ⁽⁵⁾ have always confirmed the guidelines outlined above, aiming to refine their contents.

The “treatment hierarchy” model seems to be principally, if not wholly, oriented towards the satisfaction of the environmental dimension of quality. Its rigid application by the member states, even if desirable, would be not only unsustainable in certain European areas, but in others could also imply an excessive increase in the cost of the service management. Such risk was recognized by the European Commission itself, who stated in the 1996 Communication ⁽⁶⁾ that the said “hierarchy” was to be applied with flexibility, favouring thus the identification of the best solution for the environment but also considering social and financial costs that this solution would imply ⁽⁷⁾. In the same communication, the Commission focused its attention on the final disposal, stating that bringing waste to dumps was the last and worst solution considering the negative long-term effects it has on the environment. In this view, incinerating waste (but only non-recyclable waste) was considered positive as it would reduce the quantity of waste destined for dumps and as long as the burnt waste was converted to energy.

The above interpretation, which leaves the member states the task of finding the best treatment systems to ensure a balance in satisfying the economic, functional and

⁽¹⁾ Cf. Policy 75/442/CE of 15/07/1975.

⁽²⁾ Cf. European Community Commission [1989], *A Community strategy for waste management*, SEC (89) 934 final, Bruxelles, 18/09/1989.

⁽³⁾ See art. 5 of Policy 75/442/CE, as modified by Policies 91/156/CEE, 91/692/CEE, by decision 96/350/CE and by rule (CE) n. 1882/2003.

⁽⁴⁾ The normative context in force, based on the said concept of “waste hierarchy” includes Policy 2006/12/CE which replaced that of 195, in turn modified several times from 1991 to 2003) and the regulations on the transport of waste. Along with these documents, there are others which concern in greater detail the operations of treatment and disposal of waste, as the policies on rubbish dumps and incinerators.

⁽⁵⁾ Cf. Policies 91/156/CEE, 91/692/CEE; Decision 96/350/CE; Policy 2006/12/CE.

⁽⁶⁾ Cf. European Community Commission [1996], *On the review of the Community strategy for waste management*, COM (96) 399 final, Brussels, 30/07/1996.

⁽⁷⁾ The flexible approach of the waste hierarchy is also confirmed in the last communication by the European Commission: “Waste hierarchy should not be seen as an unconditional rule, especially as different waste treatment methods can have different effects on the environment. However, to get to a society in which recycling and waste recuperation prevail, it is necessary to go up the hierarchy scale, abandoning the disposal in rubbish dumps and adopting these alternative technologies”. European Community Commission [2005], *Maintaining the use of sustainable resources: a thematic strategy for the prevention and recycling of waste*, definitive COM (2005) 666, Bruxelles, 21/12/2005.

environmental dimensions, can only confirm what was stated in the previous paragraph about quality generated by a management system.

However, the European policy, while delegating to member states the search for balance in satisfying the three dimensions, it clearly favours and places the environmental dimension above the others. In other words, we can state that the quality of a waste management system should be evaluated on its ability to guarantee a satisfactory balance between the economical and functional dimensions ensuring at the same time a suitable satisfaction to the environmental dimension.

The flexibility given by the application of the “treatment hierarchy” principle associated to differences between the social, economic, demographic, landscape and environmental traits of each country, and within them, between the territorial areas, has favoured varied interpretations of the normative provisions which imply the vast variety of waste management models found in Europe.

The quantity of waste (of all sorts) globally produced in Europe each year amounts to about 1.3 billion tons. Since the 1990s the volume of waste production has continued to grow in correspondence to the increase in consumers’ wealth, income and improved standards of living.

From 1990 to 1995, the total waste produced increased by 10% and by 2020, some researchers predict a further 45% increase with respect to 1995 figures ⁽⁸⁾.

Urban waste represents about 15% of total waste, and is the only waste for which there is complete and up-to-date information.

Referring to this last point, the data analysis carried out by Eurostat referring to the decade from 1995 to 2005, shows two distinct trends for the 27 EU member states, one of growth, from 1995 to 2000, period during which levels rose from 474 kg per capita/year to 523, and the other trend of stability, which has continued since 2000, with a production around 518 kg per capita/year. ⁽⁹⁾ Italy is at a higher level, with a per capita production of 542/kg per year (which, as we will see later, is constantly increasing).

Moving our attention to the forms of waste management, we find that the “treatment hierarchy” reiterated on several occasions by the EU is often disregarded by the member states, which more often than not, show the opposite order of importance.

When processing the OCSE data available, the most common disposal method seems to be using dumps, with more than 130 million tons in Europe; second place goes to incinerators, with about 45 million tons of waste, using waste-to-energy plants. The least common are biological treatment and recycling, both at 37 million tons ⁽¹⁰⁾.

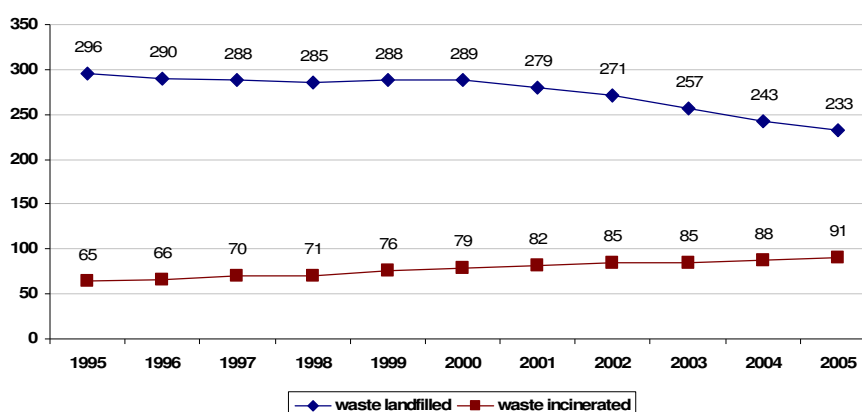
When comparing the joint data for Europe between 1995-2000, however, we can see a constant decrease in the quantities of solid waste landfilled and at the same time an increase in the use of incinerators (Fig.2).

⁽⁸⁾ As reported in the communication by the European Community Commission definitive COM (2005) 666, “the European Agency for the environment foresees that paper/cardboard, glass and plastic waste will increase by 2020 compared to 1990. The OCSE foresees that urban solid waste will continue to increase until 2020, even if at a lower rate. The CCR foresees an increase of urban solid waste equal to 42.5% in 2020 compared to 1995”.

⁽⁹⁾ Along with countries like Ireland, Cyprus and Denmark, that have a per capita production ranging from 730 to 740 kg/yr, there are countries like Poland, Slovakia and the Czech Republic with a per capita production ranging from 245 to 289 kg/year.

⁽¹⁰⁾ Cf. ONR [2006], *Waste Report 2006*, Rome. The same report adds: “Considering the high number of countries for which data is not available (especially the last countries to become EU members), the value should be, in any case, considerable higher”.

FIG. 1 – MUNICIPAL WASTE LANDFILLED AND INCINERATED PER CAPITA IN EUROPEAN UNION (1995-2005, 27 COUNTRIES, DATA IN KG PER CAPITA/YEAR)



Source: Authors' adaptation from data Eurostat, 2005

The use of incinerators seems to be more popular in the original 15 member states. Even within this group one can however see many different forms of waste disposal which range from only using dumps, such as in Ireland and Greece, to a great use of incinerators ⁽¹¹⁾ as in the case of Sweden, Netherlands, Denmark and Belgium, going through intermediate and more balanced solutions as in Austria, Germany and Luxembourg (Tab. 1).

TAB. 1 – MUNICIPAL WASTE GENERATED AND WASTE MANAGEMENT PRACTICE IN EUROPEAN UNION (YEAR 2005, 15 COUNTRIES, DATA IN KG PER CAPITA/YEAR, %)

COUNTRY	WASTE GENERATED PER CAPITA (KG)	WASTE RECYCLING, COMPOSTING AND OTHER ENVIRONMENT FRIENDLY TECHNOLOGIES (% OF TOTAL)	WASTE INCINERATED (% OF TOTAL)	WASTE LANDFILLED (% OF TOTAL)
Netherlands	624	65	32	3
Austria	627	59	10	31
Germany	600	58	22	20
Belgium	469	52	35	13
Sweden	464	41	45	14
Denmark	696	41	54	5
Luxembourg	668	36	41	23
Spain	662	35	6	59
Ireland	869	31	0	69
Italy	538	29	9	62
Finland	455	28	9	63
France	567	28	34	38
United Kingdom	600	18	8	74
Greece	433	8	0	92
Portugal	434	3	22	75

Source: Institute for Public Policy Research ⁽¹²⁾

⁽¹¹⁾ The Confederation of European Waste-to-Energy Plants estimated there were as much as 370 operative waste-to-energy plants in the 27 EU member states in 2005 ⁽¹¹⁾, most of which located in France (128); another 48 plants were active in non-EU countries: 19 in Norway and 29 in Switzerland. When comparing the quantities burnt in each country and the number of waste-to-energy plants (CEWEP data), we can see that the countries which present the highest average plants (calculated in thousands of tons of waste burnt/year) are the Netherlands (500000 tons), Portugal (367000 tons) and Hungary (300000 tons). Although Denmark, Sweden and France have some of the highest levels of waste burnt, they have a more capillary distribution of the plants across the territory but of smaller dimensions. This is due to a lower density of population (especially in Denmark and Sweden) which makes the trade off between transferring the waste and the economies of scale more expensive.

⁽¹²⁾ IPPR 2006: <http://www.ippr.org/pressreleases/archive.asp?id=2283&fid=173>.

Based on the above table 1, it can be said that the countries with higher levels of recycling, composting and other environment-friendly practices are generally those that respond better to the hierarchy proposed by the European Union. These countries are allowed to obtain important environmental outcomes both through the resorting to waste incineration and through waste landfilling. Both ways can be compatible in achieving the environmental goals.

3. Successful models in municipal waste management: between regional legislation and industrial system

Around the mid-1980s, the Italian management system of urban waste was far behind that of other European countries, concerning both the infrastructures and the organization and management. The excessive fragmentation of the operators, regarding the area covered but also the specialization on individual phases of the activity, and a lack of a legislation which motivates or imposes integration of the operators ⁽¹³⁾, presented insurmountable limits in reaching management efficiency levels that would satisfy the expectations of the community. Except in very few cases, such as the large municipalized firms in big cities, this kind of structure was not sufficient to support the investments required to bring the technological innovation and/or the creation of the treatment and disposal plants needed.

Driven by various social environmental, technological and economic needs, as well as the need to implement the European solid waste management policies, the Italian Government issued Legislative Decree no. 22/1997, which gave start to a reform process with the aim of industrializing the sector and overcoming the delays typical of the country.

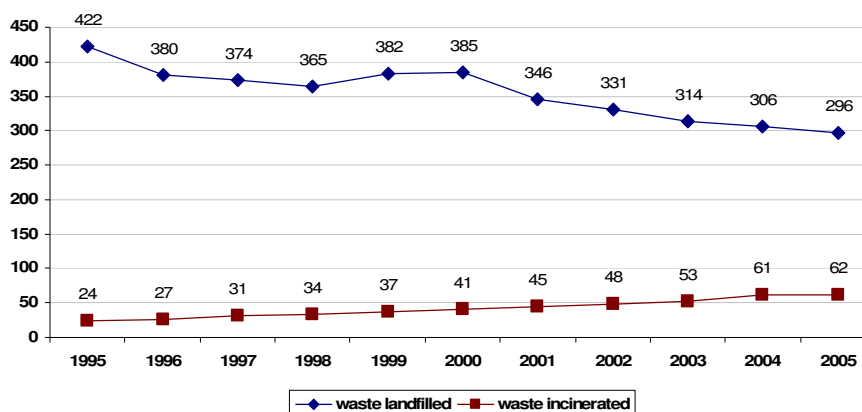
This decree not only introduced specific reference to the principle of “treatment hierarchy” for the first time in Italy, but also aimed at achieving unitary management of the service within optimal territorial range, which needed to be big enough in order to guarantee economies of scale for the operators.

The Ronchi Decree, however, only traced fundamental guidelines, leaving the regional authorities a lot of freedom in defining the global regional governance of the sector. According to the principle of subsidiarity, the national law left the Regional and Provincial authorities the task of planning the service locally. The extensive legislative autonomy granted to the regions brings both opportunities and risks: the former derive from the possibility to shape the national provisions and enhance the value of the regional features and solve any structural flaws in the system with particular attention to the firms of the sector, whereas the latter derive from the potential surfacing of regional systems so differentiated to represent distinct markets, characterized by very different service standards, with particular attention to the population of the less efficient and effective markets.

The Italian urban waste management system, as previously observed with regards to the other European countries, is greatly characterized by vast use of rubbish dumps. However, following the implementation of the provisions within the regions, the volume of waste disposed of in rubbish dumps seems to be decreasing progressively (Fig. 2), both in absolute and relative terms, where the volume went from 66.7% of total waste in 2001 to 48.8% in 2005. In a situation of constant growth in waste production, this decrease is due to the joint effects of an increase in separate collection of rubbish, of a slight but constant increase of incineration (8,8% in 2001, 10,2% in 2005, this data does not include the quantity of refuse-derived fuel) and of an increase of alternative treatment technologies (composting, organic treatment, other forms of recuperation).

⁽¹³⁾ The provisions in force assigned each municipal authority the power to organize the service for their territory autonomously, to assign directly the management with local monopole conditions to specialized firms or pools related to the local body itself, or to third parties through the granting institute.

FIG. 2 – MUNICIPAL WASTE LANDFILLED AND INCINERATED (/RDF INCLUDED) PER CAPITA IN ITALY (1995-2005, DATA IN KG PER CAPITA/YEAR)



Source: Authors' adaptation from data Eurostat, 2005

Separate waste collection, vital to allow the recuperation of and recycling of a part of waste, is growing constantly across the whole country. In 2005 the % of separate waste collected was around 24.3% of total urban waste produced, but the target of 35% originally foreseen for 2003 by Legislative Decree 22/97 and then postponed to 31 December 2006 by Legislative Decree 152/2006, is yet to be achieved.

The situation in individual macro areas seems, however, very diversified: whereas the North, with a rate equal to 38.1%, exceeding the objective of 35%, the Centre and South, with rates equal to 19.4% and 8.7% respectively, still have a long way to go⁽¹⁴⁾.

The most outstanding regions, with a rate of separate waste collection above 40% of the total, are Lombardy, Trentino Alto Adige, and Veneto. It is worth mentioning that Veneto is progressively getting closer to the 50% mark.

The regions in the Centre and South, excluding Tuscany and Umbria, show very low rates of separate waste collection, often lower than 10% of total waste.

Compared to separate waste collection, the use of incinerators/waste-to-energy plants depends less on the geographical location, or more specifically, it is spread across most of the regions in Italy, even if in different measures. In fact, while these technologies are becoming more widespread and there is a greater per capita volume of incinerated waste in the North of Italy, some southern regions (Basilicata and Puglia) and islands (Sicily and Sardinia) have shown a clear inclination in favour of this treatment technology.

Nevertheless, there are still considerable differences between Italian regions. While for some regions, mostly in the North (Lombardy, Trentino Alto Adige, Veneto, Friuli Venezia Giulia, Emilia Romagna), incineration is part of a complex integrated system of collection, treatment and disposal of solid waste distinguished by additional solutions and technologies, in other regions, especially regions and islands in the south (Basilicata, Puglia, Sicily e Sardinia), where there is little or very little separate waste collection, incinerating seems to be the only real alternative to disposing of waste in rubbish dumps.

As mentioned previously, disposing of waste in rubbish dumps, the last and inevitable phase of the waste cycle, has progressively decreased in the last few years, reaching a rate below 50% of total waste in 2005. The progress of separate waste collection and incineration

⁽¹⁴⁾ Cf. APAT-ONR [2006], Waste Report 2005, Rome, pag. 11.

which is more defined in the northern regions has obviously reduced the amount of waste disposed of in rubbish dumps.

Currently, the best regions in this respect are Lombardy, the regions in the north-east, Emilia Romagna and Tuscany; that is, all the regions with integrated solid waste management solutions. All the other regions, especially those in the centre-south, have level of waste disposal in rubbish dumps higher than 0% with some peaks above 86%, as in Puglia and Sicily.

To make things worse, almost all the waste which is disposed of in rubbish dumps hardly ever undergoes treatment.

Considering economic performance, regional solid waste management systems can be assessed using two parameters: the number of operators present in a region per million inhabitants and the management costs sustained for the treatment/disposal per ton of waste. The first parameter measures the level of industrial development achieved, which is the system's ability to implement an industrial policy to rationalize the service offer by promoting the aggregation of small and medium firms and the creation of large firms, able to exploit the economies of scale and act in a competitive market even outside the original territory. The meaningfulness of this indicator can be affected negatively by the widespread presence of small and very small firms, often cooperatives, which carry out specific services for larger firms. Similarly to other conditions, a low value for this indicator highlights a high level of industrial development and vice versa. On the other hand, the total management cost per ton of waste aims at highlighting the financial investment sustained by the system per product unit. Of course this indicator is affected by the quantity and quality of the treatment the waste is subjected to, the costs of disposal in rubbish dumps and the level of waste handling. Similarly to other conditions, a low level of cost per ton indicates efficient management conditions.

The data we have acquired (Fig. 9) shows greater development in waste management industry in the northern regions (excluding Liguria and Trentino) compared to region in the centre, with an average of 50 firms per million inhabitants vs. 69 and the regions in the south, with about 90 firms. In this classification, the regions which have greater rationalization of service offer are Piedmont and Emilia Romagna, with about 40 firms per million inhabitants, while the regions farthest away from this goal are Abruzzo and Basilicata, with about 180 firms and Molise with about 290.

Regarding the cost per ton of solid waste managed (Fig. 10), the regions which have the lowest values, between 10 and 200, are Marche, Calabria, Valle d'Aosta, Abruzzo and Emilia Romagna. Of these, however, Emilia Romagna appears to be able to guarantee both efficient management and sufficient environmental performance. The other regions appear to favour the economic dimension over the environmental one, to the point that almost all show levels of separate waste collection lower than 20%, little or no incineration and a high level of waste disposed of in rubbish dumps (always higher than 50%). In the regions with the highest cost per ton of waste, with values between 240 and 270 euro, there are Latium, Molise, Campania and Trentino Alto Adige. This last region, as opposed to the others, shows good performance in the environmental dimension and in the level of rationalization of the industrial system. The high cost per ton, in this cost, would appear to mostly depend on the management disadvantages deriving from mountainous landscape and high demographic fragmentation.

FIG. 4 – MUNICIPAL WASTE GENERATED PER CAPITA IN ITALIAN REGIONS (YEAR 2005, DATA IN KG PER CAPITA/YEAR)

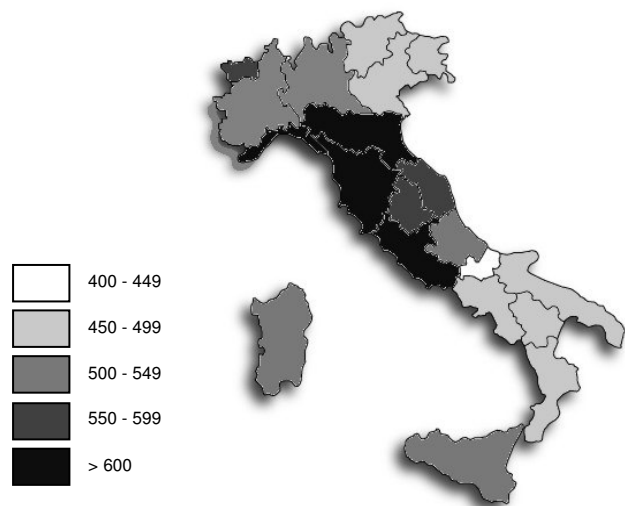


FIG. 5 – % OF SEPARATE COLLECTION OF MUNICIPAL WASTE IN ITALIAN REGIONS (YEAR 2005)

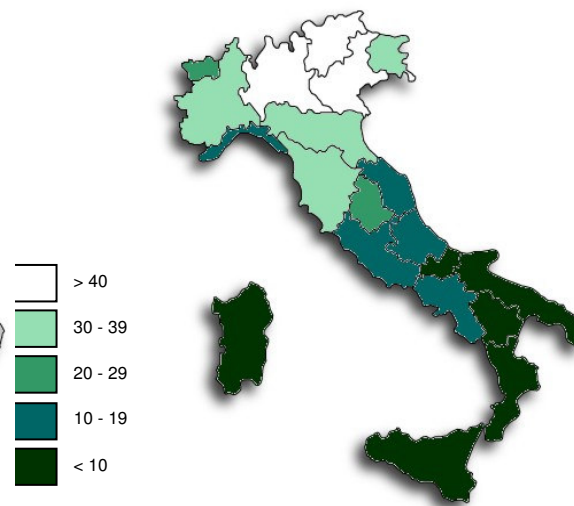


FIG. 6 – MUNICIPAL WASTE INCINERATED PER CAPITA IN ITALIAN REGIONS (YEAR 2005, DATA IN KG PER CAPITA/YEAR)

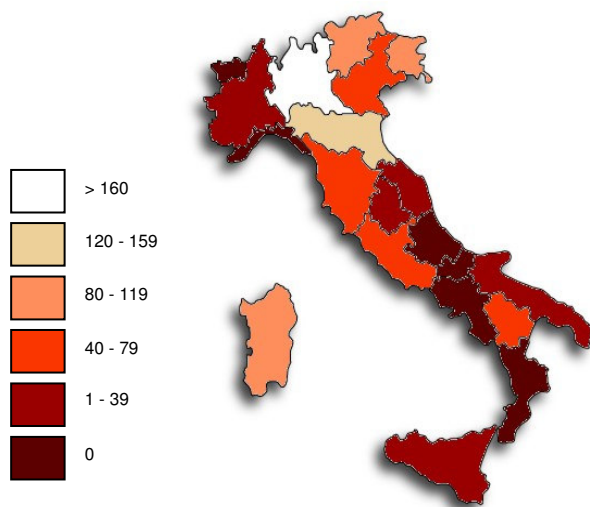
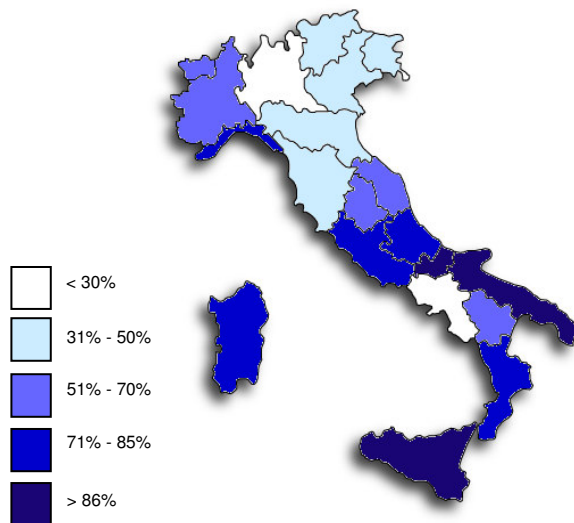


FIG. 7 – % OF MUNICIPAL WASTE LANDFILLED IN ITALIAN REGIONS (YEAR 2005) ⁽¹⁵⁾



Source: Authors' adaptation from data APAT-ONR, 2005

⁽¹⁵⁾ The scarce quantity of landfilled waste is mainly due to the lack of sites authorized to receive solid waste: in 2005 there just 3 landfills of premium category operating in the regions. Without landfills capable of satisfying the regional needs and while waiting for the creation of a waste-to-energy plant foreseen by the plans of Campania, huge quantities of solid waste was directed to stocking sites, and especially in emergency situations, they were sent to plants outside the region (sometimes outside of the country.)

FIG. 8 – NUMBER OF COMPANIES IN WASTE MANAGEMENT SECTOR PER MILLION OF CITIZENS IN ITALIAN REGIONS (YEAR 2004)

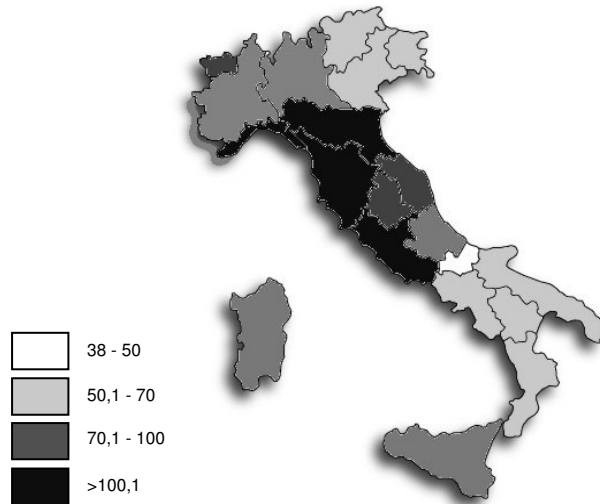
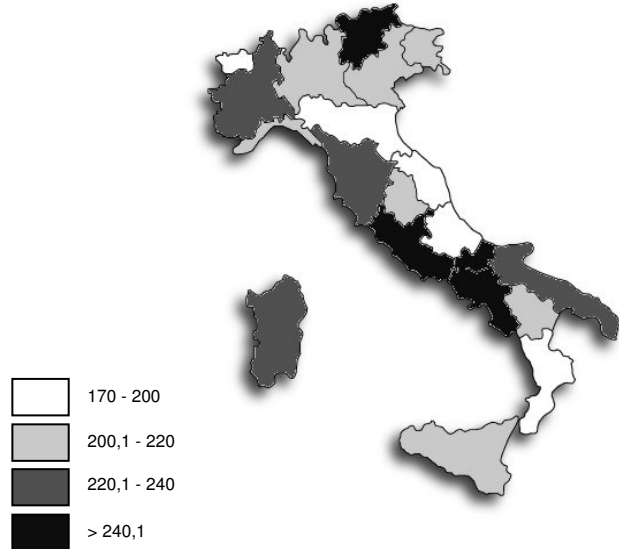


FIG. 9 – COST PER TON IN ITALIAN REGIONS FOR WASTE MANAGEMENT ACTIVITIES (YEAR 2005)



Source: Authors' adaptation from data Utilitatis-ISTAT, 2005, and APAT-ONR, 2006

While the environmental and economic dimensions are easily measurable objectively, allowing researchers to immediately compare the performance of each single regional system, the evaluation of the satisfaction of functional performance is limited by two factors. The first is undoubtedly the subjectivity of aspect exposed in the first paragraph. The second is represented by the different subject of evaluation, which in the case of the first two dimensions is made of the entire regional system, while in the case of the functional performance, it refers mainly to the firm which manages the service in a given area. Without prejudice to the scarce meaningfulness of the comparison of the results, the best evaluation tool of this dimension is the study of customer satisfaction of the service, which can be carried out both by the firms themselves, with possible limitations resulting from their conflict of interests, and by independent and/or controlled organizations (e.g. Authorities).

There are very few surveys on customer satisfaction carried out on a national scale with a common method, except for a few extremely specific and limited surveys proposed by Istat (e.g. accessibility of separate waste collection bins), which does not allow, in this context, to assess the ability of each individual regional system, or even the individual firms, to satisfy the service needs of the citizens. However, the real satisfaction of the citizens depends partly on the ability of the assigning body (the territorial Authority or individual municipalities) to set adequate standards in the service contract and partly to the ability/will of the assigning body to make the assigned firm to respect those standards.

4. Conclusions

Reference to the principle of “treatment hierarchy” of European origin, whilst fundamental, is not sufficient to guarantee the realization of a solid waste management system qualitatively satisfactory according to the three dimensions identified in this document.

The regional sector performance shows the result of the action carried out by strongly connected elements: the provisions and planning of the sector, especially the regional ones, and the structural features of the firms operating in the area.

The regional provisions and planning, which must be coherent with the general guidelines imposed by the central authority and therefore also with the “treatment hierarchy”, are basically influenced by the objective needs of the area, seen in terms of quantity and quality of the waste to be treated and by the predominant political vision. This vision, leads the decisions regarding: setting the service standards, defining the order and degree of satisfaction of the different dimensions of quality and service, the method of assignation (greater or lesser exposure to competition). Through the territorial provisions and planning of the service, the Regional Authorities can define the goals of the system, its overall governance and, potentially, the industrial policy of the sector in their specific territory.

The experience of some Italian regions shows that at times the regional legislator has established operative rules of the system shaped on the structures features of the firms active in the area. In some cases, this solution stemmed exclusively from the will to survive and maintain the status quo, whereas in other cases, the goal pursued was to define a direction to add value to some existing organizations finalized to create a “regional sample” capable of facing the evolving free market with reasonable hopes for success. We can assimilate alongside this model the legislative and business process, that has led to the constitution of the Hera and ENIA groups, multiutility companies operating on a large scale, which manage the urban hygiene service alone, the water supply and the distribution and sale of energy in all of Emilia Romagna.

The structural features of the firms operating in a given time and in a given regional context, seen in terms of the composition of ownership (public or private limited company and companies floated on the stock market), company size, quantity and quality of the services offered (specialized firms vs. multiutility firms), represent the consequence of the legislative, demographic, economic, environmental, historical, social and political requests arising from the community, and last but not least, of the business sense more or less successful of the bodies controlling the firms themselves.

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EVALUATING CITIZEN SATISFACTION WITH PUBLIC ON-LINE SERVICES.

NOTE 1. A METHODOLOGICAL APPROACH

Renzi M.F.¹, Cappelli L.², Mattia G.³ and Merli R.⁴

In the framework of innovations taking place in the Italian public sector, the CNIPA (National Centre for IT in Public Administration) and the University of “Roma Tre” have begun a research project to develop a model to measure citizen satisfaction with online services common to all public administrations. The aim of this project is to build a model that can yield comparable information independently of when or where it is used.

In order to monitor citizen satisfaction, a two-part questionnaire is proposed: the first part will measure shared factors and will, be generally applicable to different public administrations, while the second will evaluate factors referenced to a given service, thus specific to each organization.

In this paper, we discuss an experimental methodological approach to identify a set of meaningful transversal dimensions and items needed to define the first part of the questionnaire. This approach combines an analysis of the literature with an analysis of the past research carried out by public administrations and sector experts. The methodological approach will generate a provisional set of dimensions and indicators that will undergo validation by statistical surveys.

Introduction

The primary purpose of the widespread application of the internet to the public service sector is to improve access to the services by leveraging multimediality. This has an obvious impact in terms of the re-engineering of up-stream processes and raises the problem of how to introduce citizen-satisfaction monitoring systems for on-line services.

For our purposes, the definition of a “voice of the citizen” (VOC) system, based on ongoing quality surveys, and the simultaneous improvement in service supply constitute two faces of the same coin.

The adoption of appropriate tools to measure online service satisfaction is the departure point for constructing action strategies and service improvement plans, whose purpose is to enable public administrations - in terms of skills and organisation - to meet citizens' needs and allocate resources efficiently, i.e. according to the needs and behaviour found in service demand surveys.

The work - divided into two distinct papers - focuses upon the description of the methodological approach used and results achieved by a project conducted with CNIPA (Centro Nazionale per l'Informatica nella Pubblica Amministrazione).

The project

The project proposes a shared model to measure user satisfaction with online services that can yield comparable information whatever the public authority provider or the time and place of its use.

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The VOC system to be set up must necessarily include:

- the identification of significant items of general application to the authorities surveyed;
- a questionnaire and the relative scaling metrics;
- a data collection method and analytic techniques;
- VOC guidelines.
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To achieve this objective the work was designed to identify significant quality indicators primarily regarding the analysis of the services provided and the processes influencing satisfaction.

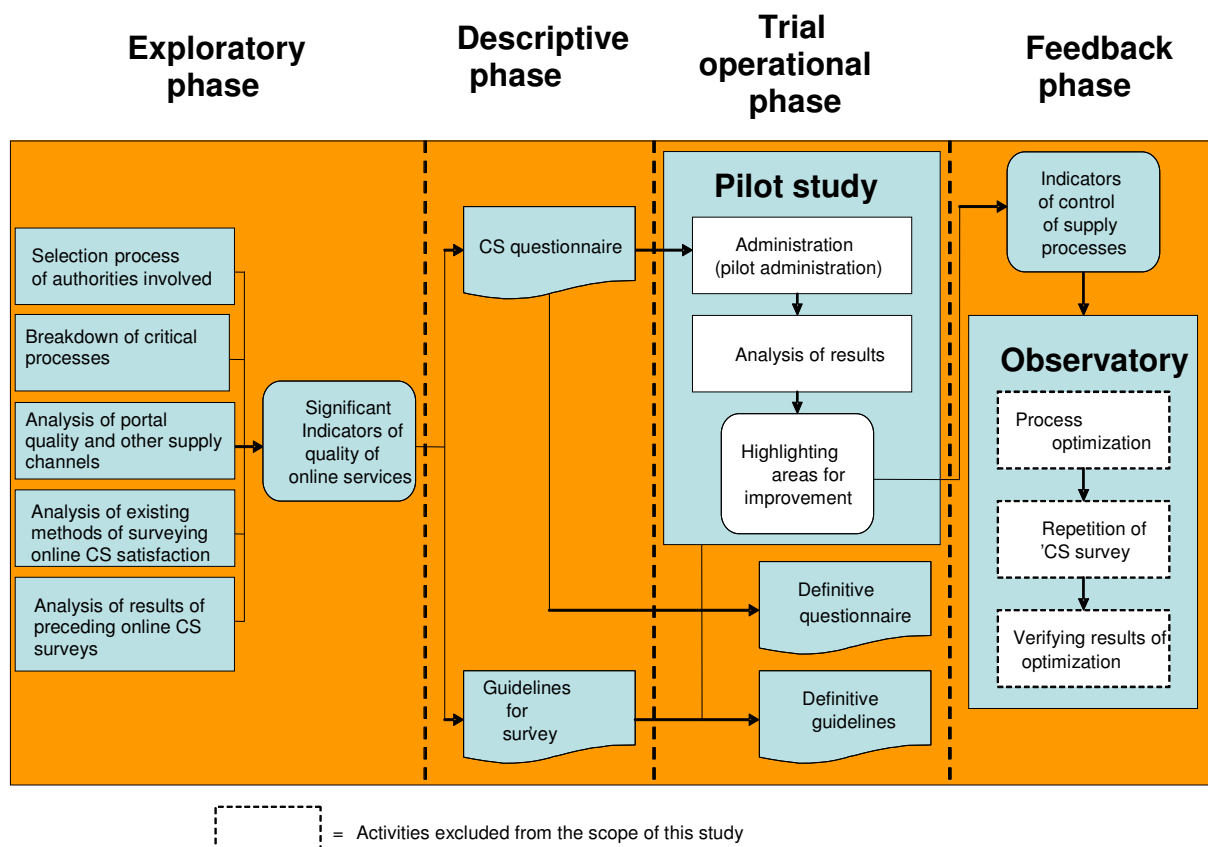
After identifying significant indicators for online service quality evaluation - thus able to describe user satisfaction levels - an *ad hoc* survey questionnaire was drafted, followed by a pilot study. The study will constitute the basis for defining a user-satisfaction survey model combining not only the requisites of identifying significant information but also their comparability and ease of use.

The analysis was conducted in four successive phases:

In detail:

- 1) The exploratory phase - this identifies the most important service supply processes from the users' standpoint and breaks them down by area of interest and reference quality features, as well as analysing the current customer satisfaction survey tools used by various authorities;
- 2) The descriptive phase - this comprises drawing up a standard survey questionnaire according to quality dimensions and indicators established for monitoring satisfaction. It also involves defining the metrics for surveying judgements of satisfaction and preparing provisional guidelines for the model (how to use it and process its findings);
- 3) Trial operational phase - this refers to the administration of the questionnaire to a pilot panel of public authorities, subsequent analysis of the findings and the identification of areas for improvement in order to finally define the questionnaire structure and guidelines.
- 4) Feedback phase - based on the problem areas encountered in phase 3, this defines a set of standard control indicators (quality characteristics), functional for optimising the administration of the internal processes with the greatest impact on user satisfaction.

The following diagram illustrates the logical time flow in carrying out the activities described.



1. Methodology

The specific objective of this paper is to illustrate the experimental methodological approach to identify the significant features and items of the first two project phases.

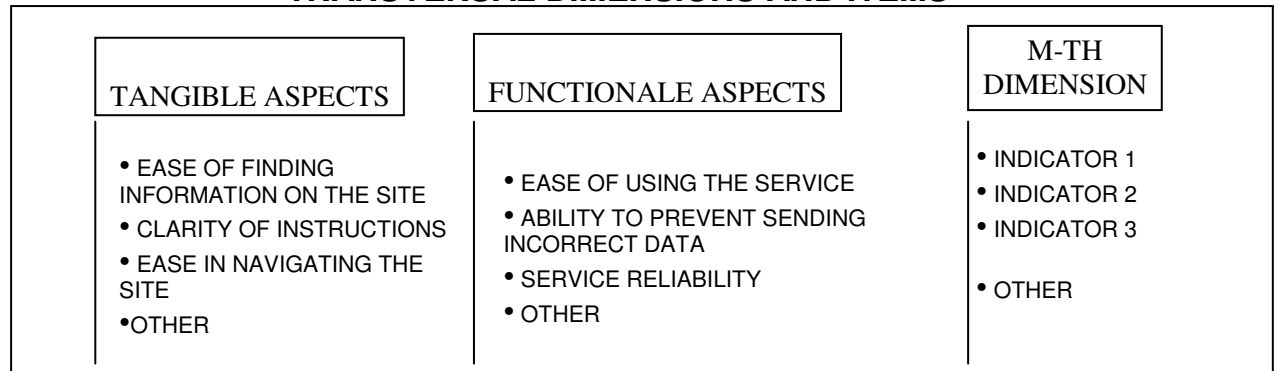
In particular, a double set of indicators is proposed:

- the first based on the criterion of transversality, an across-the-board application to various authorities for general aspects of satisfaction surveys;
- the second is based on the criterion of specificity, referring to a specific process supply.

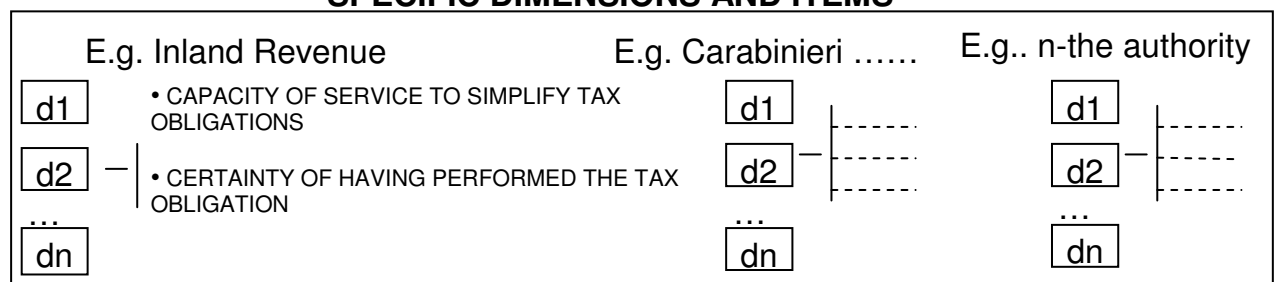
It is proposed that a panel of authorities be identified for which one specific supply process will be chosen and broken down its constituent parts.

The following diagram summarises the methodological approach and may be used as a reference to facilitate understanding:

TRANSVERSAL DIMENSIONS AND ITEMS



SPECIFIC DIMENSIONS AND ITEMS



Here we shall only describe the project phases that offer the most important issues for defining a set of transversal indicators and dimensions⁵. These can be summarised as follows:

- collection and selection of significant information:
 - ◇ research on and analysis of the main models and approaches in the literature for measuring online customer satisfaction;
 - ◇ desk analysis and classification of information on how the authorities comprising the panel measure customer satisfaction;
- processing significant information:
 - ◇ selection and preparing a set of transversal dimensions and items;
 - ◇ output of 7 dimensions and 36 transversal items.
- test to verify dimensions and transversal items:
 - ◇ definition of verification criteria and preparing questionnaire;
 - ◇ assessing reliability of verification test results ;
 - ◇ data analysis;
- preparing the definitive questionnaire :
 - ◇ selection of transversal items;
 - ◇ researching literature for the principal scaling techniques.

⁵ "Dimension" refers to a macro quality evaluation area containing highly homogeneous constituent elements. "Item" on the other hand, refers to the element or characteristic of the service affording an analytic quality evaluation.

2. Analysis of methods to measure online customer satisfaction

Research into feasible methods to measure online service customer satisfaction involved a thorough analysis of the national and international literature by taking into consideration:

- 1) contributions that propose research methods and techniques for monitoring service customer satisfaction, whether provided off-line or on-line.
- 2) online-customer satisfaction contributions, independent of the goods or services in question;
- 3) online-customer satisfaction contributions regardless of the business sector in which the body to which the method is applied operates, whether a public authority, a non-profit organisation or a company.

Customer satisfaction can be measured with in two different ways:

1) Direct measurement. This category includes methods based on explicit customer involvement, typically through interviews. The researcher during the interview asks the customer to make more or less reasoned judgements on his/her satisfaction as the end-user of a good or service. This family of methods has a very high information potential although on account of the costs inherent in contacting a customer directly and having him/her participate explicitly, it is also expensive.

2) Indirect measurement. The second category groups together all methods that instead of making use of direct means to measure customer satisfaction, apply other information to proxy satisfaction levels in various ways. The information may be attitudinal or behavioural and refers to the consequences deriving from customer satisfaction. By processing the information available to the organisation (accounting records, complaints analysis, impressions of front-desk personnel, etc.) as an inter-correlated system, customer satisfaction can be estimated. Although this family of methods has the advantage of not requiring direct customer contact, the reliability of the information acquired is limited.

Consequently, organisations generally measure customer satisfaction directly and defer the analysis of indirect indicators to the systemic analysis of overall customer- organisational relations.

This review also concentrates on direct measurement methods.

3. Models for direct customer satisfaction measurement

National and international literature has identified some variables used by consumers in their evaluation of the quality of a service provided online. These are (Zeithaml, Parasuraman and Malhotra, 2001):

- a) information availability and content. Customers often indicate the availability and wealth of online information as a fundamental driver in determining buying/utilisation decisions. Easy availability of information is very interesting, especially in relation to the costs of effecting similar research off-line.
- b) Simplicity of use. The variability in question, often termed usability, plays a leading role, especially in relatively "undigitalised" cultural contexts. The literature on this aspect is highly fragmentary but sufficient to point to there being a close positive correlation between ease of use and the perceived utility of a site.
- c) Privacy and security. In online services, both privacy and security play a leading role. Although linked they are quite distinct concepts. Privacy refers to the protection of personally identifiable information, i.e. the non-transmission of customer information to other sites. Security is the protection of users from the risk of fraud and financial loss as a

result of sharing sensitive information. The perception of security risk has a strong impact on the satisfaction of customers recurring to a financial service.

d) Graphic design. Graphic design embraces the site's design variables, such as colour, layout, font size, number of photographs and diagrams, and animation. Some studies have analysed its impact on online commerce.

e) Reliability. In the digital world, reliability means accurate and immediate delivery of all aspects regarding product delivery and/or service supply.

For purposes of analysis, it was held appropriate to make a precise review of the direct customer satisfaction survey methods in order to compare the features of each. In the framework of the project, this aspect of the study helped verify the applicability of the models that are used and shared - albeit mainly in the profit area - within the public sector, with specific reference to the provision of online services.

To this aim, in the course of brainstorming sessions, the criteria of models codified in the literature were defined. In particular, the following variables were fixed:

- the model's objectives;
- basic working premises;
- context of use;
- information generated;
- advantages and disadvantages;
- survey tools;
- dimensions and items used;
- survey metrics;
- data analysis techniques.

Here below is reported a summary of the main customer satisfaction models (on and off-line) examined during the project and deemed of the greatest significance for this work. To facilitate the comparison without compromising essential information, we chose the following variables to evaluate the models: objectives, basic premises, information generated.

*ACSI Model*⁶: produced in the United States in 1994, to measure satisfaction in 29 economic segments.

- *Objectives*: to measure the quality of products and services on the market through a national index of customer satisfaction;
- *Basic premises*: a relational system exists among various satisfaction components whereby loyal customers increase the value of their purchases over time and they are relatively insensitive to price variations;
- *Information generated*: useful information for consumers on purchasing decisions and for companies on evaluating customer fidelity and estimating returns on investments through an index on satisfaction levels with product/service quality at a given time. It incorporates the performance of both the private and public sector in a composite index. The results are systematically disseminated every quarter. The model's limit is not its socio-economic but its geographic representativeness.

*ECSI Model*⁷: produced in Europe and applied in 1999 as a pilot project in 11 countries, on a number of limited sectors but with the objective of extending it to cover a large part of the GDP. This extension has never been attained.

⁶ American Customer Satisfaction Index: Methodology REPORT (1998).

Anderson E., Fornell C. (2000), "Foundations of the American Customer Satisfaction Index", Total Quality Management, vol. 11, n. 7.

⁷ European Customer Satisfaction Index: ECSI Technical Committee, ECSI Technical Report, EOQ, 1998.

- *Objectives*: to measure the quality of market products and services through a European consumer satisfaction index, guaranteeing the territorial, demographic and sector stratification of the analysis.
- *Basic premises*: a micro-economic structural model based on a cause-effect relational system among latent variables (*path diagram*);
- *information generated*: the relations between various variables that determine consumer judgement are traced by identifying the best results of companies in the same economic sector. The ECSI method is mainly adopted in telecommunications, energy and training sectors.

*ICSI Model*⁸: produced in Italy and applied in 1999 as a pilot project. Considered a direct derivation of ECSI and thus it has compatible objectives, basic premises and information generated.

Kano Model: applied internationally, evaluates customer satisfaction by contrasting implicit and explicit quality concepts.

- *Objectives*: to measure satisfaction by linking explicit and implicit quality features to the concept of customer delight;
- *Basic premises*: non-linear relations exist between product/service attributes and customer satisfaction;
- *Information generated*: specific elements are identified, considered fundamental in the supplier/beneficiary relationship. Theoretically, the model can be applied to both the private and public sectors.

Servqual Model: initially developed by Parasuraman, Zeithaml and Berry (1985), and finalised by these authors in a series of subsequent trials (1988; 1991; 1994). Customer satisfaction is surveyed in terms of its constituent parts. The first model designed to study customer satisfaction in the service sector and very widespread internationally.

- *Objectives*: to measure customer satisfaction in service sector, by analysing the gap between perceptions and expectations, weighted by dimension.
- *Basic premises*: expectations are to be requested directly from customers, who provide a double set of judgements on expectations and perceptions based on service experience and use.
- *Information generated*: area of service improvement can be determined by mapping priorities. The difference between perceptions and expectations (ideal or feasible) can be measured for each item and dimension of the model. Widely used in the public and private service sector due to its simple application.

Servqual has been widely studied (and criticised) and, given its widespread use, various authors have proposed simplified or modified versions to adapt it to specific requirements. In particular, the following versions have been proposed; the *Servperf Model*⁹ that only measures customer perceptions, determining the value of expectations indirectly; the *Normed Quality Model*¹⁰ that measures customer satisfaction by dividing expectations into ideal and feasible; the *Qualitometro Model*¹¹ measures customer satisfaction by assessing expectations

⁸ Italian Customer Satisfaction Index: www.theicsi.com; Busacca & Associati in cooperation with Doxa.

Busacca B.(1994) *Le risorse di fiducia dell'impresa: soddisfazione del cliente, creazione del valore strategie di accrescimento*, Utet.

⁹ Cronin, Taylor, 1992.

¹⁰ Teas, 1994.

¹¹ Franceschini, Rossetto, 1999.

and perceptions at different times; and the *Esqual Model*¹² that measures customer satisfaction for online services.

*CSI Model*¹³: proposed by UNI EN ISO 1198 provides guidelines for assessing customer satisfaction as well as associated indicators and auditing processes.

- *Objectives*: to provide elements for a complete diagnosis of the drivers that cause customer dissatisfaction, satisfaction and delight.
- *Basic premises*: based on a composite customer satisfaction index it measures the distribution of customer satisfaction, dissatisfaction and delight over time using the gap between perceptions and expectations.
- *Information generated*: the intensity of customer dissatisfaction, satisfaction and delight is indicated by assessing the relative importance of satisfaction factors in relation to the numbers of customers involved. Few applications are found in the public sector. It does not take specific account of online services.

*Edewes Model*¹⁴: measures customer satisfaction in relation to the expectations/ perception gap. Developed for the study of online services, it is based on the confirm/ non- confirm technique.

- *Objectives*: to obtain information on the quality of online services.
- *Basic premises*: it is based on the determination of two classes of variables (information quality and system quality) for which 7 and 5 dimensions, respectively, were identified;
- *Information generated*: data on the positioning of the service, and their comparison over time. No applications are found in the public sector.

*Webqual Model*¹⁵: developed in 2000, it has been tested on three different student samples (for a total of 1,200 cases), who were requested to evaluate the quality of a site according to a given set of dimensions.

- *Objectives*: to measure the usability, information level and interactive facility of a website.
- *Basic premises*: it is rooted in the theoretical framework of the Theory of Reasoned Action and the Technology Acceptance Model, and based on twelve key-dimensions.
- *Information generated*: predicting the probability of site re-use by users, and indicating how to design a site that can encourage use. It identifies the quality dimensions of a site rather than its online services. No known applications to the public sector.

*E-Tail Q Model*¹⁶: specifically aimed at online service/ product distributors because online distribution quality follows different criteria to off-line distribution. It requires a qualitative focus group survey and a quantitative online survey on a panel of buyers.

- *Objectives*: to measure the quality of e-tail experience;
- *Basic premises*: *e-tail experience* quality can be measure in terms of customer satisfaction and fidelity, but based on ad hoc, purpose-built dimensions.

¹² Parasuraman, MS Report.

¹³ Guideline: UNI EN ISO 1198.

¹⁴ Mc Kinney, Yoon, Zahedi, 2002.

¹⁵ Loiacono, Watson, Goodhue (2000).

¹⁶ Wolfinberger, Gilly (2003).

- *Information generated*: four factors are identified - site features, information reliability, security level and service level - that have the greatest influence of customer judgements as concerns the satisfaction/ fidelity level and the attitude towards the site. No known applications to the public sector.

Alongside *E-Tail Q* we should also mention the *E-Satisfaction Model*¹⁷, it was also developed to collect buyer perceptions and factors determining satisfaction in the purchasing experiences.

The analysis carried out on such customer satisfaction methods envisaged the lack of shared and widespread way of operating within the public sector, either from a theoretic or practical point a view.

Furthermore, it clearly appeared that the features of the models studied do not enable, if rigidly applied, to achieve the main project objectives (i.e. the simultaneous production of two families of indicators):

- transversal, thus useful to CNIPA – as the central coordinating body – to lay down strategies and policies to optimise the provision of online services and progressively improve citizens' perception of the services provided;
- specific, i.e. capable of measuring satisfaction when addressed to one specific service.

We have therefore recognized the necessity of arranging a set of customized dimension and items, aimed at:

- taking into account former theories and empirical evidences;
- properly represent and measure the relevant components of customer satisfaction within the specific framework of on line services.

In addition, to obtain the best fit between the model's structure and the expectations of the various authorities, the study of methods codified in the literature was supplemented by the experience of some authorities involved in the project.

4. Desk analysis and classification of information from authorities comprising the panel

The study of experiences in measuring online customer satisfaction was conducted on a panel of central Italian authorities. This called for a series of meetings to collect and exchange information and documents on investigations conducted in recent years so as to make a detailed analysis of the instruments and methodologies for measuring customer satisfaction in respect of the provision of online and off-line services.

The analysis produced a comparison between the authorities by type and number of experiences and also enabled the identification of common elements among the different situations.

It emerged that all surveys had been conducted using questionnaires. Every study was classified according to the following aspects:

¹⁷ Szymanski, Hise (2000).

- Year of study
- Subject matter of study
- Form of administration
- Method of constructing the questionnaire
- Size and definition of sample
- Sections and dimensions
- Number of items
- Overall satisfaction
- Space for suggestions:
- Socio-demographic aspects
- Scaling techniques
- Data analysis methodology

In addition, in order to acquire more detailed methodological data, the structure of the single questionnaires was represented through tree diagrams to identify their elementary structure.

Our investigations brought to light that the investigations in customer satisfaction by the reference panel were mainly made with the Servqual method.

However, the authorities reprocessed the dimensions and items proposed in the original model in order to adapt the latter to the specific services being studied. In addition, some authorities had drawn up their own empirical model, without referring to the literature.

5. Processing of significant information and the arrangement of a set of dimensions and items.

The analysis of portals, along with the investigations of the authorities and the literature was a necessary preparation for the definition of an empirical method for the selection of the dimensions and items to measure user satisfaction with online services.

The foregoing investigation area exclusively addressed the identification and organisation of transversal dimensions and items, referring to all central public bodies.

After the analysis, more than 200 dimension and items could be gathered, through a summary table that represented the starting point for initiating a logical/ operational route - as illustrated below - to define definitive transversal dimensions and items:

- the items and dimensions surveyed in the literature and those used by authorities in their preceding customer satisfaction studies were arranged by semantically coherent areas;
- identical items and dimensions were eliminated and a data set, free of duplications was prepared;
- then, through a series of successive steps, the items underwent a rationalisation until a comprehensive and coherent, duplication-free, set was obtained;
- successively, the coherence in semantic terms between item and reference dimension was verified, as codified in the literature;

On the basis of the information obtained from the completion of the preceding phases, a phase of analysis began - involving the entire working group, initially singularly and then collectively in the form of joint verification and optimisation meetings - that led to the new definition of a set of dimensions and their linkage to the corresponding items.

This phase was especially difficult both in theoretical and operational terms as it called for interpretation and re-codification of existing items and dimensions. In addition, it was deemed necessary to carry out a careful evaluation of the language used, for three main reasons:

- to ensure the model's maximum representative capacity, (in terms of the set of items and dimensions), to survey the variability of the subject matter (online customer satisfaction).
- to render explicit the meaning of items by reformulating them in order to comply - semantically but also as regards clarity and understandability - with the needs and language of the public administration.
- to guarantee the maximum clarity and coherence of the finished product (questionnaire) from the point of view of its users (citizens/customers)

The results of this far-reaching work of comparison, synthesis, selection, re-allocation and redefinition were an output of 7 dimensions and 36 items, which were subsequently accepted by the executive management of CNIPA.

6. Output of 7 dimensions and 36 items

The set of dimensions and items obtained is listed in the following table.

This represents the first set of transversal quality indicators for various situations, proposed as the first part of a wider set that will include the specific indicators for each service, and to be identified during the analysis and breakdown of the supply processes of greatest importance for the customer.

DIMENSION/ITEM	
ACCESSIBILITY	
Ease and speed of access to site and on-line services	
1.1	The site is easy to reach
1.2	The services on the site are easy to access
1.3	It is easy to register prior to using the services on the site
1.4	The pages of this site load quickly
1.5	The site is not subject to blockage
INFORMATION ADEQUACY	
Updating, reliability, certainty and completeness of the online information	
2.1	This site offers me all the information I need to use the online services without having to go elsewhere
2.2	This site contains reliable information
2.3	This site contains complete information
2.4	This site contains updated information
2.5	FAQ section is useful
2.6	The instructions for using the services on this are clear
CAPACITY TO RESPOND	
The suitability of the service to meet user needs	
3.1	I find that using the services of this site is more advantageous than traditional means (telephone, fax, email, front office)
3.2	The offer of services on the site meets all my needs
3.3	I can easily make use of the service I need
3.4	Possible mistakes occurring during the data entry process are clearly pointed out
3.5	It is easy to obtain the documents and/or receipts I need
3.6	I can complete the procedure in my first session
3.7	The time required to use the service is acceptable
3.8	It is easy to acquire personalised information on the service according to my specific needs
SITE DESIGN	
Graphic design and content organisation	
4.1	Navigation on this site is intuitive
4.2	I find the site innovative
4.3	The site has an attractive graphic design
4.4	I can find the information I need with a few clicks
4.5	The site's pages are well organised
4.6	The contents of the single pages on this site are arranged in an orderly manner
HANDLING USER CONTACTS	
Suitability of the site for gathering questions, providing answers and resolving disservices	
5.1	This site offers adequate tools for submitting specific questions to the authority
5.2	I obtained adequate replies to the questions I put through the site
5.3	I quickly received the replies to the questions I formulate through the site
5.4	This site offers appropriate tools for filing a complaint
5.5	The complaint I made through the site was resolved with one contact
5.6	The complaint I made through the site was resolved quickly
IMPROVEMENT OF THE RELATION BETWEEN CITIZENS AND PUBLIC BODIE	
Capacity of the services offered through the site to optimise the relationships between citizens and public bodies	
6.1	Services this site offers simplify my activities
6.2	Services this site offers provide better answer to citizens needs
6.3	I believe this site contribute to strengthen public body's image
SECURITY	
Site overall security and privacy protection level	
7.1	This site protects my privacy
7.2	This site makes sure that transactions requiring the use of personal data be adequately safe

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**LOCAL ADMINISTRATIVE SERVICES TO REDUCE BARRIERS TO
ENTREPRENEURSHIP AND ENTREPRENEURIAL ACTIVITIES: UNDERSTANDING
THE REASONS BEHIND THE DIFFERENCES IN USER SATISFACTION**

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Introduction

The barriers to entrepreneurship and entrepreneurial activities have been subject of extensive research. According to Djankov et al. (2002), the number of start ups increase when governments lower the barriers. Others showed that the time, the cost, and the number of procedures required to start a business are unrelated to the creation rate of either nascent or young businesses (Stel et al. 2007).

Differences in empirical research findings can be explained with the existence of numerous factors that affect entrepreneurship. These can be both psychological and cultural factors that are related to the actor of new venture creation (Casson, 1982; Schumpeter's, 1934, Kirzner, 1984), or environmental conditions that may play a role in developing entrepreneurship in a Country or region (Gartner, 1985; MacMillan, 1983).

Although the characteristics of entrepreneurs, their skills (Davidsson, 1991), experiences (Manning et al., 1989) and motivations (McClelland, 1961) probably play the most important role in new venture creation and firm development, in this study we point out the role of public policy (Goodman et al., 1992; Vesper, 1983) to start up or develop a firm. Indeed, it was found that “the more favourable the government policies and procedures, the higher the opportunity to enterprise” (Gnyawali et al., 1994).

In this paper, with the term *administrative barriers* we refer to external adverse conditions to establishing a new business or developing an existing firm. These conditions include “Excessive Regulations” and “Government Policies Discourage”, which previous research found to be perceived as two of the barriers to starting a firm, although not the most important (Kouriloff, 2000).

It is obvious that having to follow many rules and procedural requirements, to report to many institutions, and to spend a significant amount of time and money in fulfilling the procedural requirements, entrepreneurs may be discouraged from starting a business (Dana, 1987; Young et al. 1993).

Therefore, the European Union has, for a long time, been asking different Countries to reduce the barriers to entrepreneurship in order to support economic development. These problems especially affect small and medium size firms that represent a large part of the Italian economy. In Italy, the level of “entrepreneurial activity” is higher than in all the other European Countries (Reynolds et al., 1999) and its support has a large importance on job creation, innovation and wealth (Stel et al., 2007).

The paper begins by presenting the “one-stop shops”, one of the measures introduced by the Italian government to lower the administrative burdens for entrepreneurs. We then propose a model for assessing the quality of the services produced by these offices and the related user satisfaction. In the following section, we formulate a few propositions about the performance of these “shops” and about their determinants, and discuss the methodology we adopted to verify our propositions. After having presented the results of our research we conclude by providing some strategic and managerial implications.

“One-stop shops”. The Italian experience

According to the World Bank Doing Business, the average number of days required to start a new business in OECD Countries is 14,9. In Italy, this number is 13, lower than the OECD average. It was greatly reduced between 1999 and 2006, when it fell from 62 to 13 days (Stel et al., 2007). Italy ranks 12th among the Countries participating to the General Entrepreneurship Monitor (Reynolds et al. 2005).

During the same period of time, the main reform introduced in Italy to reduce the “entrepreneurial barriers” was the law that established the “one-stop shops”. We maintain that these reforms have played an important role in reducing “red tape” affecting entrepreneurship. The purposes of the law that introduced the one-stop shop were:

- Identifying a single interface for all the administrative procedures;
- Shortening the time to provide entrepreneurs with the response to the their applications to start or develop a firm;
- Increasing transparency and opening to stakeholders of one-stop shops, including business associations.
- Introducing the possibility to use the self-certification process and the “silence is consent rule” (licenses are issued automatically if the competent licensing office has not acted by the end of the statutory response period).

The aim of this office is to ease the entrepreneurial process by “identifying a single interface for issuing business licences between the public administration and the entrepreneur and by co-ordination among public entities involved in regulatory management” (Ongaro, 2004).

These offices have been opened inside the city halls since the end of 1990s.

One-stop shops are responsible for coordinating the public authorities that issue administrative permits to exercise business activities, such as: local healthcare authority, fire brigades, province and region, regional authority for the environment and others. Before one-stop shops were established, entrepreneurs had to go to all of these offices separately.

Nowadays, the one-stop shop (The SUAPs, Sportello Unico Attività Produttive) is the only public office an entrepreneur has to contact to start or develop a firm. It is responsible towards the entrepreneur for the respect of time and quality of all the administrative procedures even when other public offices are involved. For this reason, in case of delays depending on one of the authorities involved in the procedure, the Mayor can call a “service conference” to solve the problem.

Service quality and user satisfaction: a theoretical framework

The quality of a service is related to the gap between expected and perceived service (Zeithalm, 1987). Research on service quality and customer satisfaction – both in private and public sector – is abundant and outlines how difficult it is to assess service quality because of the intrinsic characteristics of services (Parasuraman *et al.*, 1985). In this paper, we have adapted the model provided by Parasuraman *et al.* to understand the dynamics of the impact on SUAP user satisfaction. Three different players are considered (figure 1): *End Users*, *SUAPs*, and *Institutions*. With regard to Institutions, they have played a key role in promoting

SUAPs creation. SUAPs are in charge for delivering a service that is effective and that is supposed to provide an adequate answer to end-user needs; SUAPs should also promote their services among potential users through effective communication initiatives.

The gap between *User* expectations and perceptions provides a measure of user satisfaction and of the ability of the service provider to understand customer needs and expectations and to supply a good quality service. Word of mouth communication, personal needs and past experience influence service expectations.

Overall, service quality depends on how well the delivered service matches customer expectations (Lewis & Booms, 1983; Zeithaml et al., 1990; Devlin & Dong, 1994); then, the overall service quality can be split into different concepts of quality.

Understanding the conditions that influence the overall perceived service quality (and its related effectiveness) is more complex. Among the broad literature on service quality perception, we draw upon Grönroos (1982) due to the extensive diffusion and implementation that this approach has had in the last twenty years and due to the comprehensiveness of the definition provided, which fits this specific empirical investigation. According to the selected approach, when analysing service quality, we should refer to technical quality (what the customer gets from the service provider) and functional quality (how the service is delivered). The overall perception of quality is influenced by the indicators proposed by Devlin & Dong (1994): service reliability; empathy; courtesy; communication and competence. Those elements can have a positive or negative impact on users' perception.

Data

We collected primary data on the investigated matter through two surveys carried out in 2006 and 2007. For the purpose of our analysis, we adopted two semi-structured questionnaire protocols, one addressed to the Tuscan SUAPs, the other addressed to the users of three SUAPs selected according to the following criteria:

1. two SUAPs located within industrial districts;
2. one SUAP located in a Municipality with a high start-up rate.

60 firms were interviewed, 20 for each selected SUAP, chosen with convenient criteria from a list of service users provided by the SUAPs.

We followed the procedures suggested by Creswell (2003), and tested the questionnaires before submission in order to reduce the risk of erroneous questions.

We also organized two explorative focus groups with the idea-writing technique with entrepreneurs, professionals, and employees of business associations. The focus groups were intended to provide us with better insights on the functioning of SUAPs, to collect information about best practices, and to explore possible creative ideas to improve their performance.

In order to answer the research questions addressed in this paper and to formulate adequate propositions, we selected a number of variables related to specific questions of the surveys.

Our propositions and related methodology

Technical and functional quality, user satisfaction and their impact on quality perception

In order to investigate the effectiveness of SUAPs at providing good quality services, we distinguish between perceived technical and functional quality, which are assumed to be two complementary measures of the overall perceived service quality. We define perceived *functional quality* as a combination of user perceptions related to communication, comfort, accessibility, and simplification. Perceived *technical quality*, instead, is conceived as a mix of user perceptions of reliability, effectiveness, and of the availability of adequate competences in providing services. Table 1 shows more in detail how we operationalized quality perception

and the links of each variable to one or more specific questions in the survey. Our research questions are:

RQ.1: How are functional quality and technical quality related to the overall user satisfaction?

RQ.2: How do functional quality and technical quality affect customers' evaluation of the service?

A Likert scale was used for the variables selected for measuring perceived functional and technical quality. Users were asked to rank the degree of their overall satisfaction on a five points Likert scale, too.

Based on our assumption and on the described model, we calculated perceived functional and technical quality as the means of the values of the respectively associated variables.

We then measured the correlation among the two new variables and the overall degree of satisfaction.

With regard to our research questions, we propose that:

P.1: Perceived technical quality is positively correlated to the overall user satisfaction

P.2: Perceived functional quality is positively correlated to the overall user satisfaction

P.3: The impact of perceived technical quality on the overall user satisfaction is higher than the impact of perceived functional quality

In order to verify our propositions, we run a correlation analysis using the selected variables. In particular, Kendall's Tau-b provides the association among variables measured at an ordinal level, whilst Spearman's Rho can be considered as the non parametric version of the Pearson Coefficient.

Understanding the differences in user satisfaction across different SUAPs

Within the general framework laid out by the law to define mission, functions, and organizational design of the SUAPs, considering the significance of the differences in the operating mechanisms and in the practices adopted by the different offices, we investigated some possible causes of the unevenness in the distribution of user satisfaction among SUAPs, especially focusing on some service features that we thought would play an important role in explaining the differences.

With regard to those features, we propose that:

P.4: There are significant differences in the different SUAPs user satisfaction with regard to specific service features.

P.5: The adoption of online procedures has a positive impact on reducing processing time.

To evaluate the impact of online procedures in compressing the time of entrepreneurial processes, we measured the degree of correlation among two variables: the possibility to use online procedures and the level of users satisfaction about reducing processing time after SUAPs were introduced.

P.6: The existence of agreements with other local public administrations positively affect the possibility to provide firms with the service on time.

As each SUAP is responsible for coordinating the public authorities that issue administrative permits, its effectiveness can depend on the good relationship that the SUAP can create with the other public offices involved in regulatory management.

In order to verify our propositions, besides the correlation analysis, we also used the Kruskal-Wallis test of the equality of population medians among groups.

Results

SUAPs in Tuscany: some descriptive statistics

SUAPs in Tuscany are very diffused. The province with the largest number of SUAPs is Florence, with a 97.73% ratio number of functioning SUAPs/number of Municipalities within the Province, followed by Pistoia, with a 95.45% ratio, and Grosseto, with 89.29%.

Our survey was carried out on 101 SUAPs that responded to the questionnaire, out of the 218 SUAPs that had been created at the time of our survey.

25.74% of the interviewed SUAPs are in the province of Florence. Pistoia is the second province in terms of number of SUAPs in our sample (13.86%), followed by Pisa and Grosseto.

The majority of the SUAPs were founded in 1999 (27.2% of our sample). Almost all were created and became operative between 1999 and 2002.

Most of the procedures are for organizations in the services and construction sectors, 32% and 23% respectively.

Although the aim of the SUAPs was the simplification of administrative procedures, even today a high number of entrepreneurs ask for professional help to prepare and submit SUAPs applications.

For 26% of the interviewed SUAPs, between 50% and 60% of the users are professionals that represent their customers.

To evaluate the effectiveness of SUAPs, we gathered data about different characteristics of their organization.

With regard to the educational and experience background of SUAP employees, the percentage of University graduates is high: 15.38% with and 22.56% without previous experience in this field. The incidence of employees with secondary school diplomas is also high: 23.08% with experience, 28.21% without previous experience. The number of employees with postgraduate degree, instead, is low (4.62%). To improve employee competences, 74% of the SUAPs systematically train their employees and organize meetings with other SUAPs.

Other factors that can affect service quality include the changes introduced to reduce the time needed to provide the services, such as increasing the number of front office employees (in 10 SUAPs) increasing employees' specialization (in 19 SUAPs) and improving the forms users have to fill-in (in 29 SUAPs).

Access to service is a significant proxy of service quality, too. Previous research shows that the adoption of information systems has a positive impact on public service quality (Berkley B. et al., 1994; Dabholkar P.A., 1996; Gilbert et al., 2004; Prybutok et al., 2007).

91.4% of the interviewed SUAPs have a website where users can download the application forms. Nevertheless, in 70.97% of the cases, these forms cannot be filled-in online.

With the aim of reducing the time needed to obtain permits, some SUAPs check the applications before starting the procedure. On the contrary, many SUAPs (12.09%) still do not check the applications when they are submitted. This can lengthen the time needed to complete the procedure, because often times documental integrations are later required.

Once the application has been submitted, a large percentage of the interviewed SUAPs (44.6%) have adopted measures to reduce integration needs, including standard procedures, an increased collaboration among the offices that are involved in the procedures and the utilization of information systems.

Although one of the goals of the law is to introduce customer orientation, only 21.59% of the SUAPs have a customer satisfaction process about office activities to check the level of user satisfaction. Only 23.91% of the interviewed SUAPs monitor service quality.

Technical and functional quality, user satisfaction and their impact on quality perception

Table 2 shows the results of the non parametric correlation analysis related to our first three propositions. What emerges is that both perceived technical and functional quality are positively associated to the overall perceived quality, but the strength of the relation is higher for the perceived technical quality than for the perceived functional quality: the Kendall's Tau-b and the Spearman's Rho for technical quality and overall satisfaction are, respectively,

0.520 and 0.569, while for functional quality the Kendall is 0.224 and the Spearman is 0.236. The p-values also differ significantly among the two variables, and from the tested hypothesis emerges that technical quality and the overall satisfaction are linearly related.

Our propositions are also confirmed by the non parametric correlation between the selected variables and the overall degree of user satisfaction (Table 3). User overall satisfaction is mainly influenced by the perception of: the respect of the time for concluding the procedure (2.13); the information provided about ongoing procedures (2.12); the information provided by the SUAPs employees about procedures and forms; the clarity of the forms (2.14); the ability employees have in responding within a short length of time (2.15).

Understanding the differences in user satisfaction across different SUAPs

Table 4 shows the results of the Kruskal-Wallis analysis we conducted to investigate asymmetries in user satisfaction among the users in the three SUAPs involved in the survey. User satisfaction of different aspects of the services differ, especially with regard to the following variables: office hours, ease of identifying the appropriate person for the services needed, possibility to obtain information on the phone, ease of finding the website, ability of the employees to provide complete information about procedures and forms, possibility to track and trace and to obtain information on ongoing procedures, possibility to easily and univocally understand the forms, ability of the employees to promptly respond to user requests. One of the SUAPs has a higher level of user satisfaction for all of the measured variables except one (ease of finding the website).

Table 5 shows that the possibility to fill-in online the forms needed to activate a procedure is positively associated to the time needed to process a user's request (the Kendall's Tau-b is 0.382) and the strength of the relation is quite high (0.408).

Table 6 shows the results of the Kruskal-Wallis test of the equality of population medians among groups run with regard to the perceived contribution of SUAPs to reducing the time needed for implementing entrepreneurial processes, which seems to confirm the importance of the adoption of Information Systems. The mean rank of one of the three SUAPs involved in the survey is significantly lower and this may be explained by the fact that that SUAP didn't have online procedures at the moment of the survey.

We haven't, instead, found a significant association between the existence of agreements with other local public authorities and the time required for the service. Table 7 shows the results of the non parametric correlation.

Conclusions and implications

It's been about one decade since the Italian government introduced its one-stop shops for reducing administrative entrepreneurial barriers. The launch of the initiative took place amid a combination of disillusion and high expectations boosted by the enthusiastic emphasis of the communication that accompanied it. It's undeniable that the introduction of SUAPs has led to positive results, especially in terms of reduction of the time needed to start a new business. We believe that the climb of Italy in the rank of the Countries within the OECD for efficiency of the administrative processes to start a new firm is related with the creation of SUAPs. This has been confirmed by the results of our survey, and by the focus groups we carried out as well. Despite this, there is still a large part of stakeholders who is not particularly satisfied with the results achieved until now and who considers them well below the initial expectations. Moreover, if it was so simple to deal with SUAPs, there should be a much lower percentage of firms that uses the help of business associations and professionals (according to our research, an average of only 42% of the SUAP procedures are activated directly by firms). We also noticed that there are significant differences in the performance of the SUAPs. Our research shows some of the reasons behind these differences and allowed us to identify

factors that drive differences in user satisfaction, including the perception of the time needed to close a procedure, the information obtained by the SUAP personnel, the simplicity of the forms, the ability of the SUAP employees to respond promptly, which are all elements that pertain to the functional quality of the service and are founded on service process characteristics and on the available resources and competences.

What we learnt from our research is therefore that excellent performances in the reduction of administrative entrepreneurial barriers can be achieved, when the service production and distribution is grounded on a solid base of adequate resources and competences and of high quality processes. We also learnt that, while there are some managerial implications that can be usefully addressed to those SUAPs that need to fill the performance gap with the best performers, there are also a few strategic implications that may be followed for the benefit of the overall SUAPs system.

It is first of all obvious that the existence of, sometimes profound, differences in SUAP-specific local regulations, requirements, forms, and SUAP/user interface management creates difficult, particularly for those users that have to deal with SUAPs located in different municipalities. Such a heterogeneity contributes to increase the complexity that has to be managed and thus the burden of administrative entrepreneurial barriers. An harmonization effort has to be urgently made, at least on a regional scale, if not at a supra-regional level. The problem is overwhelming, as it may affect sensitive issues related to the autonomy of the municipalities. Nevertheless, this can't be an alibi not to change the *status quo*.

The other measure that could contribute to improving the performance of all the SUAPs could be the definition of regional protocols for establishing common mechanisms to be adopted for the coordination between SUAPs and other public authorities that are involved in the service production and distribution process, for enforcing the commitment of all these actors on the overall time performances, and for sharing the related responsibility. Despite the fact that the results of our survey didn't confirm our hypothesis about the relation between inter-public authority cooperation and user satisfaction, the adoption of such protocols was highly and unanimously recommended by the participants to our focus groups. The apparent contradiction in the results of our research on this issue may be related to the way the coordination and cooperation among different institutions has been implemented. In other words, it's not the cooperation and coordination principle that should be discussed or criticized. Rather, it's the way this principle is translated in operative mechanisms that matters. This initiative could be accompanied with an increased cooperation with business associations and professionals, through periodic workshops and prompt communication about procedural changes and innovations, which also proved to be very effective in improving user satisfaction.

Finally, in order to fully exploit the experiences of the best SUAPs, adequate mechanisms for the diffusion of good practices may be adopted.

In terms of implications for the individual SUAP management, we believe that there are a few good practices that proved to be very important in improving the SUAP performance, particularly with regard to the perceived time to conclude a procedure and to the overall user satisfaction, which could be immediately transferred to all of the SUAPs. These may include: the full implementation of online services, with the possibility for the user not only to download the forms but to fill in those forms as well, which directly affect service accessibility; the prosecution of a procedure where a documental integration is needed; continuous training and education of the SUAP personnel aimed at increasing the degree of competences specialization of individual employees.

Finally, we argue that SUAPs could greatly benefit from increasing the degree of self-control. They could introduce systematic evaluations of time performances (rapidity, reliability, consistency with user expectations) and customer satisfaction analyses. For improving

functional quality, which our research showed to be highly correlated to user satisfaction, we also recommend that quality accreditation will be introduced. Nowadays, only one of the interviewed SUAPs was certified ISO 9001-2000, and it was one of the best.

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Appendix

Table 1 – Quality perception in the survey

Perceived Technical		Survey
Service Reliability & Effectiveness	<i>The provided information is reliable? Is the service provided effective? Is it aligned with expectations?</i>	2.6; 2.8; 2.11; 2.12
Competences	<i>SUAP Employees have adequate skills and competences for providing an effective service?</i>	2.15; 2.16
Perceived Functional		
Accessibility	<i>Is the service accessible?</i>	2.3; 2.4; 2.7;
Easy & Simplification	<i>Is the user facilitated in getting the information or in getting in touch with the people employed by the SUAP? Is there any processes simplification?</i>	2.5; 2.9; 2.10; 2.13; 2.14

2.3 Office hours meet customers' needs

2.4 An understandable signage leads you to the office that can be reached easily

2.5 When you get into the office, you can easily identify who is the employee that you should address your request to

2.6 The information provided by phone is exhaustive

2.7 It is easy to find the Suap website

2.8 Suap website provides useful information

2.9 Forms can be downloaded from the website

2.10 Forms can be filled online

2.11 The information provided about procedures, timing and forms is clear and exhaustive

2.12 Suap employees provide clear information about on going requests

2.13 The time needed requested for concluding a procedure is compatible with user needs expectation

2.14 The forms released by Suap can be clearly understood

2.15 Employees are skilled and promptly provide adequate support

2.16 Employees are willing to provide information and support to users

Table 2 – Correlation between perceived quality and user satisfaction

			Overall satisfaction	FunctionalQMean	TechnicalQM
Kendall Tau_b	Overall satisfaction	Correlation	1,000	,224	,520(*)
		Sig. (2-tales)	.	,683	,038
		N	60	4	13
	FunctionalQMean	Correlation	,224	1,000	-,333
		Sig. (2-tales)	,683	.	,602
		N	4	4	3
	TechnicalQM	Correlation	,520(*)	-,333	1,000
		Sig. (2-tales)	,038	,602	.
		N	13	3	13
Spearman Rho	Overall satisfaction	Correlation	1,000	,236	,569(*)
		Sig. (2-tales)	.	,764	,042
		N	60	4	13
	FunctionalQMean	Correlation	,236	1,000	-,500
		Sig. (2-tales)	,764	.	,667
		N	4	4	3
	TechnicalQM	Correlation	,569(*)	-,500	1,000
		Sig. (2-tales)	,042	,667	.
		N	13	3	13

* correlation is significant at 0,05 (2-tales)

Table 3 – Non parametric test: correlations

	Overall satisfaction	Office Hours (2.3)	Office accessibility (2.4)	Identifying the person in charge (2.5)	Telephone info (2.6)	Website easy to be found (2.7)	Web-site provides useful info (2.8)	Forms and website (2.9)	Forms online filling (2.10)	Employees info about procedures and forms (2.11)	Info on ongoing procedures (2.12)	Fulfillment (2.13)	Clear forms (2.14)	Employees provide prompt replies (2.15)
Pearson Corr	1	-0,031	-0,171	-0,102	,375(*)	-0,105	0,085	(a)	0,137	0,219	,330(*)	,544(**)	,420(**)	,471(**)
Sig.(2-tales)		0,82	0,251	0,448	0,029	0,66	0,764	.	0,795	0,12	0,022	0	0,003	0
N	60	58	47	58	34	20	15	10	6	52	48	56	48	57
Pearson Corr	-0,031	1	-0,128	,699(**)	0,007	-0,421	-0,018	(a)	0,389	0,03	-0,06	0,066	0,243	0,051
Sig.(2-tales)	0,82	0,391	0,391	0	0,967	0,064	0,949	.	0,447	0,834	0,69	0,634	0,1	0,708
N	58	58	47	58	33	20	15	10	6	52	47	55	47	56
Pearson Corr	-0,171	-0,128	1	0,168	-0,081	,815(**)	,645(*)	(a)	(a)	0,178	0,212	-0,107	0,085	0,148
Sig.(2-tales)	0,251	0,391	0,259	0,259	0,678	0	0,024	.	0	0,249	0,184	0,48	0,595	0,322
N	47	47	47	47	29	17	12	9	5	44	41	46	42	47
Pearson Corr	-0,102	,699(**)	0,168	1	0,174	-0,132	0,251	(a)	0,307	0,088	0,003	-0,062	0,143	0,083
Sig.(2-tales)	0,448	0	0,259	0,334	0,334	0,579	0,367	.	0,554	0,533	0,985	0,652	0,339	0,543
N	58	58	47	58	33	20	15	10	6	52	47	55	47	56
Pearson Corr	,375(*)	0,007	-0,081	0,174	1	0	0,139	(a)	0,423	-0,06	,732(**)	,413(*)	,550(**)	,497(**)
Sig.(2-tales)	0,029	0,967	0,678	0,334	0,334	1	0,635	.	0,478	0,74	0	0,017	0,001	0,003
N	34	33	29	33	34	18	14	8	5	33	30	33	32	34
Pearson Corr	-0,105	-0,421	,815(**)	-0,132	0	1	,704(**)	(a)	(a)	-0,059	-0,022	-0,149	-0,096	0

	Sig. (2-tales)	0,66	0,064	0	0,579	1	0,003	0	0,812	0,937	0,544	0,686	1
Website provides useful info (2.8)	N	20	20	17	20	18	20	20	15	10	6	19	20
	Pearson Corr	0,085	-0,018	,645(*)	0,251	0,139	,704(**)	1	(a)	-0,486	-0,019	-0,323	-0,175
	Sig. (2-tales)	0,764	0,949	0,024	0,367	0,635	0,003	0,329	0,435	0,95	0,241	0,533	0,356
Forms and website (2.9)	N	15	15	12	15	14	15	15	15	13	15	15	15
	Pearson Corr	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
	Sig. (2-tales)	.	.	.	.	.	.	.	.	.	.	.	.
Forms online filling (2.10)	N	10	10	9	10	8	10	10	7	10	5	9	10
	Pearson Corr	0,137	0,389	(a)	0,307	0,423	(a)	-0,486	(a)	-0,307	-0,556	0,389	0,799
	Sig. (2-tales)	0,795	0,447	0	0,554	0,478	0	0,329	0,554	0,444	0,447	0,057	0
Employees info about procedures and forms (2.11)	N	6	6	5	6	5	6	6	6	4	6	6	6
	Pearson Corr	0,219	0,03	0,178	0,088	-0,06	-0,059	-0,218	(a)	-0,307	,353(*)	0,171	,328(*)
	Sig. (2-tales)	0,12	0,834	0,249	0,533	0,74	0,812	0,435	0,003	0,011	0,261	0,018	
Info on ongoing requests (2.12)	N	52	52	44	52	33	19	15	15	9	6	51	45
	Pearson Corr	,330(*)	-0,06	0,212	0,003	,732(**)	-0,022	-0,019	(a)	-0,556	,427(**)	1	,334(*)
	Sig. (2-tales)	0,022	0,69	0,184	0,985	0	0,937	0,95	0,003	0,02	0,001	0,001	0
Fulfillment (2.13)	N	48	47	41	47	30	16	13	45	48	48	44	48
	Pearson Corr	,544(**)	0,066	-0,107	-0,062	,413(*)	-0,149	-0,323	,353(*)	,334(*)	1	0,264	,432(**)
	Sig. (2-tales)	0	0,634	0,48	0,652	0,017	0,544	0,241	0,011	0,02	0,073	0,001	
forms understandability (2.14)	N	56	55	46	55	33	19	15	15	9	6	56	47
	Pearson Corr	,420(**)	0,243	0,085	0,143	,550(**)	-0,096	-0,175	(a)	0,799	,492(**)	0,264	1
	Sig. (2-tales)	0,003	0,1	0,595	0,339	0,001	0,686	0,533	0,001	0,001	0,073	0,001	
	N	48	47	42	47	32	20	15	10	6	44	47	48

employees responsiveness in the short run (2.15)	Pearson Corr	,471(**)	0,051	0,148	0,083	,497(**)	0	0,257	,328(*)	,617(**)	,432(**)	,457(**)	1
	Sig. (2-tails)	0	0,708	0,322	0,543	0,003	1	0,356	0,018	0	0,001	0,001	
	N	57	56	47	56	34	20	15	52	48	56	48	57

* significant correlation at 0,05 (2-tails).

** significant correlation is at 0,01 (2-tails).

a correlation N.A. (at least one of the variable is K)

Table 4 – SUAPs ranking by service features

	City	N	Mean rank
Office Hours (2.3)	Suap 1	17	16,47
	Suap 2	20	39,75
	Suap 3	21	30,29
	Total	58	
Identifying the person in charge (2.5)	Suap 1	17	23,59
	Suap 2	20	36,35
	Suap 3	21	27,76
	Total	58	
Telephone info (2.6)	Suap 1	11	20,36
	Suap 2	7	22,71
	Suap 3	16	13,25
	Total	34	
Website easy to be found (2.7)	Suap 1	10	13,55
	Suap 2	2	7,75
	Suap 3	8	7,38
	Total	20	
Employees info about procedures and forms (2.11)	Suap 1	15	25,67
	Suap 2	16	35,25
	Suap 3	21	20,43
	Total	52	
Info on ongoing procedures (2.12)	Suap 1	15	26,93
	Suap 2	12	34,58
	Suap 3	21	17,00
	Total	48	
Forms understandability (2.14)	Suap 1	17	22,56
	Suap 2	10	38,60
	Suap 3	21	19,36
	Total	48	
Employees provide prompt replies (2.15)	Suap 1	18	27,81
	Suap 2	18	32,44
	Suap 3	21	27,07
	Total	57	

Test (a, b)

	Office Hours (2.3)	Identifying the person in charge (2.5)	Telephone info (2.6)	Website easy to be found (2.7)	Employee info about procedures and forms (2.11)	Info on ongoing requests (2.12)	Forms understandability (2.14)
Chi-square test	23,899	12,055	7,773	7,164	12,144	17,107	15,652
Df	2	2	2	2	2	2	2
Sig. Asint.	,000	,002	,021	,028	,002	,000	,000
Exact Significant	,000	,001	,014	,019	,001	,000	,000

a Kruskal Wallis Test

b Grouping variable: City

Table 5 - Adoption of online administrative procedures

			Forms online filling	The SUAP helps reducing time
Tau_b di Kendall	Possibility to fill in the forms online	Correlation	1,000	,382(**)
		Sig. (2-tales)	.	,005
		N	60	49
	The SUAP helps to reduce time	Correlation	,382(**)	1,000
		Sig. (2-tales)	,005	.
		N	49	49
Rho di Spearman	Possibility to fill in the forms online	Correlation	1,000	,408(**)
		Sig. (2-tales)	.	,004
		N	60	49
	The SUAP helps to reduce time	Correlation	,408(**)	1,000
		Sig. (2-tales)	,004	.
		N	49	49

** correlation is significant at 0,01 (2-code).

Table 6 – SUAPs ranking by perceived ability to contribute to reduce entrepreneurial process time

	City	N	Mean Rank
The SUAP helps in reducing time	Suap 1	13	16,15
	Suap 2	15	32,90
	Suap 3	21	24,83
	Totale	49	

	The SUAP helps in reducing time
Chi-square test	11,291
Df	2
Sig. Asint.	,004
Exact Significant	,003

Table 7 – Interorganizational cooperation agreements and performance

			Agreements with other local public	Employee response time (2.15)
Tau_b di Kendall	Agreements with other local public	Correlation	1,000	,140
		Sig. (2-tales)	.	,274
		N	60	59
	Employee response time (2.15)	Correlation	,140	1,000
		Sig. (2-tales)	,274	.
		N	59	59
Rho di Spearman	Agreements with other local public	Correlation	1,000	,144
		Sig. (2-tales)	.	,278
		N	60	59
	Employee response time (2.15)	Correlation	,144	1,000
		Sig. (2-tales)	,278	.
		N	59	59

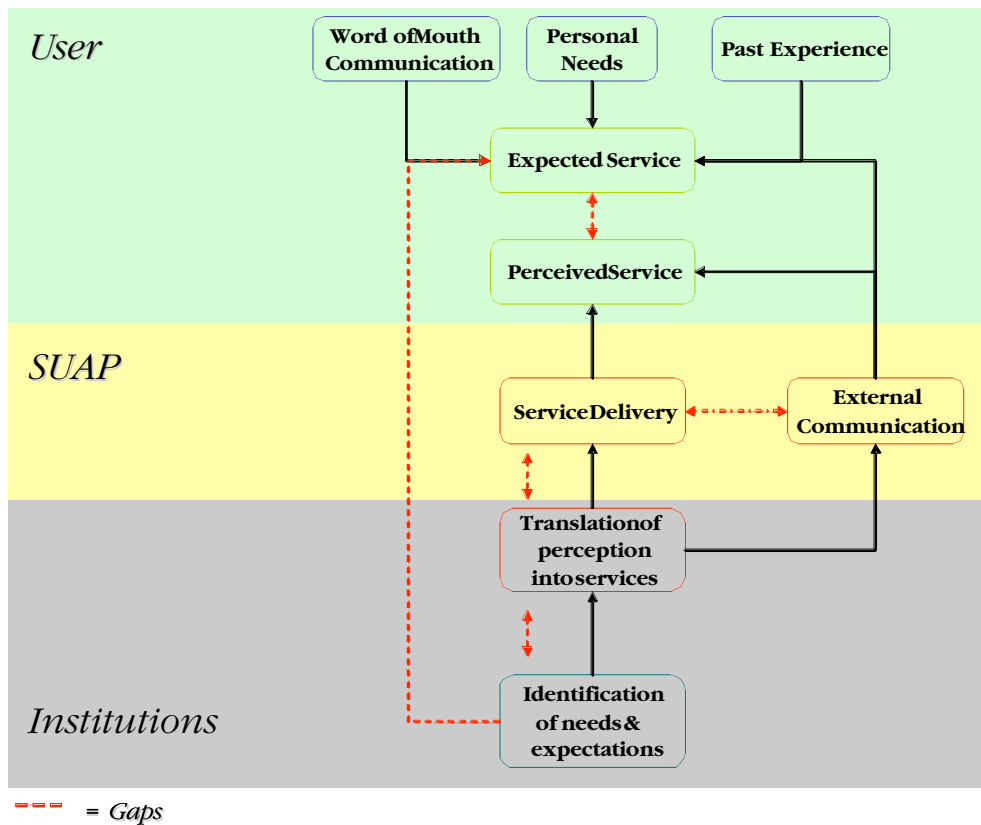


Figure 1 – A framework for measuring SUAPs service quality and effectiveness (our adaptation from Parasuraman et al. 1985: 44)

PUBLIC E-PROCUREMENT SERVICE IN SERBIA

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1. E-government

Informational communication technologies, Internet especially, caused a big change, maybe even a revolution in peoples every day lives, work activities and conducting of business in companies. Today, large amount of transaction can be done online. Some of them are paying taxes, changing your address of residence or automotive registration. For these transactions to be conducted it is necessary to connect the government with citizen, businesses or some other social entities by use of Internet. E-government, electronic government or online government presents a concept whose purpose is to allow access to governmental institutions through Internet. There are different definitions of E-government. It can be defined as use of technologies in order to improve access to and delivery of government services for citizen, business and employees wellbeing. It presents the use of Internet technologies as a platform for exchange of information, providing of services as well as transactions for citizen, businesses and other users. According to Institute for Software Technology at UN University E-government is the use of informational-communication technologies by public government in providing the information and services to citizen, businesses and other social entities. E-government is focused on citizen, business community, government employees and other governments.

Another definition states that the term E-government, in a wider sense, is aimed at simplifying the informational, communication process as well as performing transaction between government institution, citizen and businesses.

Informational process is defined as one-way gathering of information. Communication, on the other side, represents a two-way information exchange. Transaction is a transfer of objects or right among two entities in communication process.

E-government consists of E-Administration, E-Democracy and E-Justice. "E" stands for electronic. E-Administration is actually E-government in a nutshell since is mainly focused on simplifying the administration process. E-Democracy could for example be electronic electoral voting by SMS or Internet service with no need to visit the voting post. E-Justice represents a conduct of jurisdictional process via electronic communication. Instead of writing a complaint and sending it in paper form, you can send it by e-mail or submit it by use of court's web portal. Court's web portal represents an interface for communication with public. Communication in that process is mostly done electronically.

Some advantages for E-government use are:

- Simplifying a process of service providing to citizen
- Eliminating management levels in government
- Downsizing of costs

- Broadening the number of services that government can provide
- Makes information and services easily accessible to citizen, businesses and government agencies.

Basic interaction models within e-Government are:

- *Government-to-Citizen* or *Government-to-Customer* (G2C),
- *Government-to-Business* (G2B),
- *Government-to-Government* (G2G) and
- *Government-to-Employees* (G2E).

Inside each of these models four activities are executed:

- sending information via Internet,
- two-way communication between agency and citizens, companies or other government agencies,
- transactions processing and
- management system

Government-to-Business (G2B) model include different forms of non-commercial interactions between government and business sector. As defined by UN University – International institute for software technologies, services enabled with this model are: new company registration, payment for social insurance of employers, taxes, VAT, custom declarations, eco permissions, public procurement and other services. Public procurement, as one of the eight of most important G2B services. E-procurement is a B2B buying or selling goods and services over the Internet. E-procurement utilizes electronic tools and methods in every phase of the procurement process. Public E-procurement covers all phases from initial announcement to final settlement and payment.

E-procurement should enable functionalities listed below:

- e-Announcement
- e-Tender
- e-Conclusion
- e-Auction
- e-Catalog and e-Ordering
- e-Invoice and e-Payment

In the document *"The Role of eGovernment for Europe's future"* (2003), by European parliament, public procurement are entitled as area where application of Information and Communication technologies will be very productive. It also states that old-fashion procurement methods are complex, time consuming and resource intense. Information and communication technologies will provide improvement of efficiency, quality and total value in public procurement. One of the major barriers to introduce electronic public procurement is poor law regulation of this area. Without law regulation it is not possible to create electronic public procurement system.

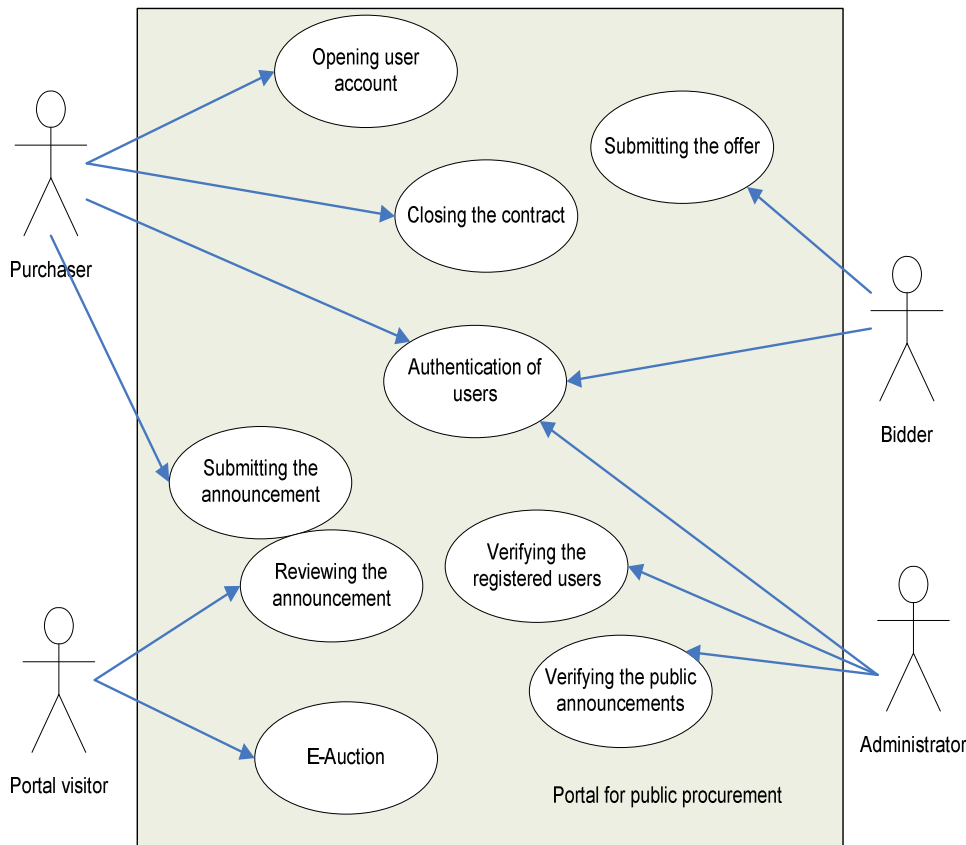
2. STAKEHOLDERS OF E-PROCUREMENT PORTAL

Stakeholders identified in public procurement process [1], according to our country procurement law are:

1. **Ordering party (The Purchaser)** – user which put announcement about public procurement to web portal (system user). All purchasers have same permissions. Role of the purchasers in system could be exploited only after successful login to the system. While performing login, system check out which role user belong to and set adequate user privileges on the portal. Purchaser can perform predefined set of tasks, such as: public procurement setup, procurement documents upload.
2. **Portal visitor** – user which visit portal in order to inform himself about active public procurements. Role of the visitor represent basic role on the portal. Every portal user has this role.
3. **Offering party (The Bidder)** – domestic or foreign company or person, or syndicate of more companies or persons, which offer delivery of goods or services. Role of the offerer become active only after successful login to the system. While performing login, system check out which role user belong to and set adequate user privileges on the portal. Bidder can perform predefined set of tasks, such as: setup offer, add offer documents. *Notice:* Offering party role, as an integrated part of electronic procurement system, should be supported by law, technical and organizational conditions.
4. **Administrator** – a person who determines the validity of temporarily placed open competition offers and registered users. The role of the administrator in the system starts only after the successful logging to the system. The system checks which role belongs to entered user name and the password, and based on this, it opens privileges for access to certain parts of the portal. The administrator has the right to perform the verification of users, as well as verification of purchase itself. Also, it could have access to parties for survey of open competitions, but in that case, its role is being observed as a role of portal visitor.

3. USE CASES

On Picture 1, we can see the system boarders with cases of the highest level usage, as well as participants in the process of e-Procurement [2,3]. The case of using E-auction is suggested as a system option if this is the way to carry out one part of giving offers to ads concerning such open competitions.



Picture1. Model of use cases

Use cases [4] on the highest level are as follows: opening user accounts, change of user accounts, authentication of users, submitting the Announcement, updating the Announcement, closing the contract on public e-procurement, reviewing the Announcement, verification of registered users, verification of submitted Announcements, submitting the offer and attaching the document.

As for opening the user account as an initial action, the owner opens the page for creating new user accounts, and then enters all the relevant user data, chooses user name and sends a request to the system to open new account.

If it is necessary to change some data, the purchaser opens the page for user account update, carries out the change of user data, and then sends the request to the system to update the user account. While logging to the system, the authentication of all entities is necessary. User name and the password are entered, and the request is being sent to the system to carry out the authentication of the account.

The key concept of such web portal is submitting of the Announcement. The purchaser opens the page for submitting the Announcement, and enters all relevant data for wanted Announcement. He sends a request to the system to put into storage this open competition. Of course, sometimes there might be a need to update the Announcement, and then he chooses the Announcement he wants to update. The purchaser enters relevant data for wanted Announcement, and sends a request to the system to put into storage a new version of Announcement. All present Announcement could be reviewed in such way that the visitor chooses search criteria, and then the system lists the search results.

Of course, once the Announcement is entered to the web portal, the bidder can place his own offer for selected purchase. The bidder chooses whether he will enter the offer for the whole purchase, or only for certain items. The system, depending of the type of public e-procurement procedure, enters adequate offer status. He informs the purchaser of this offer via e-mail system. The system informs the bidder of successfully entered offer.

The option for attaching the adequate document for selected Announcement is also predicted. After the selection of Announcement, the user enters the name of the document and the following description, after which he chooses the document he wishes to place. He sends a request to the system to put the document into storage, and in return, the system informs the user of successful document storing.

Under the functionality of this portal, there comes the verification of registered users and verification of placed Announcement. The administrator surveys data and decides on validation not only of users, but of open competitions as well.

The final goal is closing the contract for public e-procurement, where the purchaser chooses his previously selected Announcement, or certain items of this Announcement (depending of whether the contract is being closed in accordance with items of Announcement, or the whole of Announcement). After that, he chooses the offer which is given for items or the whole Announcement, and enters the text of this contract (or he enters the scanned copy of the contract). Then, the request is send to the system to put the contract into storage, and close the items, or the whole Announcement.

We proposed something, not supported by our Law, and that is using of digital signature [5] on all portal documents. Step further is implementation of PKI system – Public key infrastructure [6]. This authomatically implies using PKI authority. This authority is responsible for digital certificates publishing. These certificates will be responsible for document integrity preservation and users authentication..

4. EXAMPLE OF USE CASE – PUBLIC PROCUREMENT ANNOUNCEMENT SUBMITTING

One of the use cases mentioned earlier is „Public procurement Announcement submitting“. In this paragraf we will present basic and alternate scenario, sequence diagram and screen shot proposal.

Basic scenario:

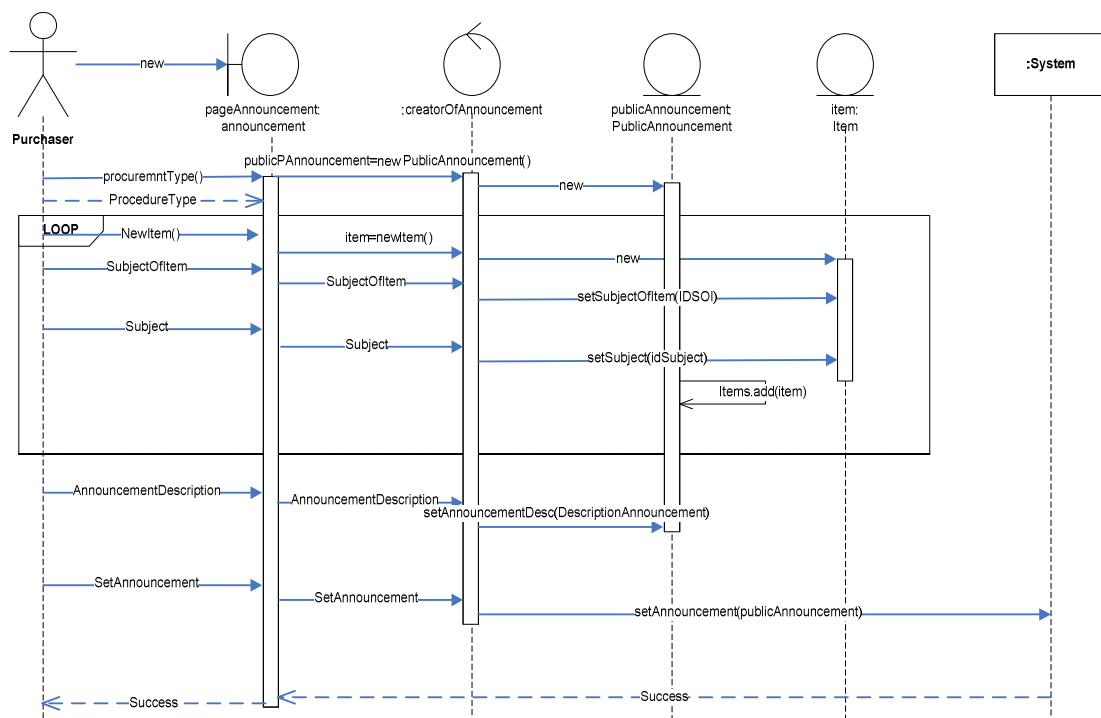
1. Buyer selects type of public procurement (small or large)
2. Buyer selects type of public procurement procedure, predefined by Serbian Law which is offered as a predefined set of options.
3. Buyer opens new item (if public procurement is structured by items)
4. Buyer selects type of procurement object for that item.
5. Buyer selects item object.
6. Buyer enters item description text. (steps 3, 4, 5 are repeating until the end of the item entering)
7. Buyer enters text of the notice in predefined form, structured in details.
8. Buyer sends request to keep record about public procurement to the system.
9. System records public procurement, change waiting status to validation and sends notification to buyer about successful submitting of public Announcement.

Alternate scenario:

*in any time server is not available.

Ensure that using transactions, events could be resumed at every step of basic scenario.

1. Purchaser again visits page for public procurement announcement.
2. Procedure for public procurement announcement is again repeated.
- 3a. Buyer doesn't want public procurement structured by items. Buyer enters descriptive text about procurement and proceeds to step 6.
- 3b. System doesn't succeed in opening new item. A system sends notification to purchaser about unsuccessful action.
- 4-6(b). Data selection is not in accordance with predefined set of data. Disable purchaser to enter anything except predefined values. Using data validation or combo boxes or combination validation with *ajax autocomplete* control is taken in consideration.
- 8a.(optional) If there are obvious law, organizational and technical conditions, it could be implemented document digital signature by using some standard digital signature system.
- 8b. Some data are not validly entered in predefined form. System sends notification to the purchaser and sends them a message to enter data again.



Picture 2. Sequence diagram

Picture 3. Picture of the form

5. CONCLUSION

Inevitably rapid development of information technologies, affected rapid actions from public administration in the field of e-procurement.

In nearby time, Serbian public administration will release web portal for public procurement. Application presented in this paper is in accordance with our country law. This in no means excludes changings, and application of better and contemporary techniques. By this we mean new techniques in document security, and in personal identity detection. This is not a leap forward, but move in to the future, toward concept of electronic government.

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THE STRATEGIC ROLE OF SUSTAINABILITY REPORT FOR THE MUNICIPAL MULTI-SERVICES ENTERPRISES

Vittorio Vaccari^{*}, Antonella Valvassori^{**}

1. INTRODUCTION

The awareness from consumers / customers / users, to have rights as people using services, along with a size of the market increasingly enlarged, leading companies that provide products and services, to take an interest in approval of more users, improving the parameters for measuring and sometimes introducing new ones, to better monitor the level of public-social consensus (the consensus of the community). Customer satisfaction has always been considered important, it becomes, in business today, purely market-oriented, fundamental value and level determines strategies that the company puts in place in its strategic planning.

For this purpose the ISO 9000 (Management Systems for Quality) and 9001:2000 (definition of the requirements of quality systems), together with the ISO 14000 (Environmental Management Systems), and the SA 8000 (respect for human and workers rights, against the exploitation of child labour, for the safety conditions at work), are well placed to play the role of business benchmarks.

The eight founding principles of ISO 9000 (customer orientation, leadership, involvement of staff, approach to processes, systems approach to management, continual improvement, decisions based on facts, relations of mutual benefit with suppliers) include the interest for the approval of the customer, as well as the continual improvement of social and business performance; moreover, the ISO 14000 standards are based on the mechanism PDCA. It is therefore, in both the rules, a dynamic, continuously monitored and improved, correct, updated system.

2. QUALITY

The quality is the ability to meet expectations, needs and demands of the market and the customer. The concept of quality has changed over time, both the evolution of production systems and size of markets, leading to the system for the Total Quality Management, based on the three dimensions that characterize the quality:

- cultural dimension: changing cultural patterns imply the consequent change in the concept of quality,
- strategic dimension: interpersonal relations in the company are changed in relation to target quality,
- operational dimension: quality policy becomes application, by registered modalities and international experience already tested.

The circle of quality well illustrates the mechanism of the goodness of the production process of service provided, in which the rotation of variables completes the mechanism, because, starting from the orders of customers (consumer sovereignty), we see that the entire production process unfolds in relation to it, providing the consumer, once sold the product, installation, care and

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maintenance, for monitoring his approval requests through market research, having even care to know the fate of the product itself, when he reaches the end of its life cycle.

Models are suggested for assessing the quality of type-based agent, which is compiled in relation to the behaviour of the person who carries out an action (agent) in the collective vision.

If the customer satisfaction is the focal point of phase C in PDCA (*Plan, Do, Check, Act*, Kano 1993), as an instrument of corporate governance today, especially for certain industries, the stakeholders' satisfaction becomes crucial for corporate governance, because it displays full relations between the company and human resources that interact with it. It becomes important to be able to better measure in an objective, comprehensive, fast. The stakeholders' satisfaction seen not only as a goal, but rather as an input to reset the company-system, identifying it as a resource and source of mutual benefits.¹

In this perspective of corporate governance, the involvement of third parties, users in a broad sense, becomes a corporate resource and communication of information and sensitive data is the hearth of this new point of view.

The issue relates to the operational aspect about a public reporting of corporate data, welcomed by the community.

The model of Maslow, about the needs of the individual, helps to understand the needs of individual and those of all.

In this model needs are classified into five categories:

- Primary: they meet biological and physiological needs,
- Of security: they satisfy the desire of protection and peace
- Of belonging: they fulfil the need to be part of a group
- Of estimation: the need to have a positive image of himself
- Of self: the self-realization, as an expression of its capacity

The hierarchical nature-preliminary sequence of values is known (not passing the next level of values, without first having met the previous) but today we have an enlargement of the components of each strip and, thanks to the characteristics of dynamic model, it adapts to new market characteristics which analyses.

We are interested to note how it has enriched the step on safety, which no longer involves only individual interests, relating to the sole legal guardian or interpersonal relationships, but is expanding, considering the environmental factor, in the sense of ecosystem and therefore the perspectives pollution, sustainable development, human effects on the ecosystem.

People become sensitive to issues of collective interest, because they realise that only information and knowledge can, if not resolve, at least monitor a problem of one and all.

3. THE SUSTAINABILITY REPORT

The instrument that can best illustrate the issues, choices and business addresses, is the Sustainability Report, as an instrument required (although not yet obliged), to show the work of company to the community and be a launching pad to a virtuous circle that draws life from it and becomes a target himself.

The Sustainability Report as a tool that gives a comprehensive view of business, since looks at social and environmental issues in the vision of a future sustainability. In this way the company puts the "showcase" of herself on the market, showcase understood as transparent and truthful representation of business reality and it shows:

- Activities that place and manner of implementation;
- Resources used and relative productive techniques;
- The value added formed and distributed during the same management;

¹ Valutare la qualità – Carpita Et Al - 2006

- The policies of social responsibility applied and updated;
- The corporate-systems approach of continuous improvement.

The Sustainability Report generated by the setting of corporate responsibility, is now entered in the current management policies, seen as a reference model ex-ante, compared with the end result of an business operational reality that can improve thanks to it.

The European Commission defines CSR as: "The integration on a voluntary basis by enterprises, about social and environmental concerns in their commercial operations and relations with stakeholders." "Social and ecological concerns" means a wide range of topics related to the environment in its broadest sense: interpersonal relations of dialogue-confrontation, discrimination of gender and nation, rights-duties of individuals. We will review two cases, which remain anonymous, in order to better see the potential of this document.

4. CASE STUDY 1 - ALFA S.p.A Group

It is one of the most important Italian profit multi-services company that operates in more than 200 municipalities in central Italy. It has the form of group, so there is a consolidated budget, to which reference was made in preparing the Sustainability Report.

Alfa operates in the following sectors:

- Energy (sale and distribution of gas, electricity, heating),
- Water (manages the entire integrated water service),
- Environmental /urban sanitation: manages the cycle integrated waste, collection, recovery, treatment, disposal).²

The group is newly established and is well rooted in the territory; joining the Global Compact, has also helped to make operational principles of sharing national inherent working conditions and safety, and to make economic management more efficient, without losing sight of the environmental problem and international standards for human rights. The Sustainability Report was presented simultaneously with the Annual Budget , to better represent not an "attachment", but the result of a new policy of governance, has become business strategy.

For the drafting of Sustainability Report the company have followed the guidelines of:

- GBS, to set the principles for drafting
- GRI, to evaluate the socio-economic-environmental
- AA1000, with regard to reporting.

The quality management system is certified ISO 9001:2000 and verifying compliance of Sustainability Report was carried out by an external company that has assigned the level A +, the highest step in the scale of assessment.

Presenting the company is important and essential to disclose who reads the document, the strengths of the company, such as the balance of offered services, the roots in the territory, the type of shareholders: for a profit they are the first that accountability.

Alfa born from the union of 11 companies of local public services, following is privatized for 44.5%. His current numbers are:

Customers gas	(thousands)		1.018,7
Gas sold	(million	m3)	2.414,2
Customers water	(thousands)		1.015,0
Water sold	(million	m3)	241.1
Customers electricity	(thousands)		273.2
Electricity sold	(GWh)		4.334,7
Waste treated	(kt)		4.398,3
Workers without a time limit to 31/12	(n)		6,114

² Project Report, 2007

The mission is below:

"ALFA wants to be the best Italian multi-services for its customers, employees and shareholders, through the further development of an original business model capable of innovation and strong territorial roots, respecting the environment.

"The best" understood within the meaning of being a source of pride and trust for customers, employees, shareholders, the territory, suppliers.

The characterizing Values are:

- Integrity,
- Transparency,
- Personal responsibility,
- Consistency;

in addition, operating Principles:

- Value creation, social and environmental responsibility,
- Quality and excellence of service,
- Efficiency,
- Innovation and continuous improvement,
- Involvement and enhancement
- Will to choose.

On CSR (Corporate Social Responsibility), within ALFA, was created a working group coordinated, in which workers are also components of a focus group and thanks to the administration of questionnaires, they could hear their demands hearing concerning a greater sensitivity about the environmental protection and the belonging to the territory, for Values is given top priority consistency, for the Principles is still important environmental protection, which follows the professional enhancement.

The company has an updated Code of Ethics, which is also worded in such a way participatory by all levels of business, which serves as a basis for Sustainability Report. It 'also present an Ethics Committee, the decision outsourcing of the document, checking compliance with the Code, and any proceedings in case of violations.

The Sustainability Report is part of strategic planning, planned for the period of four years and is aimed at: the increase of renewable sources, in the multistakeholder perspective, the capacity to adapt in response to the enterprise system.

The methodology balanced scorecard (economic target can be reached only after fulfilment of the objectives of quality corporate strategic-social) followed by the company, aimed at achieving balanced objectives for the management, has identified four sensitive areas where the projects are to be implemented:

- Development (software, equipment, raw materials, trade and tariffs)
- Quality and corporate social responsibility (improving quality, environmental impacts and image; involvement of staff, external dialogue)
- Organizational integration (software)
- Efficiency and rationalization.

It should be noted that half of the variable wages of leadership class, depends on the application of such projects, while the other half from the economically budget. In this years, these projects have brought the pay of managers for 15%.

The strategic objectives more sensitive to sustainability have been developed in the following areas:

- **Reduce environmental impacts**
 - triple the production of energy from renewable sources by 2010
 - reduce the use of landfills reaching 15% in 2010
 - increasing the collection reached 50% in 2010

- reduce CO2 emissions by ¼ the limits of law
- **Increase quality and reliability**
 - services provided must meet the customer, is about the standards of a qualitative nature, both the timing of intervention and awaiting the call center.
- **Involvement with stakeholders**
 - to increase the interplay and dialogue with stakeholders
- **Communication and involvement of employees**
 - to increase the interplay with the workers, for a better "business climate"
- **Professional development and enhancement**
 - training courses for workers concerning technological innovations and business strategies
- **The Code of Ethics**
 - must be a reference point for all workers
- **Sense of belonging and corporate culture**
 - specific training courses
- **Technological innovation and process**
 - in order to increase efficiency.

With CSR, indicators of corporate performance, not only cut across economic aspects of traditional, such as ROI, Leverage, VA, ROL, but they are flanked parameters of social and environmental.

Those social concerns for example, the percentages of injuries, the average time waiting door, scores of customer's satisfaction and goodness of the level of internal business climate (0 to 100). In the field of environmental, the percentages data are about the losses in the water network, separate collection, MSW(municipal solid waste) and their disposal in landfills, energy produced from renewable sources, CO2 emissions in compliance with the Kyoto Protocol (emissions made / emissions allowed).

With continuous improvement in quality, the company has begun the process of certification for security, in accordance with standard OHSAS 18001, which will end later this year. It is also concluding the project EMAS, which by 2010 will cover 32 sites of the company.

4.1 The stakeholders

It is important to define the key interlocutors of the company, which give an account, and they are:

- Workers and union representation:
- Customers, consumer associations and category associations
- Shareholders and investors
- Donors
- Suppliers
- PA, which local authorities of different levels, administrations, universities
- Local communities as associations, committees, media
- Environmental associations.

4.2 Workers

Many investigations were carried out with interviews asking them to motivational aspects of internal satisfaction and corporate image. They were introduced Improvement Groups, so that workers collaborate together to identify activities that have problems and can solve its problems. The number of workers is an average of 6,700, of which 93% for an indefinite period. In this year, 173 of them have received the task to explain the content of the Code of Ethics colleagues. Very sensitive in this area is the index of frequency of accidents (number of accidents divided by the million hours worked), decreased from 47.5 to 42.4.

As regards the security services, note that the average duration of interruptions in deliveries has fallen in three years by 64%, with a time of 11.28 minutes. It was also activated a security plan, which has promoted the strengthening of emergency:

- Increasing the number of means,
- The length of service 24 hours on 24,
- The number of specialists increased from 32 to 48 (+ 50%),
- A Training Course extraordinary dedicated staff.

4.3 Customers

There are various types of contact with them: call centers, branches, web, mail.

Whether for residential customers, both for business customers, have conducted interviews and talks to refine the techniques of investigative services and the image of ALFA: certificates have high levels, roughly in the range between 60 and 70 out of 100, and where the level are decreases, due to real system malfunction, the company has proceeded immediately to remedy the disadvantages of the case (mechanism of continuous improvement, after hearing news of criticality).

ALFA, also the first to design new services or optimize existing ones, look for "dialogue" with families-users to verify his approval: respondents were sensitive to issues relating to energy saving, in the broadest sense, but also in relation to the rates applicable to them, as well as environmental protection.

4.4 Shareholders

Shareholders are about 25,000, and for their better information, was made available on-line Budget for the year, the same day the approval. The ethical investors are increasing and this led to the introduction of the actions ALFA among the best ethical indicators at European level.

The title is listed among the Blue Chip in the MTA (telematics market share). A share of 58.2% is in possession of more than 180 municipalities of Region and the largest shareholder is the Municipality of Region capital. Investors professionals have a 32.4% of the capital and international operators for 16.5% of the same.

The company has a form of corporate governance based on the transparency of strategic choices and on the total information, to allow investors to be updated on business decisions. Shareholders participate in assemblies for 60% of the capital. A dividend of 8 cents euro was distributed in the last two years. The title is present in the Dow Jones Stoxx TMI, TMI Utilities, in the MSCI Smal Cap and this year, also in the Dow Jones Stoxx 600.

4.5 Suppliers

The company has given priority to contracts that improve relations with the social cooperatives in the territory and enter parameters of sustainability in supplies.

The number of suppliers is around 6,000 and 68% of the value of supplies is ISO 9001, 28% (SOA certification to public works), 18% ISO 14001 environmental certification EMAS, 5% OHSAS 18001 (Safety work). Suppliers are aware of the Code of Ethics and shall be required to observe the rules contained therein.

4.6 The local Community

This is just under 3 ml of citizens.

In order to avoid discontent of the population around the waste disposal facilities, or those related to the production of electricity and to improve communication, the company has accounted for the RAB (Residential Advisory Board), what form of consultation between community and company.

These bodies include:

- Meetings open to the public, with the participation of specialists
- The renewal of the website with suggestions and comments from the community
- Dissemination maximum of
- The free entry to coincenerator able to view,
- A meeting at least once a month.

In order to involve more and more territory, ALFA has contacts with 550 schools in the territory of any level, representing about 48,000 students, involved in educational workshops organized by ALFA itself, and in projects concerning the environment, waste collection, alternative energies, distribution of lamps low consumption, attendance at Ecomondo, the international fair for the recovery and sustainable development. Sponsorship cultural events on the territory, complete with reports of the local community.

The Sustainability Report was made public during an event open to our stakeholders, who had the opportunity to interact with the summits.

Representatives of associations, have praised the graphics document, capable of a quick reading, however, not hiding criticism on the length and the presence of technical terms sometimes unclear in the document.

4.7 The environment and the future generations

Save water and energy, environmental certification of waste disposal facilities, publications annual Environmental Explanations, are sensitive issues for the environment and society. In 2007 the percentage of collection came to 38.4% from 30.9% in 2005 and from 33.5% in 2006.

They carried out analysis on mobility home-working employees and are expected recovery plans energy collection and simultaneous decrease in landfills, are being studied techniques reuse water collected by sanitation and properly purified, and the use of minimum subsidence (kneeling vertical movement of the earth's surface due to the use of groundwater).

The innovations introduced in the last year, about renewables, were:

- New cogeneration plant by biogas using sludge from one of the purifiers, to produce electricity and heat, with a production that is estimated for the future of 6.000 MWh year, located in a city with nearly 400,000 inhabitants,
- Renewal of a cogeneration plant already exists
- Expansion of an existing coincenerator,
- Photovoltaic system from 200kW
- Regeneration group (electricity, heat, cooling).

The thermal energy produced in total for more than half produced by traditional sources (fossil, oil) to 21% from renewable sources and for the same percentage, from sources similar to renewables.

Thermal power stations have produced energy for 267,794 MWh, 96,678 MWh from cogeneration, 57,261 from geothermal, 40,493 from coincenerator.

The production of "white certificates" was 52,895 tep, doubled over the previous , while the objective of ALFA was to reach 27,465 tep and, to this end, he redesigned the energy planning group, in particular;

- Heating with energy cogeneration, geothermal, and thermo waste
- Heat production from biomass
- Greater efficiency in air-conditioning systems, street lighting and electric motors.

4.8 The Added Value

The VA distributed to the various stakeholders is:

- 37.7% to workers
- 12.1% to shareholders
- 16.3% to PA

- 23.8% to the same company
- 9.9% to lenders-banks
- 0.2% to the local community, in the form of donations and sponsorship.

Financial contributions are obtained arising from collection.

4.9 The Donors

Reports are with only 25 banks and the EIB (European Investment Bank) has the higher share, equivalent to 20%. The cost of money is paid by 4.3%, lower than the market and, thanks to this low level, the company was able to carry out the planned investments.

4.10 The Public Administration

In the region where the company operates, there are 8 agencies ATO (territorial optimal scope) with which it interacts ALFA, even so, through comparisons, opinions and reports on policies services to be applied in the territory. The themes of these policies have focused on new charges, also differentiated for clients of band protected, and contributions for energy efficiency. Do not forget that shareholders of ALFA are the municipalities to which it delivers services, and they are the hinge between the company and the territory, so relationships are close, frequent and operational.

The activities to which the ATO is responsible are:

- Investment planning
- Regulation of relations with the managers of services
- Monitoring services
- Ensuring continuity of services to users.

It is clear that operate so closely, ALFA policies must take into account the choices of the Agency for a better applied synergy.

4.11 Research Projects

Technological innovation to safeguard the environment is the main objective of the research plans of ALFA and is concretized in projects concerning:

- use of CO₂ emitted during the burning and its use in anaerobic digestion of sewage sludge with
 - a consequent decrease in the amount of sludge produced,
- techniques for the detection and elimination, in drinking water, contaminants resulting drug residues of human or animal metabolism,
- the elimination of nitrogen oxides and dioxins, through catalysts,
- to improve the quality of sewage sludge,
- to control of air and water,
- determination and energy efficiency improvement of water systems,
- energy produced by fuel cells running on hydrogen or methane.

5. EVENT BETA SpA

The second situation we will examine concerns a company smaller of the previous, wholly public, need a town of just over 70,000 inhabitants, most other municipalities small, of which manages:

- The complete water cycle (from drinking water to purification of sewerage water),
- Mobility town (bus)
- Services Environmental Health (waste collection and street sweeping, not disposal, because the company did not own facilities),
- The two community pharmacies,
- The service of green public and private

- Management stops
- Assistance to facilities services
- Production of energy from renewable sources
- Management of oil installations
- Distribution of natural gas.³

Since 2003 the sale of methane gas, separated by law from marketing, is made by a SpA formed by a group of former municipal Region, which is also part BETA.

The company policy is set in the following points:

- Optimizing of resource use and environmental pollution prevention
- Compliance with the Community rules
- Improving the effectiveness of System Management
- Notice to customers of company policy.

The Sustainability Report of BETA born from motives in Local Agenda 21, which joins the municipality referred to, taking into account the theme of sustainable development for each service offered. Furthermore, in this municipality there is a forum for the application of the principles of Agenda 21, implemented through the interaction between stakeholders in the community, individuals and institutions such as universities.

Precisely for this reason, subjects which have attracted the greatest interest of society, they are on energy and in particular:

- The dissemination of photovoltaic panels and solar thermal
- Processing of thermal power from diesel to natural gas
- Management heat
- Promotion of energy saving.

In regarded began work a facility for microgeneration, can replace the main facility in the event of failure. This is a microturbine from 60 Kw electrical that can give 115 kW thermal up to 90 degrees centigrade and an absorber which produces, using hot water produced by the turbine to 7 degrees for 70 Kw heat. It 'a new technology that can also become a saleable product for the design.

The biogas produced by purification was for 45% used for cogeneration, 12% ends in flares, the rest is used for boilers. Photovoltaic panels and solar panels were placed in the headquarters for the autonomy of heating and services.

Even the techniques of hydrogen power are being studied of the company, both for fuel, which for telephony, both for remote business.

Through a subsidiary, BETA also has a telecommunications activities in order to wire the city with a optic fiber network, which for now is only 42 km addition.

The system-company is certified according to ISO 9001, followed by the environmental certification ISO 14000.

The mission corporate concerns especially the public health and the environment.

The objectives of this Sustainability Report are:

- Environmental Health
- Reduction of pollution
- Recycling waste material
- Use of means of high ecological compatibility
- Feasibility plan for the transition from the levy at the rate ecological
- Involvement of social cooperatives.

³ Project Report, 2004

5.1 Gas distribution

Have been enhanced on-line checks on distribution facilities in order to limit the supply problems that may arise and minimize repair times. It was SRL, a wholly owned subsidiary of BETA, for the maintenance and assistance. It has strengthened the prevention activities in order to limit the number of emergency measures, that in five years fell by 23%.

5.2 Hygiene environmental

This deals with 36 municipalities, with a user population of 134,000 people and total waste collected are more than 71,000 tonnes, with separate collection for municipal waste, plastic, glass, paper. It 'also present un' "Isola Ecologica" of 13,000 square meters, located in the first outskirts of provincial capital, which represents a sort of controlled area available to citizens and businesses that lead waste differentiated according to the different characteristics.

The usual differentiations already mentioned (MSW, plastic, glass, paper), add: aluminium cans and containers of tin, wood and iron, refrigerators and television sets, computers and cartridges for printers, washing machines and boiler, tyres and batteries, batteries exhausted and expired medicines, clothes and rags transmitted, edible oils and building materials from demolition.

The 200 transport fleet-machines are more than half functioning on a mixture of biodiesel-diesel for 38.5% petrol-green mixture, 3.5% are electric, the rest is operated on methane. The 85 buses operate for most diesel (almost 70%), 22% methane, the remaining mixture to biodiesel.

5.3 Water Distribution

The interested municipalities are 22, 84 sewerage, 21 sewage treatment works, with a monthly production of 32 ml cubic metres and 17 ml cubic meters of purified water.

The water purifier entrance to the biggest town, has a BOD of 200 mg / l and a COD of 353 mg / l the aqueduct water has drawn about the parameters of mineral waters.

The water network is 243 km and is monitored with remote capillary systems.

The maintenance of sewerage of the city must take into account the presence of a dense sewerage dating back to Roman (first century AD), in which the restructuring and maintenance must take into account treat monuments of historical interest, in close contact with the State Archaeological Superintendence.

There is an agreement between the company and university, with a ratio of synergy that brings mutual benefits: The Municipality pays the expenses of the Research Center of water, university nature, responsible for analysis and studies management of the company, the university provides all advice on useful for the study and implementation of models optimization efficiency.

5.4 Customers

The call center are active to hear complaints and comments from citizens and within four years have tripled, and have become almost zero time to correct the problem .. Every 2 years the company administering questionnaires drawn up by poll companies to survey a representative sample,

in order to ascertain the degree of customer satisfaction and to measure the quality of service perceived from users, using a scale that represents the continuous improvement and show results always growing: from 1 to 10, the level of satisfaction, both for water Both for methane gas, is higher than the score of 8.

The sensitivity to the environmental problem must be encouraged from early childhood, to become a "modus vivendi"; here then BETA seeks collaboration with education and teaches environmental education in the collection and use of alternative energy sources, is going in schools, with both visits the "Isola Ecologica" and with the use of multimedia tools such as video games. It is not restricted to schools education, but the draft awareness also extends to university students, in whose classrooms, the specialists take specific courses.

5.5 Suppliers

In order to enter protected categories of workers, shows a relationship with the social cooperatives in the territory, but without creating interference in their management and only in order to establish a synergy management profitable for all.

There are also projects for international cooperation, social oriented: with India and North Africa, about plans for integrated water management; with Central Africa for the know-how relating to solar panels; with Bulgaria for a scouting mission to about water, sewers and water treatment.

5.6 Employees and the business climate

The staff is both internal and external, found by Onlus of the territory, with a particular regard for the use of protected categories. The staff of cooperative company deals with social services, such as the collection of bulky waste, waste left out of boxes, withdrawal of clothes sent in containers left in charge, toner cartridges and used. Even in service on the public green areas and in particular the maintenance of parks-game (200,000 square meters of public green and related services, 30,000 square feet of flower beds, 60,000 linear metres of verges), uses of NPO staff and ex - employees of a factory town in the cash-integration.

Their number is about 350 persons, whose qualifications are: 60% workers, employed 33%, 5% paintings, 1% executives and 1% pharmacies managers. On 30% are employed in the field of environmental health, 17% in the administration. The age group is the largest from 30 to 50 years (75%), more than 50 years 17%. It is not used child labour.

It must be emphasized that the link mentioned above, about the link with education, is fleshed with the inclusion of students graduates in stage business, particularly those attending the faculty of Economics..

The company follows the laws on health and safety in the workplace (the Legislative Decree 81 / 2008), with the figures responsible for this purpose, managers, competent doctor, representatives of employees security. Particularly important the training concerning occupational safety, quality, the instruments of technological innovation, and external communication within the company.

The monetary incentives are not enough, to the satisfaction of workers, so the company has entrusted to a company specializing in surveys and sampling, which analysed in particular business organisation, adapting to innovations in the market, the level of information received, working conditions in the broadest sense. They were then monitored the relationship between the individual and superiors, with colleagues, his involvement in the target company, the degree of self.

This led to a result of the rule, even if the individual parameters are not good and should be improved to avoid future problems.

6. CONCLUSIONS

The analysis of two companies multi-services shows that Sustainability Report, may deepen, in small actually and in more complex situations, the reality that otherwise, given the classical instruments of corporate information as the Annual Report, it would not be possible to monitor fund.

The support of Sustainability Report is essential to ensure that the individual concerned can understand how the business organisation works, beyond the assessments pure accounting and profitability.

It should not be pushing the economic aspect, but support it with the environmental and social issues that always accompany an enterprise that operates in a territory that interacts with it and which provides products and services, and from which draws resources of various kinds. The

consensus is crucial in this continuous interaction between business and society and the improvement that both parties want, can come only from the collaboration and knowledge.

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LEARNING FROM CUSTOMERS: RUNNING VIRTUAL COMMUNITIES IN TOURISM

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1. Introduction

Over the last decade, strategic management research has increasingly emphasized the roles of learning and knowledge in developing a firm's resource base (Grant, 1996). Spender has argued for a knowledge-based view of the firm, suggesting that the basis for sustained competitive advantage is a firm's capability to develop rare and valuable knowledge through learning, and to subsequently build upon, and spread, that rare knowledge throughout the organization (Dierickx and Cool, 1989; Nonaka, 1994). The knowledge-based view focuses on creating value; in turn, raising questions about what managerial choices need to be made to best manage these processes. In this paper we argue that value creation is significantly impacted by learning from customers.

Customers play a fundamental role in innovation. Valuable information can be gained from the involvement of the customer during the innovation process. New products which offer a unique value to the customer are more successful than innovation without the consideration and participation of the client. This is particularly true in the tourism industry as customers are deeply involved in the production of a tourism service in order to enhance their experience value. Experience in this context means drawing firm's attention to "entertainment", "educational", "aesthetic" and "escapist" elements in order to produce significant and meaningful tourist products which enable to achieve superior and sustained performance.

In addition to that, the involvement of the customer is especially useful to get information about the needs and wants of clients in order to develop unique tourist product innovation which enhance and strengthen knowledge about customers needs (Weiermair and Mathies, 2002). Therefore, involvement customers matters to nurture continuous learning and to create new and unique products which offer a special value to customers. (Hübner, 2002). The emergence of the Internet era provides new challenges to the role of customers and makes easier to collect and share information about customers needs. Customers may interact with companies and other customers and may achieve more information which allows to reduce their information asymmetry and become more empowered than they were in a pre-IT era.

In this respect, virtual communities play a pivotal role in boosting tourist product innovation by leveraging learning from customer relationships.

According to von Hippel framework, customers may become a source of innovation since they gain an *economic benefit* from innovation which boost their creativity, and show high *expertise* which may be transferred to firms and among communities.

Virtual communities allow people who interact to satisfy their own needs and to share purpose such as an interest, need, information exchange, or service that provides a reason for the community.

Firms may leverage these communities by providing a suitable context where customers may share social conventions, language, and protocols. In order words, we suggest that firms that aim to fully capture the potential of virtual communities need to gain a fine-grained understanding of their mechanisms in order to design and maintain an effective community.

This paper focus on this topic – *how to design and maintain a virtual community* – in order to clarify how tourism firms may leverage virtual communities to enhance their learning processes from customers and sustain their competitive advantage through product innovation.

2. Running Virtual Communities in Tourism

According to Wang *et alii* (2002) framework, virtual communities consist of the following elements: a) people who interact as they strive to satisfy their own needs or perform special roles; b) a shared purpose such as an interest, need, information exchange, or service that provides a reason for the community; c) policies that guide people's interactions; d) and computer systems which support and mediate social interaction and facilitate a sense of togetherness.

Virtual communities show both opportunities and challenges for tourism firms. On the one hand such a community makes dramatically easier for people to obtain information, maintain connections, deepen relationships, and meet like-minded souls that they would otherwise never have met. On the other hand, the successful operation of a virtual community depends largely on whether these organizations have a comprehensive understanding of the essence of a virtual community. This implies to know their members in terms of *who* and *what* their needs are in the context of virtual communities. Some examples of tourist virtual communities are showed in the following boxes.

Boo.com

In the beginning, Boo was a British Web portal, born in 1998, to sell fashion clothes, and then failed in 2000. Seven years later this collapse, Ray Nolan, the founder of Web Reservations International, bought brand Boo. New Boo is a hotel booking website, supported by a virtual community of travellers and characterized by a dynamic advertising. The new website combines a more focused search engine with reviews, maps, direct links to booking instructions on hotels' websites and a series of interactive features allowing users to share recommendations with their friends. Unusually, advertising is targeted, allowing different hotel or airline advertisements to be shown depending on whether the customer is interested¹. Mr Nolan's ambitions are more serious than simply tweaking the tails of the online reservations establishment. The model his company has developed for Boo is not surrounded to simple travel booking, but will be introduced many tools, ever tourism-centric, in an optics of continue dialogue between demand and offer, for example the job research. A central feature of boo.com is the sharing of reviews and tips from other users². This community feature is launched with 1 million reviews, so opening the site appears reliable.

The site, which presents a won graphic format turned to youth target, is built on information exchanges of double level. First level is represented by users' web spaces, where the members can insert liberally their impressions, pictures, feedbacks about theirs travel experiences. Second level is represented by destination web spaces built like blog, which contents are taken by users' spaces.

Boo's virtual community is depicted like a consumption community, characterizing its life's cycle in traffic generation phase. This phase is incited by an incentives system to users' creativity. Through the accomplishment of contents and the invite to others friends to participate is possible winning several prizes, for example t-shirts or Ipod.

Source: Andrew Edgecliffe Johnson – Boo.com given a new lease of life, 1/5/2007

¹ Andrew Edgecliffe Johnson – *Boo.com given a new lease of life, 1/5/2007*

² Andrew Edgecliffe Johnson – COMPANIES UK: The new Boo aims to put heads on beds, 3/5/2007

TripAdvisor.com

TripAdvisor.com is a tourism Website based on free sharing of travel guides and on hotels, destinations, tourism attractions researches. Founded in February 2000, it offers reviews and information to help planning a vacation. TripAdvisor is the biggest tourism virtual community, with more than 15 million reviews and opinion and nearly 30 million unique visitors a month. Since August 2005, TripAdvisor is in Expedia's group and it offers several services:

Hotel/Attraction/Restaurant reviews: TripAdvisor has reviews and opinions on over 270,000 hotels, attractions, and restaurants.

Travel wiki: A wiki³ in which users can add information on destinations as a way to aid potential visitors. Topics include transportation, activities and dining guides.

goLists: Lists of places and activities compiled by users and usually on travel "themes", e.g., ten must-see attractions, stops on a walking tour, or ideas for a rainy day.

TripAdvisor maps: A hotel map mash up combining TripAdvisor's hotel popularity index with Google Maps.

TripAdvisor Forums: Message boards where travelers ask and answer thousands of destination and interest based travel-related questions every day. There are forums for individual destinations, air travel, cruising, and family travel.

Other resources: Links to additional travel information and reviews available on other websites (e.g., newspaper, magazine, and travel guidebook websites).

The impact of TripAdvisor on hospitality business is very impressive. The "Social Media for Brand Report, 2007" concluded that 80% of UK consumers are now researching online before booking a hotel and that half of them said they have refrained from booking a hotel as a direct result of a negative review on websites such as TripAdvisor.

Source: <http://en.wikipedia.org/wiki/Tripadvisor>

A basic understanding of virtual community concept is a prerequisite for any organization operating a virtual community to be clear about their mission, purpose, and the right policy to achieve their goal. Put differently, the effectiveness of the community as a problem solving and innovation setting relates to the extent to which individuals are able to find complementary "bits" of information and knowledge to make up for their deficiencies in certain areas of, for instance, heuristics or task-related abilities. The community becomes a setting for exchange of help services crucially dependent on knowledge sharing among members. Due to their motivations for solving problems and innovating, key individuals such as lead users, are possibly important individuals for both demand and supply side in these processes.

Von Hippel (2005) defines them as members of a user population having two distinguishing characteristics: a) they are at the leading edge of an important market trends, and so are currently experiencing needs that will later be experienced by many users in that market; b) they anticipate relatively high benefits from obtaining a solution to their needs, and so may innovate.

They also can greatly increase the ease with which innovators can build larger systems from interlinkable modules created by community participants. Innovation communities are by no means restricted to information products, and they can play a major role in the development of physical products (von Hippel, p. 11, 2005). For instance, lead users have been found to play a key role in the creation of open source software products that have gained significant market shares from state-of-the-art commercial software (Lerner and Tirole 2002). Also in more low-tech areas of consumer goods innovations, such as mountain bikes (Lüthje 2004) lead users have been responsible for the creation of entirely new industries.

Therefore, lead users are centrally involved as boundary spanners in the search and integration of knowledge from different sources of relevance for their communities. Inside the community lead users are active in both "giving and taking" knowledge. Moreover, as users build up experience they tend to take less — and give more — knowledge, thus making way for important knowledge diffusion processes in the community.

³ Wiki is a collection of web pages designed to enable anyone who accesses it to contribute or modify content, using a simplified markup language. Wikis are often used to create collaborative websites and to power community websites.

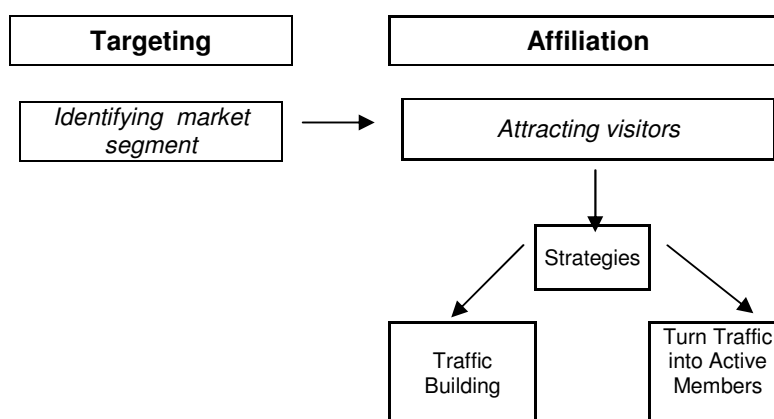
Due to these considerations, such a tourist virtual community should be an integration of content and communication that takes direct communication, individual choice, friendly technology, and diversity of information into consideration. As a consequence, the appropriate design of the virtual tourism community should be based on a comprehensive understanding of the consumers' functional, social, and psychological needs as well as how these needs interact with each other. Since these communities evolve, the range, richness, reliability, and timeliness of information available to members is likely to be far greater than that of any information available through more conventional means.

These considerations lead us to suggest that tourism firms need to adopt different strategies over time to facilitate the creation, nurturing, and preservation of learning processes in the community.

We consider a two-stage model, consisting in design stage and maintain stage.

2.1 Virtual Communities Development: The Design Stage

In this phase, firms may adopt both affiliation strategies and lock-in strategies. According to Verona and Prandelli (2002), affiliation strategies encourage website visits and sales by “taking the customers' side” and improving customer satisfaction by providing the “right” products on-time and at the “right” price (Urban *et al.*, 2001). Affiliation strategies should be aimed at the following purposes: providing solving-problem services, comprehensive information and add decision-support software on content. Affiliation address the *cognitive dimension of loyalty*. Therefore, this strategy should be based on *contents*, i.e. tools of learning, in order to build traffic and then to turn it into active members. The former, build traffic, requires a proper positioning on web search engine, whereas the latter, active traffic, requires firms give incentives so that visitors may become active members.

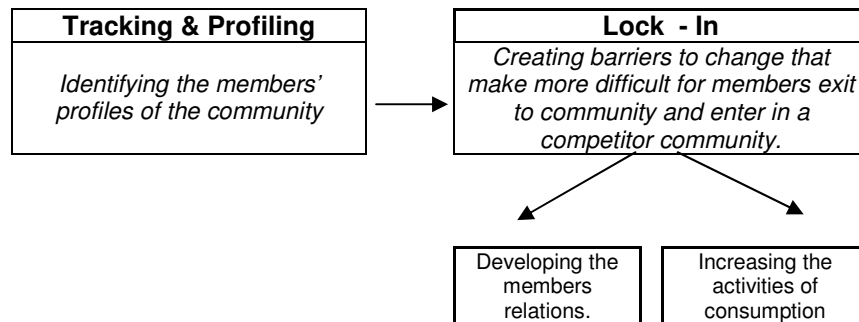


2.2 Virtual Communities Development: The Maintain Stage

Information gathered in the first stage should be pick up in order to track and profile visitors. *Tracking & profiling* phases play a key role in gaining a deeper understanding about dominant on-line behaviour models (Hagel III, Armstrong, 1997).

After these phases, firms have to deploy a lock-in strategy. Since customers choice are influenced by past choices, so that when they switch from one brand to another they sustain switching costs. Companies can exploit this phenomenon and ‘lock them in’, increasing customer stickiness and customer loyalty. Lock-in strategies strengthen the *behavioural dimension of loyalty*, encouraging repeat purchasing. Shapiro and Varian (1999) suggest lock-in strategies should be based on three strategies: building an installed customers base, capturing customers through product design and promotion, leveraging customer commitment by selling complementary products. While affiliation

strategy fosters customer trust during the information search stage, lock-in strategy addresses customer stickiness during the customer retention stage.



3. Design and Maintain a Successful Tourist Virtual Community: the Case of CTS Tour Operator

CTS (Centro Turistico Studentesco) is a leading Italian-based Tour Operator acting in the youth tourism business. It is member of the International Student Travel Confederation, which collects over 50 associations of schoolboy tourism in the world and distributes the ISIC CARD.

CTS was established by a group of students in 1974. Now CTS has 187 offices of which 146 in franchising, 746 employees of which 562 in the franchisees offices and 234.528 members.

Recently, it has devoted his attention to the benefits to virtual communities and has designed its virtual community: Iogiro. Iogiro helps young members to discover remote angles of continents sharing travel blog, stories and advices, pictures and videos. Iogiro offers a free social networking service in order to sharing and “building” travel experiences among members. In addition, Iogiro promotes multicultural virtual meetings. In this way, members can invite friends and enlarge their network. The Iogiro virtual community shows some distinctive features.

1. *Distinctive interests.* Iogiro is based upon a punctual recognition of members interests. The slogan – *Travellers meet here* – possesses a powerful impact that points how relevant is good positioning among young travellers that want to meet who has same passion.
2. *Balancing contents and communication.* Iogiro provides a wide range of published materials, linked to specific interests of community. The community integrates these contents with a rich communicativeness space: forum, personal users’ spaces blog, pictures and videos.
3. *Adding value to users contents.* Iogiro’users can compare and combine their tourism experiences.
4. *Access to rival publishers and sellers.* Iogiro works like a broker and tries to associate a wide range of high quality resources, often generated by users, putting the sellers in competition.

The starting point of Iogiro design process was a clear identification of CTS target - young and students lovers to travelling. According to its target, Iogiro offers to its users the possibility to express creativity, since most members are photographers, video makers, web designers, illustrators. Therefore, affiliation initiatives were pushed to attract this target, adopting a promotional through a daily web relation activity in the blogsfera.

Community’s launching was not supported by traditional mass media, but in particular by no conventional media (daydreams, myths, taboos). Advertising campaign bursts in the target’s daily and spreads with word-of-mouth advertising. For example, nice promotional initiatives of

concourse Nextstopmexico, called “Divieto di Siesta” (No Siesta), have seen many student’s cars fined for “excess of laziness”. All fines were playfully subscribed by Mexico City’s municipal office that invite to take part to concourse and to open a blog on Iogiro.

Actually Iogiro is making efforts to accumulate members critical mass (affiliation) and to lock-in members.

The affiliation’s strategy of Iogiro community users is based upon two principal aspects: a free software that help users to gain information about interesting destinations, cultural dates and important events, news from world of music, movies, books and so on. It is an useful support tool that helps CTS to deeply understand users characteristics and their practices. The software download is boosted by a game, a quiz with weekly marks, that offers a prize.

Information gathered during affiliation phase is collected and helps firm to track members’ profiles. Tracking & Profiling phase allows collecting the user’s online ways in the website, correlating them with their knowledge contributions and e-commerce activities, allowing the company to identify dominant on-line patterns of behaviour.

According to Roger’s taxonomy, Iogiro members are mainly *pioneers and first adopters* that recommend destinations out to classic routes: Tran Siberian, Mexico by horse, Thailand, Australia in Jeep, Costa Rica, etc. Like most virtual communities, Iogiro members can be split into a minority and active members cluster, and a passive and majority members cluster that reads and takes advantage only of the website contents. The great part of active users takes part personalizing own personal space with articles, pictures and videos, proposing new topics in the forum and distributing travel advices to all community. However, it has been noted that this proactive user behaviour depends on special initiatives. Therefore, CTS needs to create an incentive system to boost learning processes among community and to promote users to spend their own time in the community.

Moving from this proposition, Iogiro team has launched an incentive system to involve user in long term. The incentive system is updated constantly. The most interesting incentive is probably *Nextstopmexico*. The concourse’s prize was a two-week journey in Mexico and Guatemala. The winners were six community’s lead users, chosen about their popularity, and a video maker, chosen about its ability to record tourism documentaries. *Nextstopmexico* has been helpful to identify lead users through direct observation of customers in the space where they use the product usually.

Other initiatives to lock in users have been experienced. For example, Iogiro team has selected some users pictures to be published on “Partire” (Leave), the CTS magazine distributed in 100.000 copies in all offices. Or, Iogiro team has given a gift (a Lonely Planet guide) to the more active users.

Nowadays, virtual community Iogiro is challenging two key purposes: the first one is to increase communication flows with and among customers; the second one is to co-define the business brand value. IOgiro team acknowledges that in order to reap fully Internet benefits they need to enhance reach and richness of information. In addition, IOgiro community is moving toward an *experience-based orientation*, instead of a *product-based orientation*. In this vein, co-creating travel experience leveraging IOGIRO virtual community is seen as the next firm’s strategic goal.

4. Conclusion

This paper focuses on the role of virtual communities as a means to boost tourist product innovation by leveraging learning from customer relationships. Prior work on community found that individuals may learn from searching for information from colleagues, and teams learn through action when members provide each other with advice and help or seek advice from experts.

This intellectual capital could be valuable for firms to sustain their competitive advantage. Tourism firms may capture these benefits by leveraging virtual communities. In order to run successfully virtual communities, tourism firms need to adopt proper strategies: affiliation and lock-in strategies. Both provide customers with shared interests a way to come together, express themselves, conduct

easy and secure transactions with goods and services they provide, and match and expand upon the various needs of the community their learning.

In addition, the illustrative micro-case of CTS, a leading Italian-based tour operator has shown the role of lead users in affecting product innovation. As early adopters, lead users perceive the need for an innovation earlier than others, and they expect great benefit from solving problems.

Accordingly, we suggest that tourism firms need to think about how they can motivate users not only to make contributions to the community, but also to identify key players and to create incentives for users to stay and keep on contributing. Therefore, running successfully virtual communities requires a combination of learning-based and reward-based customer retention strategies in order to sustain competitive advantage through continuous product innovation

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DESTINATION APPEAL AND IMAGE: THE US MARKET PERSPECTIVE

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INTRODUCTION

The increase of areas of the world developed for tourism and the increase of the quality of leisure time, a major knowledge of the world thanks to the media and to the increase of educational level and a more efficient transportation networks push the competition among countries. Today's consumers have the means to choose from this much larger variety of destinations. Tourism is a highly competitive industry, and the Italian and European tourism sector can no longer compete on the basis of cost alone. Quality is therefore a key element for the competitiveness of the tourism industry. Italy has an interesting mix of different products that can be offered to the tourist, and it enjoys a good market share. Nonetheless, a rapid growth in alternative destinations worldwide means that Italy's tourism industry today faces the need to be ever more quality conscious to continue to attract tourists in a global marketplace. Quality is rapidly becoming the decisive competitive variable in tourism.

The integrated approach to quality management to the tourism sector is really appropriated because many different elements affect the tourist's perception of a destination (such as transport, accommodation, information, attractions, the environment, etc.). This approach needs to take into account tourists' interests, tourist businesses, the local population, the environment, and to have a positive impact on all of them. From tourist's perspective, in our opinion, the quality of a destination could be split in two parts: a sort of "perceived quality" and the "experienced quality". In our paper we aim to investigate, first of all, the first concept, going to analyze the image associate to Italy, and in the last section we take in consideration the aspects related to the "experienced quality".

The "perceived quality" can be derived from the image associated to a destination. A destination, in fact, is made, essentially, of immaterial components. Consequently, destinations mainly compete on their perceived images relative to competitors in the marketplace.

Hence, in order to compete successfully, a destination should create and manage a distinctive and appealing perception, or "image" (Calantone, Di Benetto, Hakam and Bojanic, 1989). As pointed out by Guthrie and Gale (1991), with reference to tourism research, "Images are more important than tangible resources" because "perceptions, rather than reality, are what motivate consumers to act or not act". This is absolutely true, but just with reference to first time visitors. For repeaters visitors, it is truly important the confirm (or the improvement) of their perception otherwise, after the first visit, they never will come back (Lovelock, Wirtz, 2006).

In the tourism research field, a clear definition of image does not exist: "image" is a term difficult to define, it is a tricky concept. There are several definitions (Hunt, 1971; Crompton, 1979; Dichter, 1985; Kotler et al, 1994; etc.) but it is hard to establish the boundaries of the concept.

In the literature about tourism destinations the importance of this topic is strongly recognized by the growing body of research. In particular, it is deeply examined the meaning and the measurement of the image. There are many possible approaches to study destination image,

because this argument has many implications for human behavior. Briefly, a destination (or a product) is perceived both in terms of individual attributes (coming from a “discursive processing” which is characterized by pieces of information on individual features or attributes of the stimuli) and holistic impression (coming from an “imagery processing” which is a sort of mental picturing, although sight is not the only sensory dimension that can be incorporated; imagery can include any or all of the senses).

In table 1 it is proposed a regrouping of 75 works, between 1971 and 2008, focused on this subject. This table is based upon a study of Gallarza, Gil and Calderon (2002) to which we have added the works wrote after the 1999.

Table 1: Literature review on Tourism Destination Image

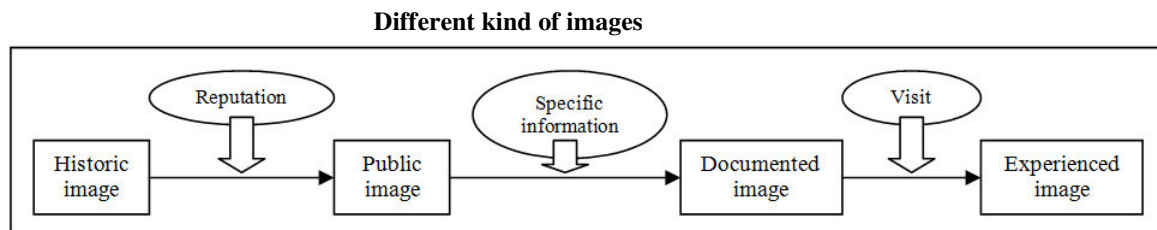
Topics covered	Authors *
a. Conceptualization and dimensions	1,2,4,9,13,15,16,18,19,20,21,22,27,30,31,32,33,34,41,43,45,46,47,48,49,51,53,55,58,62,63,66,67,70,71,74
b. Destination image formation process (static and dynamic)	1,2,6,9,11,13,16,17,20,22,23,27,31,32,33,34,46,48,51,63,68,70,71,74,75
c. Assessment and measurement of destination image	1,2,3,4,5,7,8,9,10,12,13,14,18,19,22,23,34,25,26,27,28,33,37,34,40,41,43,47,49,51,54,55,56,62,63,64,67,70, 72,73,75
d. Influence of distance on destination image	1,4,16,19,23,43,46,56
e. Destination image change over time	1,4,16,19,23,43,46,56,71,72
f. Active and passive role of residents in image study	5,35,36,39,40,42,45,49,52,57,60,61
g. Destination image management policies (positioning, promotion, etc.)	3,7,9,10,13,14,15,16,19,20,24,25,28,29,30,32,33,34,35,36,37,39,40,42,46,47,49,50,51,52,53,54,59,61,64,65,69,70,75

Source: our elaboration starting from an analysis of Gallarza, Gil and Calderon (2002).

* 1. Hunt (1971), (1975); 2. Gunn (1972); 3. Goodrich (1978); 4. Crompton (1979); 5. Sternquist Witter (1985); 6. Gartner (1986); 7. Haathi (1986); 8. Gartner and Hunt (1987); 9. Stabler (1988); 10. Calantone et al (1989); 11. Chon (1989); 12. Embacher and Buttle (1989); 13. Gartner (1989); 14. Min Han (1989); 15. Telisman-Kosuta (1989); 16. Ashworth and Voogd (1990); 17. Chon (1990); 18. Reilly (1990); 19. Ahmed (1991); 20. Ashworth (1991); 21. Chon (1991); 22. Echtner and Ritchie (1991); 23. Fakeye and Crompton (1991); 24. Guthrie and Gale (1991); 25. Williams and Clarke (1991); 26. Carmichael (1992); 27. Chon (1992); 28. Crompton et al (1992); 29. Heath and Wall (1992); 30. Kotler et al (1994); 31. Valls (1992); 32. Borda's and Rubio (1993); 33. Echtner and Ritchie (1993); 34. Gartner (1993), (1996); 35. Prentice and Hudson (1993); 36. Ritchie (1993); 37. Amor, Calabuig, Abella'n and Monfort (1994); 38. Driscoll et al (1994); 39. Getz (1994); 40. King (1994); 41. Mazanec (1994); 42. Ryan and Montgomery (1994); 43. Dadgostar and Isotalo (1995); 44. Muller (1995); 45. Parenteau (1995); 46. Ahmed (1996); 47. Bramwell and Rawding (1996); 48. Dann (1996); 49. Eizaguirre and Laka (1996); 50. Fesenmaier and MacKay (1996); 51. Oppermann (1996a), (1996b); 52. Schroeder (1996); 53. Selby and Morgan (1996); 54. Baloglu (1997); 55. Baloglu and Brinberg (1997); 56. Borchgrvink and Knutson (1997); 57. Lindberg and Johnson (1997); 58. Lumsdon (1997); 59. Alford (1998); 60. Lawson et al (1998); 61. Smith and Krannich (1998); 62. Walmsley and Young (1998); 63. Baloglu and McCleary (1999); 64. Lohmann and Kaom (1999); 65. Ruiz, Olarte and Iglesias (1999); 66. Kleppe and Mossberg (2001); 67. Gallarza, Saura and Garcia (2002); 68. Beerli and Martin (2003); 69. Mansfield, Romaniuk and Sharp (2003); 70. Echtner and Ritchie (2003); 71. Beerli and Martin (2004); 72. Castro, Armario and Ruiz (2007); 73. Govers, Go and Kumar (2007); 74. Tasci and Gartner (2007); 75. San Martin and Rodriguez del Bosque (2008).

According to Gunn (1988) everyone has some kind of information stored in memory concerning a destination, even though it may be incomplete. Fakeye and Crompton (1991) speak about a destination image evolving from an organic image, through an induced image, to a complex image. Also in our opinion it is possible to individualize different level of image. The first one is something “given”, information stored in memory: it depends on the magnitude and importance of that destination in the history and what the history has left in the country. An image a little bit more complex is made also by the “reputation” of the destination, coming from: the “product country image” (related to famous national products); the exposure to newspapers reports, magazine articles, TV reports, and other nontourism specific information; organization of mega sport or cultural events or the presence of famous sport men/women or teams, singers, etc.

The third level implies, first of all, the active information search, but also any type of destination's specific information (documentary film, word-of-mouth, etc.). Finally, upon visiting a destination, a tourist will develop a more complex image resulting from actual contact with the area.



This research moves from the belief that Italy has great appeal as tourist destination for US residents. On the other hand, the US tourist market is very attractive because of the size of the market itself and because US pleasure travellers are the world's leading travel spenders (WTO, 2006). To have a positive image is a starting point for a nation in order to attract more tourists. As already specified, it is not enough because the choice of the destination is given by different factors: the destination itself, the customers' ability to access the destination, the cultural appeal of the destination, the destination's features and attractions, the cost of the life, etc.

AIMS OF THE STUDY AND METHODOLOGY

Study's objectives

The empirical part of the study had mainly three objectives.

First of all, the study intended to verify which are the top tourist destinations in the dreams of US residents. In particular, we wanted to verify the following hypothesis:

Hypothesis 1: "Italy has great appeal on US residents as tourist destination".

The second objective of the study was to assess the image of Italy given by US residents (and verify if this is different for visitors and nonvisitors).

Hypothesis 2: "US residents who have visited Italy have more favorable images of the destination than those who have not".

The last objective aimed to evaluate the level of satisfaction of US residents who have already visited Italy.

Methodology

The complex nature of the destination image construct presents great challenges for its measurement.

The techniques commonly used in the majority of general image measurement researches are based on two basic approaches: structured and unstructured. The first requires the use of a standardized instrument, usually a set of semantic differential or Likert scales that incorporates various common image attributes. A product (or, in our case, a destination) is rated by respondent on each of the attributes included in the measure and an "image profile" is derived from these

ratings (Ferber, 1974). This method allows the researcher to compare several products (or destinations) across each of the attributes included as scale items. On the other hand, scale items are not designed to measure the unique characteristics of the product. Rather, they force the respondent to rate the product on more general, common traits.

The second approach is based on unstructured methodologies. These methods use free form descriptions to measure image (Boivin, 1986). In this way, respondent is allowed to more freely describe his / her impressions of a product (destination). Therefore, unstructured methodologies are more conducive to measure the holistic components of product image and also to capturing unique features.

In the major destination image studies researchers have used structured methodologies (Echtner, Brent Richie, 2003), preferring instruments like semantic differential or Likert scales. Therefore, the majority of destination image measurement studies have focused on the common, attribute-based component of destination image and have not addressed the more holistic and unique components.

In our study we decided to use both the approaches. In particular, we used one open-ended question in order to capture the holistic component about Italy:

- “Please list 5 nouns or adjectives come to your mind thinking about Italy”

For evaluating the level of satisfaction of US residents who have already visited Italy we combined the two approaches. We used a Likert scale for evaluating the respondents’ opinions on several attributes, and the 2 following open-ended items:

- “Which aspects of Italy did you enjoy more?”
- “Which aspects of Italy didn’t you like?”

As pointed out by Stepchenkova and Morrison (2008), concerning the qualitative analysis, several authors employed sorting and categorization techniques to identify the frequencies of certain words, concepts, objects, or people, and treated the most frequent ones as image variables. The final set of image variables can contain nouns, verbs, and descriptors since nouns are used to focus attention on attractions (e.g., museums, Rome), verbs describe actions or tourism types (swimming, sightseeing), and descriptors (e.g., ancient, exciting) create atmosphere. The analysis can be computer-assisted (using programs like CATPAC or WORDER) or done by hand, and identified image variables are then often placed on a plane or a line along specified dimensions to provide image visualization. We did the analysis by hand.

The questionnaire

For the data collection we used a questionnaire structured in four main parts; the questionnaire begins with a short introduction that wants to briefly introduce the topic of the survey and the objectives of the study (the developing of the structure of the questionnaire and of the items was made according with principles contained mainly in: Schuman and Presser, 1981; Wright and Anderson, 1983; Bayley, 1995; Corbetta, 2003).

The goal of the first part of the questionnaire, placed after the introduction, is to collect data to gain an exhaustive description (through the major significant variables) of the sample involved in the survey.

With the second part of the questionnaire we wanted to collect information about the planning process and the vacation preferences of the respondent. The questions in this part are mainly closed items.

The third part of the questionnaire, developed principally with open questions, asks the respondent to specify which States in the world (first) and in Europe (secondly) she/he wants to visit. This part wants to evaluate and compare the potential of attraction of the different States and, in our opinion, this could be considered a measure of the competitiveness of a country comparing with the others. Moreover, the respondents can do a list of 1 to 5 States he/she wants to visit, giving the first place to the favorite countries, the second one to a State less important, and so on.

The last part of the questionnaire wants to study, in particular, the case of Italy and its image. To all the respondents is asked to indicate from 1 to 5 things or adjectives that he/she associates to Italy. This part is finalized to get a profile of Italy and the holistic components of Italy's image using the unstructured methodology (mentioned before) proposed by Boivin (1996). Considering the different kind of potential respondents, the last part of the questionnaire is divided in two different sections. The first is finalized to collect information from respondents that never visited Italy. The second section, reserved to respondents who visited Italy in the past, collects information about the tourist experience's satisfaction. The section asks to respondents if he/she likes Italy (actual image) and wants to study which aspect is more relevant to grow on his/her satisfaction using an evaluation scale (Delvecchio, 1995; De Vellis, 1991; Giampaglia, 1990; Marbach, 1997; Stevens, 1991; Thurston & Chave, 1974).

The questionnaire was developed in a way that the respondent can follow a logical itinerary through the different questions and to be as short as possible, even if collecting all the relevant information about the topic is the main goal; due to this reason were provided a series of jumps and textual links that allow the respondent to skip the part of the questionnaire in which he/she is not interested or involved.

The data collection and the sample

To carry out this research 119 residents in the U.S.A. were interviewed by means of the questionnaire described above. The sample selection was systematic and not based on a sampling list. The selection of respondents was, mainly, at Manchester Airport (New Hampshire) and at Boston South Station. These two places were chosen to try to intercept, using only two main locations, people coming from as much wide as possible range of US States. The data were collected between July to August 2007.

The sample is composed by 51,7% male and 48,3% female. The majority of respondents comes from New Hampshire (23,5%), Massachusetts (16,8%) and Maine (9,2%) and from city with less than 10,000 habitants (27,7%) or with a number of habitants between 10,000 to 50,000 (26,9%) or with more than 500,000 (20,2%). The sample age has the following distribution: the principal part of the people interviewed were young (13,4% under 20, 37% between 21 to 35 years old) while 23,5% are people from 36 to 50 years old, 18,5% between 51 to 65 and 7,6% over 65 years old. The 22,7% of the respondents lives alone, while the 59,7% lives with parents or has an own family.

RESULTS

The countries appeal

The analysis of the third part of the questionnaire allows us to compare the potential appeal of all the countries of the world. The question # 7 of the questionnaire asked: "*Write the name of the*

first five countries that you would like to visit (1 = the favorite one)". As a result of this item were elaborated two different rankings. In the first one (that we called "counter") the countries are ordered by the number of the citations: this could be considered a measure of the relevance of the country in relation with the tourists knowledge and background. In the second one (called "score") the number of citations is weighted with the place assigned (from 1 to 5, in decreasing order of importance) given to each country by every respondents. This second list, based on the score, gives an idea not only about how much frequently a State was pointed out, but takes in account also the relevance that respondents give to each country, that is the strength of the desire to visit the country considered. In the table 2 is possible to find the percentage associated both to the counter and to the score, to get an immediate idea of the difference between the two kinds of evaluation of the country's relevance.

Table 2: World's countries appeal
(ordered by score's ranking)

# by score	# by count		% of tot. count	% of tot. score
1	1	Italy	9,0%	11,1%
2	2	Australia	6,8%	8,4%
3	4	England	6,0%	6,2%
4	5	Spain	5,6%	6,2%
5	3	France	6,2%	6,0%
6	7	Ireland	4,8%	4,7%
7	6	Germany	5,2%	4,3%
8	8	Japan	3,8%	3,6%
9	9	Brazil	3,6%	3,5%
10	11	China	2,8%	2,9%

Table 3: European Union's countries appeal
(ordered by score's ranking)

# by score	# by count		% of tot. count	% of tot. score
1	1	Italy	14,8%	17,2%
2	2	France	12,6%	13,6%
3	3	England	11,5%	11,4%
4	4	Spain	10,4%	10,3%
5	5	Germany	9,5%	8,6%
6	6	Ireland	5,3%	5,0%
7	8	Switzerland	5,0%	4,9%
8	7	Greece	5,0%	4,4%
9	11	Scotland	2,5%	3,3%
10	9	Holland	3,4%	3,1%

Counter = number of citations; *score* = number of citations weighted with country's relevance.

In the top-ten list considering all the countries of the world there are 6 States of the European Union (Italy, England, Spain, France, Ireland, Germany) and 4 extra-EU States (Australia, Japan, Brazil, China). Italy results the major cited country with a percentage of 9% of all the citations. It is also the country that the sample wants to visit more, that is the most "desired" and attractive one (11,1% of the global score).

Hypothesis 1: "Italy has great appeal on US residents as tourist destination". CONFIRMED

If we consider only the EU context, we can see analogue results in the table 3. The exact formulation of the open question in the questionnaire was: "*Which European States would you like to visit? (1 to 5 names; the first is the favorite one)*". In table 3 are presented two different rankings similar to the ones seen in table 2: the percentage of country's total number of citations and the percentages of counter weighted with the importance given to each country by respondent (% of total score).

As a confirmation of the data showed in the previous table 2, Italy is considered the country where the majority of the respondents wants to spend their vacancies (14,8% of the total citations); moreover, if we consider the place in the list attributed by respondents, Italy is even more important (17,2% of total score, +2,4 percentage points). The distance between Italy and the second country in the ranking list is of +2,2 p.p. (considering the counter) and of +3,6 p.p. considering the score.

If the data showed before are useful to understand which is the impact of European States (and Italy in particular) in the word context, there is another question we proposed to the sample (“Which European states did you already visit?”) to evaluate effectively where in Europe the U.S. respondents spend their vacancies more. The results are in table 4, where one can see the total number of citations (and the percentage on the total number of citations) of the first 10 European countries visited from the sample.

Table 4: European countries visited
(ordered by counter’s ranking)

#		Counter	% of tot. counter
1	France	29	14,9%
2	Italy	25	12,8%
3	Germany	24	12,3%
4	England	22	11,3%
5	Spain	10	5,1%
6	Switzerland	9	4,6%
7	Ireland	8	4,1%
8	Holland	7	3,6%
9	Poland	7	3,6%
10	Austria	5	2,6%

Counter = number of citations. (multiple responses allowed).

The results showed in table 4 are quite different from the idea given from table 2 and table 3. France is the European country visited most (14,9% of all the citations registered by all the UE countries) and it has a percentage of +2,1 percentage points higher than the second States, Italy (12,8%). Moreover there are two new States that are frequently visited (Poland and Austria), even more than Greece and Scotland (who were in table 3). This results, particularly considering the Italian evaluation, seems to underline that Italy has the highest potential of attraction on the U.S. tourists, but when one U.S. tourist go to Europe, he/she chooses France more frequently as final destination for his/her vacations.

The image of Italy for visitors and nonvisitors

The totality of qualitative responses concerning the nouns and adjectives associated to Italy was content analysed in order to find most frequently used meaningful words describing perceived image elements. We did the analysis dividing the US residents who already visited Italy and the nonvisitors. In order to summarize the great number of nouns/adjectives (each respondent could write 5 words maximum) we grouped them in thematic areas. The results are listed in table 5. In the first column (“visitors”) the underlined words are the ones which, in the category, have been cited more often (the frequencies are in the second column). In the column “nonvisitors” the first number refers to the frequency associated to the same words used by “visitors” (reported in the first column), while the second number refers to words not mentioned by visitors.

Visitors	Frequency	Nonvisitors
Culinary aspects (<u>great food</u> , pizza, pasta, <u>wine</u>)	25	55 + 5
Artistic and cultural richness (music, <u>art</u> , <u>culture</u> , literature, ...)	16	21 + 2 (museums)
Quality of landscape (beautiful, scenic, ...)	14	14 + 1 (wonderful cities)
Italian Life Style (peaceful, friendly, crazy, cool, exciting)	12	3 + 5 (picturesque, fun)
Typical aspects of Italy (<u>architecture</u> , small villages, lakes, Mediterranean lush...)	11	7 + 15 (<u>gondola</u> , soccer, scooters, ...)
History – historic heritage (historic site, colosseum, ...)	10	13 + 3 (roman ruins, ancestor)
Religion (holy, religious)	2	3 + 10 (Pope, Vatican)
Shopping [Italian products] (leather good, clothing, boats)	3	0 + 4 (jewelry, shoes, shopping, farm machinery)
Negative aspects (crime, dirty, unpleasant Rome, Smog, expensive)	5	0 + 4 (mafia, fascists, Corleone)
Weather (weather, warm, hot)	3	3 + 1 (sun)
Cities (Rome, Florence)	2	17 (<u>Rome</u> , Venice, Sicily, Torino, Pompei)
Sentimental matter	0	7 (pretty women, romantic)

Table 5: Nouns/adjectives attributed to Italy
Total visitors: 33 units; total non-visitors: 76 units

The main results underlined by the analysis (see table 5) are the following:

- who has already visited Italy has less difficult to associate nouns or adjectives to it;
- the food, is really appreciated, both by visitors and nonvisitors. The respondents praise the quality of the food in general, omitting, usually, to name which one in particular. In addition to food, also the wine is great appreciated;
- the visitors keep strong in mind the image of beautiful scenery and landscape (40% of the visitors named it, against the 20% of nonvisitors). Great importance is given to the artistic and cultural heritage too;
- who visited Italy recognises as typical elements of the country something different from the nonvisitors. For example, the latter ones named different times the word “gondola”, while no one of the visitors named it. We could call this an unfilled expectation, or we can just say that who visited Italy remember aspects of the territory more widespread (gondola is a typical vessel in Venice only).
- the visitors went home with the feeling to have been in a country with an atmosphere, or mood, particularly extrovert (they use terms like “crazy”, “cool”, “exciting”) other than friendly (more than it is considered to be by the nonvisitors).
- little importance is given to the shopping goods (clothes, shoes, ...) contrary to our expectations (Italian fashion products are particularly appreciated abroad).
- only nonvisitors strongly associate Italy with religious aspects (in particular, with the Pope and the Vatican), while visitors appreciate, or remember, other aspects;

- the few negative aspects mentioned by the two categories differ from each other. The ones mentioned by nonvisitors are the ones associated, stereotypically or historically, to Italy: mafia and fascism. Instead, visitors name petty crimes, probably because of their unlucky experiences;
- nonvisitors have mentioned much more cities (Rome in particular) comparing to visitors.

Hypothesis 2: "US residents who have visited Italy have more favorable images of the destinations than those who have not". **NOT CONFIRMED**

Both the categories hold favorable images of Italy and we cannot say which is the better one. We can just say that visitors hold images of Italy more strictly connected to real aspect of Italian life and environment.

Valuation by visitors

The second section of our research aimed to verify the level of satisfaction of US visitors. Images are a key element, but for repeaters visitors and in order to take advantage of the word-of-mouth it is truly important the confirm of the initial perceptions (if the image is positive) and the satisfaction of the tourists, otherwise they never will come back.

With these premises, the results are really encouraging for Italy. In fact, about 94% of the visitors enjoyed their stay in Italy (29 on 31 answers).

Two open-ended questions aimed to discover what the tourists have enjoyed more and what have left them dissatisfied.

A first indicator of the fact that the visitors have appreciated Italy is given by the number of words used for listing the things they liked (81 words) comparing with the number of words describing what they didn't like (24 words). Grouping the words in thematic areas, the visitors held a good impression particularly on: the quality of food and wine (23 nomination), aspects related to art and culture (17), the friendliness of people (11) and the beauty of the landscape (9).

The confirm that the judgement of the vacation is positive is given by the score obtained to the "overall satisfaction" of their holidays.

In fact, in the questionnaire they were asked to express their level of satisfaction with respect to different items on a 7-point Likert scale (1=not at all satisfied; 7=highly satisfied).

In most destinations the final product that the tourists experience, and therefore the memories that they take home with them, is a complex fusion of their exposure to many different phenomena in the destination, for example the local tourism industry, the destination's resident population and the environment in the destination. In our questionnaire we wanted to have an assessment on these aspects.

The medium value for the different factors is the following:

Items	Medium score
Services	5,6
Accommodation facilities	5,6
Transportation	5,4
Reception / welcome	6,1
Food	6,8
Weather	6,2
Artistic heritage	6,6
Heritage preservation	6,5
Landscape	6,7
People	6,6
English knowledge	6,1
OVERALL SATISFACTION	6,7

As showed in the table, the visitors judge really satisfying their experience in Italy. Particularly appreciated are the food and the landscape (according to the open-ended question); the lowest score is given to the transportation system. A little bit surprising is the score obtained to the item “English knowledge”, usually considered a weakness of most Italian.

CONCLUSIONS

The version used for this survey is the first release of the questionnaire; and this was the occasion to definitely test the questionnaire itself. In our plans it will be strongly developed in the future not only to get more data from respondents from the US and to make more deepening, but also to implement the survey in different contexts: in fact we’re planning to extent the survey to Canada and to some European States, in a close future.

Another objective we proposed ourselves in developing this research is to collect data not only about the Italian image in a world and in an European context, but also to collect detailed information about others States that would allow to make a comparison of the evaluation of the States’ image from the tourist point of view. This could be very useful for local or National government to plan interventions and improve the tourist appeal of their countries.

Despite this all, from the analysis of these firsts 119 questionnaires it is possible to do interesting consideration on the 2 types of quality took in consideration: the “perceived quality” and the “experienced quality”.

1. the Italian “perceived quality”, as defined and measured by us, seems to be very good. From the questionnaires, in fact, we have the confirm that Italy still has a great tourist appeal, at least for US residents (for them, it is the most desirable country in the world and the “*top of mind*” country). Nonetheless, there is a good part of Americans that have already visited Italy (30% of respondents) and they have been satisfied about the tourist experience. The “profile” of country emerging from the judges given by the visitors is really positive (beautiful landscape with great food, extrovert life style and a lot to visit). Moreover, on a more general level, analysis shows clearly the high attraction of the European Union countries: the only extra-EU country that seems to be really competitive with the most cited EU countries is Australia (# 2 after Italy in rankings shown above: see table 2).

Of course, to have a good image is not enough in order to be chosen or chosen again as tourist destination. The tourists, in fact, will compare the image of one destination with all the others' ones. So, if a country picks up the greatest number of preferences, concerning the desire to be visited by the tourists, we can conclude that the country has big appeal. But we cannot conclude that the specific country will be the one with the greatest number of visitors because this depends upon different other aspects (such as the distance, the price, the cost of life, the availability of international connection, the weather conditions, the presence of relatives, etc.). In fact, for example, from our research results that Italy is the most desirable country to visit, but, at European level, France seems to be the most visited State by US tourists. Why? We want to deepen these aspects in further researches. What we can say is that, in order to take advantage of the really good perceived image associate to Italy, it needs to make possible to transform the desires of the US residents in reality because USA is a huge potential market.

2. the judge about the experienced quality, derived from the last table of the questionnaire about the satisfaction of their holiday, is very good.

Nonetheless, if we take in consideration every single factor, it is possible to recognise, in particular, 3 areas of improvement:

- the transportation system;
- the services;
- the accommodation facilities.

The improvement is necessary because the success of a destination is a function of many components that are interdependent. For this reason an integrated approach is a good tool for managing the quality of tourist destinations on a continuous basis.

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EXPERIENTIAL MARKETING IN TUSCANY THERMAL SYSTEM

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INTRODUCTION

In this work our principal aim is the studying of experience's different nuance, lived during the customer consumption. In particular we directed our focus on a field not so deeply analyzed under this specific point of view, that is the Spa contest. This industry is included in the major area of leisure, wellness and accommodation because the “Thermal product”, could be described like an aggregation of more different kind of service. In fact embedded service aspects could be: clinical therapies, physical exercises, beauty treatments, relax and leisure moments, enjoyment and tourist attraction, resorts, environmental contact experiences and so on.

Tied to these above mentioned elements, we think, according to the Pine e Gilmore's definition of experience (Pine, Gilmore, 2000), that this contest is seen fit for application of experiential marketing and its tools. Evaluating the process of evolution of these types of wellness offers, it's possible to reconstruction for major step its critical path. Since ancient age (Greece and Roman period) thermal and bath places are intensely used by most part of citizenship of *polis*. They original function is tied to water and its derivatives stimulation, applied for relaxing regenerating or curative therapy. In this period the “*piscinæ publicæ*” (roman name) assumed a strong role inside all public life and these places were often enlargement with gymnasiums, expositive places, and libraries.

This tradition to come back to that romance pomp magnificent, needed to wait long time until eight hundred, when growing middle classes discovered another time the pleasure of body cares, but only in therapies way. In our modern age instead, moreover clinic issues, thermal service could comprise more level of activities: esthetic, beauty, wellness treatments, very near to the original core business and sometimes it's difficult to indentify boundaries within this categories. To fulfill complete requests of customers other step could be to encompass the touristic service, with accommodation, resort and other integrative service like gyms, macrobiotic or luxurious restaurants, swimming pools, amusements etc. (Shotenkenchiku-Sha, 2000). In this evolved contest, like presented after it could be possible to speak about experience and its implication.

The experiential influence on the man, as Schmitt defined, with the SEM (*Strategic Experiential Modules*) theorization (Schmitt, 1999), is essentially summarized into five dimension according to the stimulation received:

1. Sensorial
2. Emotional

3. Cognitive
4. Behavioural
5. Relational

The sensorial aspect is related to the human senses (*Sense*) conveying experiences through the sight, the touch, the taste, the hearing and the olfaction.

Speaking about the services in particular, the immateriality of the reached outputs is not connected to a minor influence on the sensory sphere, rather for this macro field, the phenomenal elements and the stimulations received from it, form in the mind of the consumer elements to express an ex-ante opinion of expectations, that it can afterwards compare with the experienced gained.

The second element, the emotional one (*Feel*), evokes sensations of the inner feelings sphere belonging to the single individuality of the customers, with the obvious purpose to leave a sediment on the emotional experiences.

The stimulation in analysis comprises enabled members beyond that of the verbal codifies, also from other dimension like the human attitude at the moment of interaction, visual and objective evocation, corporate image etc..

The cognitive dimension (*Think*) is referred to the mind and has the aim to create cognitive experience and problem-solving one that commit the customers from the creative point of view. It is searched, indeed, surprises, plots and provocations so that the converging and diverging thoughts were stimulated (Notarnicola, 2006).

The fourth dimension (*Act*) aim to influence the corporal experience, the life style and the interaction among people. A stimulation that succeed in modifying the action of a person with the passing time and the build-up, and aim at modifying the habit field of the men revealing a deep impact on the psychology of the individual.

Last component (*Relate*) at last contains the aspects of the relational experiences with other people external from the I; this is only possible mixing together the other four components.

Specifically our work improved his analysis on the first two elements, considered most important in the thermal contest, due to the importance of physical ambient and the general atmosphere perceivable in service place, better explained in the second paragraph below.

LITERATURE REVIEW

For our theoretical framework before everything else, we need to carefully focus principal definition of experience and its managerial implication. To reach this target we took the original thinking of first researchers of this studies lode, Pine, Gilmore and Schmitt.

The Experience economy has been theorized by Pine and Gilmore at the end of 1990s following analysis of official statistics concerning consumer price index, occupation index and U.S.A. GDP from 1913 to 1997. The Authors, in fact, talk of “Experience Economy”, as the origin of a new economy, in other words a whole of new businesses and technical and cultural instruments able to shape quickly the global business and market.

The elements, identified by the researchers, that have premised the development of this new economy are the following:

- Demand scarcity and supply overabundance;
- Wide and deeply spreading of information technology;
- Evolution of customer needs;

Following Pine and Gilmore doctrine, the experience individuates the fourth shape of economic supply, clear-cut from services, products and commodities. It could be reached when a customer

purchases memorable event, organized for his complete absorption in direct way, comparable with a protract utilization of goods (experientialize the goods).

They unified, in a cohesive theory, aspects of environmental psychology, emotional and relationship marketing, customer satisfaction and behavioral consumer studies and consumerist phenomena. For first step from Italian and international best established literature on actual evolution of consumption we took some useful principles.

Bucci resumes in three axioms the actual consumeristic age called “*No-needs epoch*”:

“We don’t need anymore products, we haven’t anymore need to consume, we haven’t anymore needs. When more personal and intimate requests emerge, it will be not the “consume” by itself who could interest anyone, rather the “story” in which this consume could involve us. So it occurs to get carried away, to enwrap and to surprise the costumer, with a story where he could empathize, and play a role” (Bucci, 1992).

In fact the modern age, thought obtaining futuristic results, took away the joy of conquests, also it submerges customers with more and more advanced devices, depriving the need sense (D’Andrea, 2002).

With a saturation of “traditional appetites”, we have point our dedication to search some more opportunities to “reach happiness”.

Thorelli and Becker found out different motivations that urge customers to consumption, highlighting too the simplification operated by the strictly rational hypothesis in purchasing, that is related only with procurement cost minimization (Thorelli, Becker, 1980).

Other authors targeting they studies on the motivational system in relation of need. The new form of consumption displayed, consider also recreational aspects wanted by customer, and also other authors inquired motivational system in relation of no-rational issues, with paying particular attention to emotional need sphere.

A possible classification these systemic variables are:

1. *Self-gratification*, consumption self-motivated and antidepressant;
2. *Breaking away from daily routine*, need to spend time in a relaxing and pleasant place with “*light minds*”;
3. *Sensorial stimulations*, that are felt during consumption process, like presence of silence or music, colors, olfactory or tactile general perceptions (Tauber, 1972).

Customer characterization, so with this level, is more complex and deeper than simply recreational issue, and the now archetypal subject able to be sketched with a complete socio-demographic, psychological and behavioral profile.

Still in 1980s Holbrook e Hirschman investigated hedonistic consumption theory, that assign a special role to emotional and environmental atmosphere during the process, literally “the consumption occasion are directed toward the pursuit of fantasies, feelings, and fun” (Hirschman, Holbrook, 1982).

To summarize research on customer behavior, they consider experience like a personal lived, based on interaction with stimulations come out goods or service available in consume system: new significances, and life elements (Fabris, 2003). “Products” are purchased for the experience of they use rather than a simple material object (Campbell, 1995). Space to emotions and perceptions are principal characteristics associated with this type consume (variables for long time neglected); costumers are endowed with emotional brain, behavioral customs, sense feelings, thinking and acting motions, needs of fun and pleasure, and symbols system (Addis, Holbrook, 2001).

Within these contributes it’s possible to find many refinements to the sensorial stimulus and its consequence on the costumer perception, each of that are largely inquired by psychologist work

or specific approaches related to the consumption behaviour, and for this the second core of the literature review is pointed in this topic.

More than what we have just mentioned, it must be remember, according to some research works, the relevance of sensorial contest in the tourism and resorts industry (Calver, Vierich, 1991; Howard, 2007; Weaver 2007). Also according to other authors (Bitner, 1992; Wakefield, Blodgett 1994; LaSalle, Britton, 2003), sensorial variables are very exploitable even in contests where: the service space have an insuppressible influence on customer's quality perception, and duration of service and customer physical permanence are extended. We think that the specific main field of our inquiry melts all of these characteristics.

Many studies belonging even to other disciplines than marketing have faced the problem of correlation between sensorial stimulus and the behavioral responses or particular in the consumption issues. Here there is only a little window on this great research field.

For example Milliman individuated a significantly affect on consumer behavior in a restaurant caused by the diffusion of background music, even in relation of its rhythm (Milliman, 1986), and the music is the main aspect of a lot of studies (Yalch, Spangenberg, 2000; Areni, 2003; Broekemier, Marquardt, Gentry, 2008). A similar path could be describes for the rest of senses like olfactory cues (Spangenberg, Crowley, Henderson, 1996; McDonnel, 2008), even if for this particular sense the stronger research is made on food and grocery industry; tactile perception (humidity, pressure, temperature) (Williams, 2000; Nenci 2003). Specific instance must be reserved to the king of sense in this field: the sight. It's impossible to describe in a systematic way all the contributes for this research filed: studies are developed in most part of service industry, wherever it could be a visual contact with the final customer.

After understanding the importance of sensorial issues, for our aim and for the experience contest, must be analyzed a further step: the cohesion and concordance of whole variables taken as an unique scenario. In fact experience could be transmitted to customers only when its factors are unified into a narrative plot coherent, without internal dissonances (Addis, Holbrook, 2001; Zaltman, 2003; Carù, Cova 2003a).

On this particular aspect it has been targeted our research design; After inquiring sensorial stimulation, and what is the importance perceived by customer on single element, the experience are strongly refereed to the concordance of each part with the general setting. If single element taken outside the experience could influence in a positive manner the consumption behaviors, its implementation in a not coherent contest could cause emotions or perceptions discordance and so a reduced immersion in experience, with a potential opposite effect (Arnould, Price, 1993; Arnould, Price, Zinkhan, 2004; Morrison, Crane, 2007).

RESEARCH DESIGN

After a theoretical framing of the analyzed phenomenon, we outline the guidelines followed to realize the research's object of the present work. It substantially assumes two main hypotheses:

HP1: Can we talk about experiential marketing in the Tuscan SPA industry?

The first hypothesis try to understand if exists the experiential fruition in the Tuscan SPA service or if there are the elements that allow to talk about experiential marketing also in such context.

HP2: Does the customer perceive the experiential use of the thermal service? If yes, through which elements?

The present work wants not only understand if, on the supply side, there is a tendency to create an holistic experiential service but rather wants to examine if the customer perceives it and through which elements. We observe if a correspondence exists between that this is offered and that it is perceived.

In order to be able to supply an exhausting answer to the proposed issues, it has been worked out a research project structured on three consequential steps: 1) creation and administration of a questionnaire turned to the customers; 2) verification of the existence of elements that recreate the experience or stimulate its formation inside the SPA; 3) in the last part of the research work instead we provide to elaborate a qualitative analysis of the empirical results founded giving a synthesis frame of the general work and comparing the selected structures in strategic maps of positioning.

1. CREATION AND ADMINISTRATION OF QUESTIONNAIRES

The reference context of our research is the Tuscan one; we consider five thermal localities and for each of them a SPA. The selection of the sample has been made considering the following criteria: first of all we select the SPA that were included in a survey leaded by IRPET (Regional Institute of Economic Programming for Tuscany) that considered only the SPA that have a relevant increase of customers in the quinquennium 2000-2005. Then we have carried out a survey on the structures selected verifying those which has carried out during the last few years qualitative intervention on the centre.

Consequently, we contact the SPA verifying their availability to participate to this search. We choose structures located in different province so as to examining different contexts for giving a more exhaustive vision of the Tuscan SPA.

The SPA that we considered are, in alphabetical order:

1. Casciana's SPA – Pisa
2. Chianciano's SPA – Siena
3. Montecatini's SPA – Pistoia
4. Saturnia's SPA – Grosseto
5. Venturina's SPA – Livorno

The selection has considered structures that offer the thermal wellness service without considering if the center is also a hotel. The survey is only concentrated on the thermal service and accessories ones. Furthermore, for privacy reasons, the structures are absolutely in anonymous and the only element of identification is the locality in which they are located.

Concerning the composition of the questionnaire, this has been realized considering the reference literature and visiting before the interview several SPA. It is made up by 5 macro areas that follow some data of the customer profile:

- A. Location
- B. Visual
- C. Sensorial aspects
- D. Services
- E. Synthesis frame

Location is important because it supplies a general placement of the SPA. The place in which it is located creates a perception in the mind of the consumer before having use the service. A SPA located in the city centre seems different from the one located on a beautiful panoramic hill in open country.

In the macro area visual we evaluate the image that the structure transmits externally, internally and through the conduct of its staff.

Going into the hearth of experience concept, we observe the sensorial aspects and than the visual, the olfactory and the auditory stimulus.

Another element that has been considered are the accessories services that the SPA provide and that let the achievement of an holistic fruition of the service itself. Moreover in the conclusive part of the questionnaire we introduce a synthesis frame in order to have an immediate perception from every interviewed customer about the importance of the experiential aspects that we propose in the survey and speeding up, at the same time, the consumer to supply cues that can improve the perceived service.

2. EMPIRICAL EVIDENCES AND EXPERIENTIAL ELEMENTS

In according to second research level it has been carried out the empirical analysis through daily visits in SPA, with previous consent of the direction. The questionnaire has been subordinate to 20 customers of each visited thermal structure. Surveying has been lead personally going to the center and interviewing customers pertaining to disparate age bands and that they were having use different services. The prevailing nationality of the interviewed consumers is Italian even if some Europeans can be numbered also. The daily visits have been carried out mostly in the middle of the week as requested from the direction.

The number of customers has been chosen so as to be able to have a sufficient value that allowed to delineate the SPA's experiential orientation. The sample's number has been established following also the considerations advanced from the SPA directors, than although they had given their availability in carrying out surveying, have shown a not particularly favorable tendency to make to interview their customers. From this it achieves that, the determination of the sample was such, from being able to find an equilibrium between trade-off from the will of the direction and an exhaustive empirical research.

A further clarification, that is thought opportune to supply about the sample target, is that it consists of a customer who has the features of tourist but also of the one who goes to the SPA to take care of himself. A customer who is part of the offer of thermal wellness. An integration between SPA industry and wellness that sees the achievement of a total psycho-physical and spiritual wellness like purpose, as an integration between heart and soul. The European conception of SPA is more and more similar to American and English one. Term SPA is used in order to indicate thermal stations in general terms or companies that supply water cures or services of well-being and cure of the body. Today the Spa companies offer not only thermal treatments, but also a great phantom of services (as an example massages, sauna, bath Turks etc.) for the health and for the harmony of the body and mind. A sensitive fruition of the thermal wellness in which the service is divided into several activities that implies an active and confident participation of the customer who can choose own way of fruition. Afterwards we elaborate the questionnaires belonging to each SPA that we selected and we worked out a short description of them.

1. Casciana's Spa

Location: In the last years, Casciana Terme's SPA have found a great appreciation from the thermal traditional clientele, directed more to a healthy and therapeutic comfort. This clientele

possesses as historical root the social and assisted thermalism. The structures offer a standard of high quality in the offered service. At the same time, from the questionnaires underlines that many young clients frequent Casciana because it's a place to be able to find above all relax. All of this has been consequence of the creation of the thermal site in the town's center, of the new external swimming pool thermal and of the recovery of prestigious places, adjacent to the thermal center, which act as meeting in different moments than the fruition of the thermal service.

Visual: The analysis conducted through questionnaires notices a good customer satisfaction towards the structure. For Casciana the orientation is more directed toward a comfort and to the care of rehabilitation, to the sanitary of the center, with the accreditation of Italian Sanitary Service (SSN). In the end, there is double evidence; the first one is the presence of traditional clientele, very satisfied by traditional service. In the other hand, the necessity to find a further appeal for the structure, otherwise too linked to an old conception of SPA's sanitary. The clients attribute warm tonality to the outside of the structure, but above all to the inside, resultant from the artistic recovery and from the restoration of places of beginning '900.

Services: The quality of the service is very high. It doesn't come to find a particular orientation towards the olfactory stimuli, if not in particular circumstances, but of sure value for the client it is the curative aspect of the service. For this the personnel develops a service of elevated standard.

Sensorial Aspects: The perception of comfort is accented by the feeling that the SPA, which gush out in the center of the town and therefore at the center of the thermal structure. It doesn't find music, if not in the swimming pool, in moderate way and with a greater rhythm when activity of rehabilitation is developed. Clientele appreciates the softness of the atmosphere also appreciating the services present and available accessories.

Synthesis Frame: In the conclusive part of the questionnaire, it notices that the clients have expressed in homogeneous way the importance of the services with a high quality.

2. Montecatini's Spa

Location: Thermal waters are the treasure of Montecatini, around to them thermal establishments have been built. To the most known hydropinic care, the SPA of Montecatini in the years have placed side by side an ample range of treatments comfort, from the massages to the muds, from the saunas to the aesthetical treatments.

Visual: Unlike the near territories, such as Monsummano Terme, Montecatini loses in structures and services renovation, because of the focus on the traditional services. The vision of client is about a sanitary service, in according to the care and not to the thermal comfort. As a Casciana Terme, the SPA of Montecatini are public, and the "Montecatini offer" seems to mostly be stable and not renewed in comparison to the Casciana. Clientele seems to perceive all this, above all because there isn't the sensory aspects, and for this the external visual doesn't fit with the inside of the structures. What appears out of the structure, the style, the classical architecture and liberty, it doesn't find comparison with inside environments.

Services: Although the client appreciates the SPA's staff, the services and the high traditional standards, there isn't a culture of leisure and relax, with fitness center, restaurant and stores.

Sensorial Aspects: The client doesn't perceive the use of olfactory stimulus, therefore it seems not to be diffused a culture of experiential marketing inside the structures of the Montecatini's SPA. Another important peculiarity is the old disposition of the structures. Surely they are perceived by the client as traditional value and heritage but this characteristic invalidates the functional profile.

Synthesis Frame: Montecatini it is a center with high potentiality, but with scarce propensity to offer's heterogeneity, limiting itself to a traditional service, although of high quality.

3. Chianciano's Spa

Location: The Chianciano's SPA, positioned in the Siena's Province, have had a history similar than Montecatini Terme. They are directed to the traditional cares and rehabilitated services. Nevertheless, forehead of this great experience of the city towards the thermal tourism, in the last years there has been a deviation over on the choices of business offered by thermal centers.

Visual: For this, the questionnaires underline a strong propensity of this SPA toward an inside and external visual of great impact in fact the client receives satisfactory visual stimulus at the SPA's entry.

Sensorial Aspects: In the last years have been developed the sensory thermal in Chianciano. Today the Chianciano's clients look for wellness, care of the person and high offered service, which are principal characteristics of this SPA. At the same time, the center stimulates the client through "modern architectural languages, technology of the comfort and tradition of the oriental medicine. In the other hand, there is a strong innovation of the service, which allows to receive warm feelings since the outside is consequence of the use of modern and ecological architecture.

Services: To the traditional service of treatments and "classical" thermal experiences such as baths, mud and hydropinic care, the clientele requires new opportunity from typical SPA. For this, in the structure the principles of the oriental philosophies melt together in the holistic vision of the individual comfort. According the pleasant and manifold sensory experiences are interpreted in key of energetic equilibrium, for a younger clients. These seems to be the key of the discovery of Chianciano, which has known tie the tradition to a "winding" marketing, offering a 360 degrees service. High votes have also been given in the questionnaire under the profile of the services accessories and complementary, such as the possibility for meeting people in the café lounge, submitting to particular treatments comfort, having to be able the SPA in evening. For the client is very important the perfumes and the music too, they allow to increase the classical service of baths and mud.

Synthesis Frame: From two-three years it has been introduced a service that embodies the most recent conceptions of experiential marketing and of thermal service innovation. This also has comparison in the interview done to the clients of the structures. The client of Chianciano is diversified, but there is a strong presence among the 30 and 45 years old, for which the SPA are not only place of care, but above all place of relax.

4. Saturnia's SPA

Saturnia is a beautiful SPA closed to the medieval village of Saturnia and encircled by a centuries-old park typical of the countryside of Maremma. The centre is well organized and it can satisfy the most exacting customers. It was born as beauty farm, like a place to find quiet and wellbeing, every kind of relaxing treatment is offered to the customers and there are a lot of naturalistic and in the open activities out of the centre. The water can reach the 37° C temperature, the swimming-pools are opened all year due to a warm air tunnel which maintains the right temperature.

The analysis about the thermal centre performed by questionnaires shows a good customers' satisfaction. Indeed Saturnia's SPA offers a very a painstaking service to let it to be a place adapt for refined customer. Experiential elements are reported in the questionnaire.

The majority of the interviewed customers confirms that Saturnia's SPA is a interesting experience due to the quality of the offered service which appears painstaking and studied in every minimal detail. The interviewed clients are all Italian and most of them are male. The prevailing age is between the 40 and 50 years.

The

macro-areas of the questionnaire:

1. *Location*: the building is overwhelmed in a verdant country. The location seems to be an influent factor on the creation of experience. The customers, in fact, attribute to it a perception of relax with a very positive impact. The thermal centre does not have a particular panoramic location but it does not seem to afflict negatively the customers' opinion which is, however, influenced positively by the beauty of the architectonic structures.

2. *Visual*: The centre, recently renovated, presents itself in a excellent condition, it's clean and it has well painstaking details. The staff seems to be up to the image of luxury and relax which the SPA wants to give. The customers are partially in disagreement each other with the perception of the stimulus come from the vision of the opened spaces in respect of the indoor ones. In fact, for the first group a cold tonality is prevalent due to the presence of stones as material for the construction of the building and its particulars, instead, with regard to the internal areas, there are hot tonalities given by colors like ochre, yellow used for the Romanian bathroom.

However, it's demonstrated that this opposition of stimulus is efficient to live the experience deeper, outside there are the thermal baths with the running water instead internally there are services and specific treatments with a setting makes friendly.

3. *Sensorial Aspects*: The customers do not perceive the presence of particular fragrances, just someone have referred to light perfumes in specific area of the building. On the contrary all customers agree on the presence of the music with moderate volume in the thermal swimming pool outside.

4. *Services*: there are a lot of complementary services with high quality.

5. *Synthesis frame*: it's pointed out that the clients have shown homogeneously the importance of all elements considered to re-create the experience, however the most significant are the service quality and the complementary services. No particular suggestions to improve the quality of the centre offered services have been provided.

5. Venturina's SPA

The thermal baths go back to the Romanian age, they have been built to the principal thermal crater round. Venturina extend to 60.000 mq area and they are formed by a main building and by a big thermal swimming pool. The main thermal water source supplies two plants, the one we are considering comes from the primitive water source. The SPA is integrated in a beautiful historical context, it has the best services and treatments for relax and psycho-physic wellbeing. The hot water comes from directly a thermal basin supports 12.000 litre/minute. In general an empirical survey has shown a good level of satisfaction of the SPA's clients. The majority of the interviewed is Italian even if some Europeans are numbered. There is a prevalence of women on the champion and the age is comprised in a range from the 20 to the 50 years.

1. *Location*: it's located closed to Venturina village and it does not have a panoramic position.

2. *Visual*: The external visual is coincident with the internal one. The clients, in particular the habitual ones, have declared that significant structural investments there have been and there are and that the aim of the management of the centre is to create a thermal centre that can be located at the medium-high level of the sector of the Italian thermal wellbeing. As consequence of that, the location appears recently redecorated, kept on good status and clean. However, the majority of the interviewed sample has shown a not complete satisfaction with regard to the staff which seems not to be social and not enough helpful and trained.

3. *Sensorial Aspects*: making reference to the visual stimulus, the presence of hot tonalities due to red bricks and colored mosaics are prevailing in the enclosed spaces instead the tonalities are colder in the open. The customers do not perceive the presence of essences and music.

4. *Services*: The thermal centre has some complementary services like the Turkish bath, the wellbeing treatment and a restaurant closed to the bar. The quality of the service is medium.

5. *Synthesis frame*: the centre shows elements of experience due to the interventions of last years, but it still needs of ameliorative starting points. The majority of the customers have detected the staff, the quality and the leisure services as points to be improved. These elements are believed to be very important to create the thermal experience concept by the customers.

3. COMPARISONS AND STRATEGIC POSITIONING MAPS

In the last phase of the research, from a single analysis of the structure we are joints to observe the centers considered in their entirety being traced an outline of synthesis of the factors considered in the questionnaire. Moreover, always pursuing the aim to supply an exhaustive vision of the lead research, they have been realized positioning maps that find for each SPA the position occupied inside of the considered context.

Considering the macro areas of the questionnaire for the five SPA it is reached the following observations.

Location: it seems moreover that, although it is not so interesting the panoramic and landscaped position of the SPA, the location is more important. The SPA positioned outside from the city seems that they have a greater experiential attractively and are more oriented to offer something more than the other centres.

Visual: we verified that the external visual of the SPA predisposes the customer to a greater sensory laxity if characterized by particular furnishings and architecture details. In the questionnaire we find often that there is a proportional coherence between the external and the internal image.

Sensorial Aspects: The sensorial aspects through visual, olfactory and auditory stimuli, assume a particular importance in the structures that offer greater accessories services. It show that really in that structures, attended by a variegated clientele that searches for different services from the traditional one, the complementary services assume a great importance. Usually stimuli that are more appreciate are the once with warm colour, with the presence of fragrance, that change from a service to another. Particularly appreciated it is also the presence of low music, that helps and stimulates to join the treatments the customer is doing.

Services: the services distributed from SPA represent the element hinge on which constructing the concept of experiential use of the thermal service. Nearly the totality of the interviewed customers has expressed the importance of their presence without which the center loses own value. Very important is also the “customer service” concept instead of the “patient cure” one, concept founded among the centre-goers and linked by now to previous decade. So the key of the competition is to succeed in being original and different from competitors, to succeed in suggesting something new, simply by rearranging in new forms what already exists, to succeed in producing emotions that can be remembered, exceeding also the same expectations of the customers.

Synthesis frame: here we defined the aspect which is mainly important for the customer in order to create the experience. Considering the totality of the written up questionnaires we evince that the majority of the interviewed sample has indicated the services and the sensory stimuli like determining main factors of the experiential use of the service. Two factors allow us to position SPA subordinates to examination through these factors. The map of following positioning identifies with clarity the placement that every SPA stops.

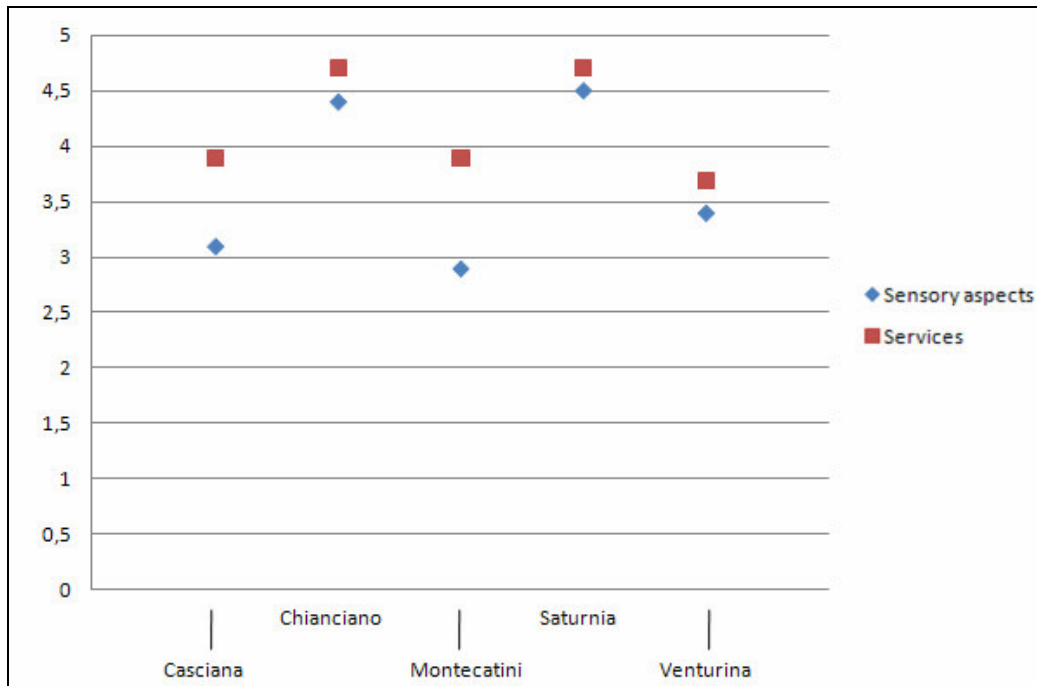


Figure 1

X= SPA

Y = score: sensory aspects/services

Legend

Score: 0 tin pot
 1 not sufficient
 2 just sufficient
 3 fully sufficient
 4 good
 5 tip top

The figure 1 emphasizes the importance of the experience as fundamental factor in the thermal tourism nowadays. For this, the SPA really have invested in this direction, surely they will have a proper return on the investment about the image and receptivity. In fact, Saturnia and Chianciano have known to gather these key factors, also determining guidelines that can be defined such as the new frontier SPA's comfort. Offering an innovative and exclusive service of high quality, holding to the traditional care. For this, the two thermal places, they express high values, superior to the 4 points on 5 in the services and in the sensorial aspects. Venturina, Montecatini and Casciana introduce values sufficient for both the variable ones considered even if there are still from undertaking covered of improvement in order to catch up a high level quality experiential service.

From the proposed map we work out a further analysis of positioning of the five SPA based on the present services (Figure 2). Considering the decomposition proposed in the questionnaire of analysis (D1) we can group eight services proposals in the two classes of leisure and relax. In the first class we consider stores, fitness, restaurant and bar lounge, in the second one, that is relax, there are treatment well-being, bath Turk, sauna, solarium. It is specified that the services indicated in the questionnaire derive from a careful carried out surveying previously to the empirical analysis in the thermal structures. The map extension the positioning that every SPA

occupies in the services relax and leisure with a deliberate score for everyone from the expressed average of the appraisal from the 20 customers for every structure.

Also in this case, Chianciano and Saturnia confirm their appeal, respectively in leisure and in relax. Venturina's Spa introduces a little satisfactory score in the services leisure, in fact it is lacking a fitness centre, stores and bar lounge. In the relax area instead it stops a sufficient score thanks to the recent investments realized from the direction that have seen the restructure of the inner areas of the SPA. Casciana and Montecatini introduce satisfactory values in the services pertaining to the area relax thanks to the presence of taken care well-being's treatments. On the contrary a score rather low in the leisure services is found, species for Montecani's SPA. From the analysis of the two maps evince that Saturnia and Chianciano introduce a thermal center that allows to live an experience in the use of the distributed service. The others three SPA instead, only introduce satisfactory values for some factors and therefore they still do not succeed to guarantee an experiential thermal service.

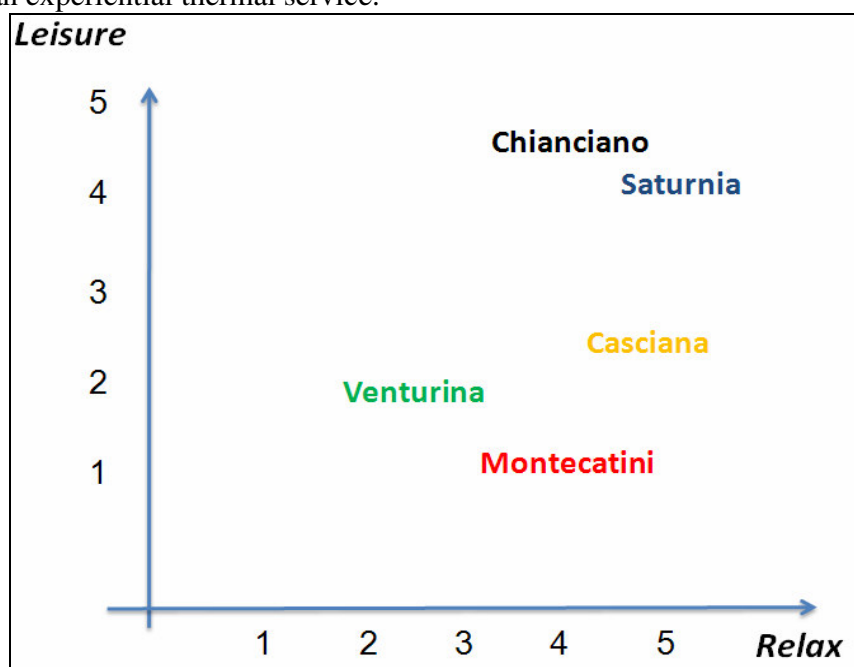


Figure 2

X= score: leisure services

Y = score: relax services

Legend

Score: 0 tin pot

1 not sufficient

2 just sufficient

3 fully sufficient

4 good

5 tip top

CONCLUSION

The research delineates some common lines for the Spa submitted to examination. In fact, although we find different cultures and different contexts of service it is welcomed with greater

desire from the client, the experiential context. An experiential context that denotes a holistic concept of the comfort. Different than the thermalism of the nineties, today clients ask for a service mixing environment, SPA and comfort. The SPA center cannot run after the concept of thermal baths as sanitary place and attention anymore to the health, in some centers, as still this is present. This isn't a good business for SPA; nevertheless the conception of health has to be connected to the evolution of health's prevention. This one will be called promotion of the health for the client. The experience and the characterization of the context in which the service is offered is fundamental for the clientele, for the image of the SPA and its exploitation under the profile of perceived value. An innovation of the image perceived, which increases the offered service, deleting the old image of traditional care. This is also found by the conducted investigation, since really in that centers in which this has been developed with greater care, there is a high favorable client opinion. Therefore the experience made through the five senses seems to be the solution for creating most value toward the client. Besides, this the services accessories and complementary, such as the bar lounge, the treatment comfort of new generation, the restaurant are pleasant to a younger clientele.

LIMITS AND FUTURE DEVELOPMENTS

The limits that can be detected in this work may deal with sample composition. Taking always into account the country we are referring to, we could get a more exhaustive vision from an examination of all thermal centres in Tuscany and subsequently we could realise a comparative analysis between the thermal centres of different Tuscanian provinces. Besides, it would be interesting to perform a comparative analysis also between thermal centres located in different Italian districts in order to analyse the Tuscany positioning with respect to the national one. With reference to the analysis samples, it could be useful to increase the number of interviewees in order to elaborate a segmentation of interviewed customers and to provide a more exhaustive analysis. For example a possible segmentation could follow the age and membership country criteria. Making reference to the future developments of this work, we would like to get over the defined limits, proposing a deeper research on the custom of the thermal service in Tuscany which could be useful for the people work in this sector. In this regard, our purpose is to analyse the existence of the experiential marketing on the Tuscanian context. This work should be intended as a start up work to build on it a more articulated work to be presented at the next meeting.

APPENDIX

QUESTIONNAIRE

CUSTOMER PROFILE

AGE:

GENDER:

NATIONALITY:

A. LOCATION

1) *The S.P.A. is located:*

- Countryside
- City center
- City
- Coastline

2) *The S.P.A. is located in a panoramic position:*

- Yes
- In a measure
- No

3) *In your opinion, how affect location on S.P.A. experience?*

- At all
- A little
- Pretty much
- A lot

Why?

B. VISUAL

1) *Do you think that there is coherence between the internal and the external image provided by the S.P.A.?*

- Yes In a measure No

2) *The S.P.A. is:*

- Recent and well-groomed
 Well-groomed
 Clean
 Not very clean
 With little imperfections but satisfactory
 Decadent

3) *The S.P.A. staff is (more than one answer is accepted):*

- Courteous
 Informed
 Helpful
 Not very sociable
 Uninformed
 Absent

C. SENSORIAL ASPECTS

VISUAL STIMULUS

1) *Predominantly shades used in the external premises of the S.P.A.:*

- Warm colour
 Cold colour
 Black and white

2) *Predominantly shades used in the internal premises of the S.P.A.:*

- Warm colour
 Cold colour
 Black and white

3) *The predominantly colours are suitable for the services provided?*

- Yes In a measure No

In case of negative answer, please explain why:

OLFACTORY STIMULUS

1) *Do you notice the presence of perfume inside the S.P.A.¹?*

- Yes In a measure No

In a positive case:

- Deep
 Light

2) *Do you think that the kind of fragrance is suitable with the context?*

- Yes In a measure No

In a negative case, what do you suggest?

AUDITORY STIMULUS

1) *Do you notice the presence of music?*

- Yes No

Music volume:

- High
 Quite low
 Low

Rhythm:

¹ We refer to the use of particular fragrances inside certain areas of the S.P.A.

- Slow
 Moderate
 Fast

D. SERVICES

1) *Mark the leisure and relax areas according to their importance:*

Bar lounge	1	2	3	4	5
Fitness	1	2	3	4	5
Turkish bath	1	2	3	4	5
Sauna	1	2	3	4	5
Restaurant	1	2	3	4	5
Wellness treatments ²	1	2	3	4	5
Solarium	1	2	3	4	5
Shops	1	2	3	4	5

2) *Mark the potential presence of these services according to their importance:*

S.P.A. linen provided	1	2	3	4	5
Personal care assistant	1	2	3	4	5

3) *Quality services?*

- High Upper middle Lower middle Low

E. SYNTHESIS FRAME

1) *Which of these elements enable to create the experiential concept in the services fruition?
 Mark the ones you consider more meaningful*

Location
 External image

² In the wellness treatment are included all kinds of masseges, fango mud, body treatments.

Internal image
 Staff
 Sensorial aspects
 Services provided
 Quality services

2) *Express an opinion on the following aspects referring to the S.P.A. where you stay:*

Location	1	2	3	4	5
External image	1	2	3	4	5
Internal image	1	2	3	4	5
Staff	1	2	3	4	5
Sensorial aspects	1	2	3	4	5
Services provided	1	2	3	4	5
Quality services	1	2	3	4	5

3) *What do you suggest to improve the quality and the services of the S.P.A.?*

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INFORMATION QUALITY AND DATA COLLECTION METHODOLOGIES IN TOURISM MANAGEMENT¹

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THE DESTINATION MANAGEMENT THROUGH FACTS AND DATA

Critical company decision-making about new product launches, brand marketing and communication activities often takes place in darkness because of the absence of a real knowledge on the status quo and on the consequences related to the implementation of strategic choices.

It is frequently possible to notice the existence of managerial myths in decision-making⁴ that do not correspond to the real conditions of the market or the sector at all. Moreover, strategic choices are commonly based on recommendations that find their justification mainly in the principals' convictions or in the organizational status quo.

If this is true for a company, the analysis becomes more worrying if we take into consideration the tourism sector. In fact, tourism offers a product which can be defined an amalgam⁵, a product constituted of many services provided by different actors. In such a scenario, National Tourism Organizations (NTOs) have the important role of organizing the tourist offer of the destination promoting events, supporting cooperation, keeping the public order, programming activities, promoting the destination and, last but not least, monitoring the statistics on tourism (tourists' flows, tourist offer and so on)⁶.

This last competency is particularly delicate; if it is true that for a company monitoring the quality and quantity of customers is absolutely necessary in order to guarantee effectiveness and efficiency, for a destination these aspects become even more relevant as they concern a group of agents who cannot work independently but, because of the difference of their competencies, need to be helped to organize and articulate their offer.

As a result, NTOs should possess a good statistical knowledge on the destination they manage. This would allow the whole tourist offer to rely more on evidence than on hope or guess-work. Of course, this does not mean running down the merits of intuition, but without an empirical consciousness of the market reality the risk of missing the target of the strategic choices is certainly higher. In fact, empirical data can give more efficient analytical and provisional possibilities. In addition, a good documentation process assures the tourist offer

¹ Even if the paper has been discussed together, in writing down the different parts Nicola Cobelli has contributed to paragraphs 1 and 2, Francesca Simeoni to paragraphs 3, 4 and 5.

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⁴ B. Hughes (1995), "Why do managers need myths?", *Executive Development*, Vol. 8, n. 5, pp. 8-10.

⁵ R. Shepherd (ed.) (1998), *Tourism: principles and practice*, New York, Longman, p. 103; M. Franch (editor) (2002), *Destination management*, Torino, Giappichelli, pp. 18-20.

⁶ F. Brunetti (1999), *Il turismo sulla via della qualità*, Padova, CEDAM, pp. 217-18; R. Shepherd (ed.) (1998), *Tourism: principles and practice*, New York, Longman, pp. 225-245.

an active and proactive attitude. An evidence-based knowledge of the tourist demand can help a destination to enjoy a competitive advantage⁷.

Ishikawa (1992) underlines the importance of an evidence-based approach as an instrument to guarantee quality and success. In this context, it is fundamental to acknowledge the great value of facts. Ishikawa proposes a process that assures an appropriate knowledge of reality in order to perform actions able to guarantee success. Such process is constituted by three phases: (a) Starting from facts; (b) Transforming facts into data; (c) Using data and statistical methods⁸.

Starting from facts is necessary in order to avoid proposing preconceived ideas and using data only in order to make them say what we want them to say a priori. Only through a real knowledge of facts it is possible to go ahead, translating facts into data and interpreting them in a proper way through statistical tools. Statistics are validated by the use of data analysis techniques that must necessarily represent facts. By following the aforementioned process, it is possible to obtain statistical elaborations that are able to provide managers concrete instruments for managing the available resources⁹.

Galgano (1990) has underlined how the implementation of quality control systems is only possible through a revolution of the *forma mentis* of managers. In fact, human nature tends to suggest a too experientially-based approach to problem solving. This necessarily causes a tendency to propose solution hypotheses even before a detailed analysis of the problem's causes has been carried out. That is why it is necessary to develop a new approach, which can be summarized by the slogan: "Analyze facts and talk through data"¹⁰.

2. EVIDENCE-BASED APPROACHES TO DATA COLLECTION METHODOLOGIES

Precisely because of the relevance of facts as starting point for a correct interpretation of reality, NTOs should ask themselves how robust is their documentation process on tourist flows and how correct and trustable is their data interpretation. It happens very often that data collection do not follow criteria able to guarantee the success of a destination and, as a result, data lose their relevance.

A significant help in this direction comes from the 2008 International Recommendations for Tourism Statistics (IRTS 2008), approved by the United Nations Statistical Commission during its 39th session in February 2008.

IRTS 2008 was created by the Department of Statistics and Tourism Satellite Account of the World Tourism Organization (WTO) and the United Nations Statistics Division. It is a revision of the previous 1993 Recommendations on Tourism Statistics (1993 RTS).

The first chapter of the aforementioned document asserts the importance of having reliable statistics for policy-makers to make effective decision. In fact, a correct analysis of tourism and the correctness of the decisions taken can only be guaranteed through "sufficient and adequate data". Nevertheless, this condition is absolutely necessary not only to support and improve decision-making, but also to implement marketing strategies, to evaluate the effectiveness and the efficiency of managerial decisions and to measure tourism impacts on national and international economies¹¹.

⁷ D.M. Rousseau (2008), "On organizational behaviour", *BizEd*, Vol. 7, n. 3, pp. 30-31; Y. Farmer (2007), "Conducting research to evidence-based changes", *Corrections Today*, Vol. 69, n. 6, pp. 22-23.

⁸ K. Ishikawa (1992), *Che cos'è la qualità totale* (from *What is Total Quality Control?*), Milano, Il Sole 24 Ore Libri, pp. 142-46.

⁹ K. Ishikawa (1986), *Guida al controllo di qualità* (from *Guide to quality control*), Milano, Franco Angeli, pp. 54-55.

¹⁰ A. Galgano (1990), *La qualità totale*, Milano, Seme, pp. 265-269.

¹¹ *International recommendations for tourism statistics* - UN Statistical Commission, 39th session, 2008, p. 1.

According to this perspective, the United Nations and the World Tourism Organization have cooperated in order to avoid useless duplications of common initiatives, establishing specific competences for the collection, analysis, publication and dissemination of statistical information. The efforts made in order to combine and coordinate their initiatives is particularly significant and represents a reference model for all NTOs to guarantee clearness and correctness in the spreading of data.¹²

IRTS 2008 offers some recommendations for the analysis of these flows, starting from a distinction among three basic forms of tourism¹³:

The inbound tourism, which comprises the activities of a non-resident visitor within the country of reference on a inbound tourism trip;

The domestic tourism, which comprises the activities of a resident visitor within the country of reference either as part of a domestic tourism trip or part of an outbound tourism trip;

The outbound tourism, which comprises the activities of a resident visitor outside the country of reference, either as part of an outbound tourism trip or as part of a domestic tourism trip.

According to these taxonomic classification, IRTS 2008 proposes different data collection methodologies. For the measurement of inbound visitors, it recommends the use of many data sources in an integrated way. As a consequence, it suggests to promote joint efforts of National Tourism Administrations, National Statistics Offices, Central Banks and border control authorities. Nevertheless, in most European Union countries the administrative controls at the borders have disappeared and thus accommodation statistics can be used as a substitute of the more traditional data collection system.

Measuring the flows of domestic visitors is justified by the growing economic impact of this phenomenon in many developed countries. In fact, it is estimated that in Italy in 2007 domestic visitors have been 721.072.000, with an increase of +6,6% over the previous year. Analyzing the percentage composition of the chosen destinations, it is estimated that 83,2% of the Italians who went on holiday in 2007 chose national destinations (with 39,4% choosing destinations in the North, 19,7% in the Centre and 24,1% in the South), against a 16,8% of Italians who chose international destinations¹⁴.

A good analysis of these visitors can be done through the study of accommodation statistics, although this method does not allow an effective separation of visitors from other travellers and of domestic visitors from inbound visitors. As a consequence, the document suggests to

¹² “1. The United Nations and the World Tourism Organization agree to strive for the maximum cooperation, the elimination of all undesirable duplication between them and the most efficient use of personnel in their respective collection, analysis, publication and dissemination of statistical information. They agree to combine their efforts to secure the greatest possible usefulness and utilization of statistical information, to guarantee close coordination in their respective statistical related initiatives and to minimize the burden placed upon Governments and other organizations from which such information may be collected.

2. The World Tourism Organization recognizes that the United Nations is the central agency for the collection, analysis, publication, standardization and improvement of tourism statistics serving the general purposes of international organizations.

3. The United Nations recognizes the World Tourism Organization as the appropriate organization to collect, to analyse, to publish, to standardize and to improve the statistics of tourism, and to promote the integration of these statistics within the sphere of the United Nations system”, *Agreement between the United Nations and the World Tourism Organization* - UN General Assembly, 58th session, 2003, Article 13.

¹³ It is useful to underline that the classification proposed by IRTS 2008 differs in some aspects from the 1993 RTS. In fact, in the 1993 RTS, domestic tourism included residents of the given country travelling only within this country; inbound tourism included non-residents travelling in the given country; outbound tourism included residents travelling to another country. For a more detailed comparison between the two documents, see www.world-tourism.org, 2008.

¹⁴ Source: ISTAT.

conduct interviews also to visitors and accommodation agents. This combined study allows to obtain two goals: first of all, from the accommodation analysis could emerge not only the visit itself but also the length of stay; secondly, the interviews can reveal not only the tourists' visits at a certain point of their movement, but also offer a more global vision of the tourists' behaviours. In addition, interviewing visitors at the destination allows to include in the analysis also the visitors who do not stay overnight in a traditional accommodation (hotels, campings etc.), but spend their night in unpaid accommodation, such as owned vacation homes or the house of relatives or friends.

Finally, IRTS 2008 recommends the measurement of outbound visitors flows through one of these three methods: the Entry/Departure Cards, a survey at the border, or a household investigation.

In short, four are the methods proposed by IRTS 2008 to obtain trustable and solid statistical data on the visitors flows:

- The Entry/Departure Cards and borders surveys;
- The accommodation statistics surveys;
- The interviews to visitors and accommodation agents;
- The household surveys.

According to the National Institute of Statistics' (ISTAT) guidelines, in Italy the statistical data collection is managed by the Regions. The Veneto Regional Law¹⁵ charges the Provinces with the data collection of arrivals and nights, by requiring accommodation structures to send the data about their guests. The statistics are published on the Region web site and periodically aggregated by ISTAT. As a consequence, in Veneto there is an accommodation statistics survey system, but researches on tourists or accommodation agents are only occasionally implemented. When this happens, such investigations are carried out by University researchers or by consultancy firms, and the results of the research cannot reach all operators in the sector.

Thus, if we compare the state of the art of the Italian data collection system with the United Nations' recommendations, a first methodological weakness can be identified in the methodology. This situation causes the availability of too-aggregated statistical data, and does not allow for detailed analyses at a local level.

Secondly, from a 2006 survey conducted on the tour operators of Verona¹⁶, a certain distrust of private operators for the local public organizations has emerged. In fact, although private operators consider the role of the Region and of the Province extremely important for a good management of the destination, they also argue that many of the initiatives launched by these boards are actually quite useless.

Thirdly, another problem of the data collection system as it has been implemented until now is the delay caused by bureaucracy in the communication of the results. Such a delay invalidates the data, since they are often not up-to-date. A heavy consequence of this situation is the difficulty of forecasting the sector's trends.

To sum up, the weaknesses in the methodology currently adopted in Italy and in the Veneto are:

- The lack of interviews to visitors and accommodation agents;
- The non-timeliness of the communication of statistical data;

¹⁵ Regione Veneto - Law n. 33/2002, article 39.

¹⁶ C. Baccarani, F. Brunetti, N. Cobelli, C. Rossato, F. Simeoni, M. Ugolini, V. Vigolo (2007), *Verona sistema turistico locale? Un itinerario tra realtà consolidate e potenzialità inespresse del turismo nel capoluogo scaligero*. Research Report.

The distrust of private operators for the public boards' initiatives.

In order to respond to the growing necessity of up-to-date and reliable data that could be collected, analyzed and communicated quickly, and in order to recover the confidence of the operators of Verona, the creation of a "Tourist Lab" managed by the University of Verona has been planned. This project does not aim to create the umpteenth tourism organization, but rather to tackle the issues of information quality and of data collection methodologies through the use of scientific tools that take into account not only the quantitative aspects but also the qualitative ones, avoiding improvisations and bureaucratic duties.

3. THE PROBLEMS IN COLLECTING AND COMMUNICATING TOURISM DATA IN THE VERONESE AREA

A good knowledge of the market dynamics, in particular of the tourist demand, is more and more a necessary precondition for private tourism operators.

On their part, public operators need information in order to guide the decisions of territorial government according to the principles of transparency and rationality.

On the basis of such premises, the data collection and analysis system must be planned with the aim of producing and making accessible for private and public decision-makers new information about the Veronese tourism system, trying to achieve methodological rigor in the research activity and to coordinate the various initiatives on the territory.

In the Veneto region, and more specifically in Verona, there are several organizations collecting and analyzing data on tourist flows. However, a more detailed analysis will show us why it has not yet been possible to achieve the set goals, and which direction should be taken in future researches.

First of all, we could mention the data collection on tourist arrivals in the province of Verona (as well as in the rest of Italy) carried out by the Police for safety reasons. The mandatory communication to the Police – also called notification – consists in informing them every day (before the midnight hour) about guests' arrivals, departures and destinations. The notification is carried out through an ad hoc form (called "schedina alloggiati"), which does no longer require to record the destination¹⁷.

The form can also be filled out by the guest and in case of groups it can be substituted by a simple list of the group's members. Failure to comply with the aforementioned duties will result in sanctions.

The data thereby collected have the great advantage of timeliness, but given the goal of the data collection and the resulting scarcity of information in these forms, such data are useless from a managerial point of view.¹⁸

Secondly, there is the already mentioned data collection carried out by the Province on behalf of the Region. In this case, the data collection takes place through the daily filling out of the ISTAT C/59 form, either in digital or paper format, by every accommodation structure (hotels and other complementary structures)¹⁹ and the communication to the office in charge within the next 24 hours (alternatively, the data can be grouped and communicated to the office every 5 days).

¹⁷ According to the Ministerial Circular n. 1039 906/13000 of 1st September 1954.

¹⁸ Furthermore, it would be impossible to get a copy of these data from the Police.

¹⁹ The definition of hotels does not include hotels in the strict sense, classified according to five categories (stars), but also hotel-villages and residences. Other complementary structures include: professionally managed rental houses, campsites and tourist villages, farm guesthouses, youth hostels, holiday houses, alpine lodges and other accommodation structures. B&Bs are also taken into account.

The data on daily flows of guests^{are} thus collected by the Province offices which produce a summary and forward it to the Region office through web data communication systems.

The only data that this form takes into account are the number of daily arrivals and departures, and the tourists' place of origin (the country of origin for foreigners, the city for Italians). Therefore, these data cannot be of much help for guiding the territorial management from a tourist point of view. Moreover, the apparent timeliness of this data collection system is not real, given the regular delays in the delivery of the C/59 forms on the part of the accommodation structures.

Given the limitations of such data collection systems, over the years several ad hoc researches have been promoted by different organizations and with different aims. However, these researches have not been based on principles of clarity, transparency and unambiguousness.

Our project for the creation of a "Tourist Lab" starts precisely from the analysis of this situation in the Veronese area.

4. A SYNERGY AMONG ORGANIZATIONS FOR THE CREATION OF THE "TOURIST LAB" IN VERONA

In 2006, a "Tourist Lab" was created in Verona with the aim of producing and making accessible for private and public decision-makers new information about the Veronese tourism system, trying to achieve methodological rigor in the research activity and coordinate the various initiatives on the territory²⁰.

The first step was the creation of a system for monitoring tourist flows in order to integrate the data on arrivals and nights periodically collected by the Province offices through sample surveys that offer timely and reliable data about the dimensions of the tourist demand, as well as of the related short-term predictions.

For this purpose, during the first stage the services of specialized market research companies were also deployed, in the conviction that the neutrality of the organization conducting the interviews and processing the data would make operators more confident and willing to give information also when it is considered "sensitive".

Together with the market research company that won the contract, Doxa S.p.A, three surveys per year were planned, starting from the second semester of 2006 (end of September 2006, end of January 2007 and end of May 2007). Specifically, the research instruments deployed were:

Qualitative surveys (focus group) with the representatives of category associations and other privileged interlocutors

Quantitative phone surveys to tourism operators

4.1 QUALITATIVE SURVEY

Three focus groups conducted by experts from Doxa S.p.A. were realized with the representatives of category associations and other privileged interlocutors selected in cooperation with University and Province representatives. The aim of these focus groups was to collect opinions, ideas and proposals on how to collect data and on the problems of tourist destinations.

Moreover, there was an attempt at evaluating, together with the participants, the opportunity to obtain from a panel of structures in the province of Verona various forms of collaboration in order to collect data on arrivals and nights more promptly.

²⁰ For a more in-depth study of the objectives, methodologies and instruments of a tourism observatory, see M. A. Corigliano (ed.) (2000), *L'osservatorio turistico*, Egea, Milano.

The topics discussed during these meetings should have been useful for reducing the operators' resistance to talking about their actual behaviors in the collection of data about arrivals and nights.

Eight tourism operators were involved in each of the three meetings, during which the aims of the research and its methodology were explained, and every participant gave a brief presentation. The following aspects were analyzed:

the image of Verona as far as tourism is concerned: strengths, weaknesses and a description of the tourists' profile;

the last season's performance, highlighting the calculation strategies adopted by each operator and of the presupposed motivations, as well as an analysis of the possible changes in the tourists' behaviors;

the operators' opinions on the data and information for the tourism evaluation (what kind of knowledge is needed?) of Verona and its province, and on the methods to be used for collecting data on arrivals and nights;

ideas on the possible developments of tourism in Verona and its province.

Analyzing the observations of the operators about the problems in collecting data, what emerged was a difficulty or reluctance to give an overall evaluation of the season's performance. In fact, the operators referred mainly to the results of their own business, and only in a few cases they referred to the global data collected by category associations or other public or private organizations. They indeed noticed a scarcity of data, particularly the insufficiency of the data published by the Province and the lack of a comparison between the official data and the data about airport arrivals.

Given the professed lack of data for an appropriate evaluation of tourism in Verona and its province, according to the operators the most important information regards the actual situation compared to the customers' expectations, and in particular:

the "sociological" definition of the tourists:

who they are,

their place of origin, useful in the short-run in order to decide in which countries to invest in communication, and in the long-run in order to influence airlines or encourage young people to study certain foreign languages,

which means of transport they use, in order to understand which services need to be potentiated,

how long they stay and in which days of the week, in order to promote discounts during certain periods or days so as to fill hotels more homogeneously,

who they come with (alone, with the partner, with the family, in a group), in order to adjust offers and services;

the behaviors during the visit: for instance, what kind of accommodation structure they use, whether they stop in one place or move around, where they come from and where they go afterwards, all of which are data useful for developing shared strategies among the operators;

the reasons of the visit.

Operators think that knowing the destination's potential for development is as important as knowing the tourists' expectations. In fact, this is useful for deciding whom to pay special attention to and which communication strategies to adopt in order to attract new visitors. In this sense, it would be important to examine the meeting-point between the market potential and the destination's development potential: who might want to come? What are his/her interests? What kinds of services should be improved? In which direction should the destination be developed?

4.2 QUANTITATIVE SURVEY

The focus groups' results gave rise to the second kind of research, which was began at the end of summer 2006. It was a quantitative phone survey aimed at collecting data on arrivals, nights and predictions for the future from a sample group of hotels and other accommodation structures.

These surveys represent the most useful and efficient source for monitoring the demand's tendencies and, despite some limitations, also for making predictions.

All the collected data could have been statistically processed in order to create a demand curve, with a higher reliability of the data, if the surveys had been repeated regularly. The phone interviews to the managers/owners of hotels and other structures in Verona were conducted by the market research company Doxa on the basis of a questionnaire prepared in collaboration with the University and the Province of Verona. The results were processed through the CATI method (Computer Assisted Telephone Interview).

Periodically repeating the 12-15-minute phone interviews in the same structures would have guaranteed the attainment of the surveys' goals, that is, the creation of an observatory on the trends of the tourist demand, actual and potential, in the province of Verona. More specifically, the phone survey aimed at collecting data on:

the trends of arrivals and nights in every period compared to the same period of the previous year;
 the reasons for the increase or decrease of arrivals and nights;
 short-term predictions based on inquiries and bookings received by the structures;
 the ways in which customers get information and book accommodation;
 the problems and expectations of the operators and their opinion about the possible private and public interventions for promoting tourism.

In 2006, the accommodation structures in the whole province of Verona were 1.758, of which 680 hotels and 1.078 other structures. The planned interviews for the end-of-summer survey were 400 (in the three periods, 1004 interviews have been conducted), distributed as follows:

- 200 hotels (1 on 3,5)
- 200 other structures, of which: 50 B&Bs (1 on 4,0), 20 room rentals (1 on 7,0), 30 holiday farms (1 on 4,0), 60 apartments (1 on 8,6), 30 campsites (1 on 2,0), 10 other structures (1 on 5,0).

The proposed distribution took into account the necessity of:

giving more relevance to hotels (200 interviews), because they could provide more significant data;
 considering a large number of those other structures that could be relevant for the purposes of the survey (between 30 and 50 structures for most categories);
 considering a particularly large number of apartments, because they are more numerous (almost half of the total number of structures, excluding hotels) and also because they could display very different situations, characterized by a resistance to providing data and by a low level of information;
 giving less relevance to certain categories, which could be grouped together (20 room rentals with 50 B&Bs or with 60 apartments) after weighting the data so that every subgroup could be attributed the same sampling rate;

having an adequate number of spare addresses for all categories, with a ratio of at least 3,5-4 spare addresses for every planned interview, with the only exception of campsites (65 addresses for 30 interviews, which could be reduced to 20).

The addresses for the interviews were drawn systematically in relation to the sampling rate. This allowed to attribute the correct weight to all major municipalities and in particular to the municipality of Verona and to the other main tourist destinations.

4.3 THE LIMITS OF THIS PROJECT

This project also included a comparison between the data collected through the Tourist Lab survey and other data collected mainly by the Province of Verona. The aim of this comparison was to highlight not only the criticality of this research, but also its potential, and thus to attract all those people who could be helpful for improving the results of the next data collections and obtain more and more useful information.

The data processed by the Province have confirmed, and even reinforced, the predictions of the Doxa interviewees for the summer trend of 2006 in respect to 2005. However, the aggregate data of the three survey periods show a discrepancy between these two sources.

Certainly, if the Tourist Lab's surveys had inspired more confidence in the operators, and obtained the real data on nights and arrivals (question 1c, which could not be processed because the sample was too small to be representative), the comparisons and possibilities for passing from the sample group to the whole system would have been more significant and useful.

Another possible use of the comparison between the surveys' results and the official data of the Province would have been a short-term prediction of arrivals and nights on the basis of the bookings. However, also in this case the data on bookings provided by the operators were not sufficient for researchers to be able to process them. For example, for the first period surveyed, although 51% of the interviewees said their structure would be open for the winter season, only 5% of them provided the data on bookings²¹.

A final consideration on the data collection methodology adopted by the Tourist Lab refers to the professed availability of operators to cooperate with the Province of Verona for periodical surveys.

The 55,7% of the interviewees said they were certainly available to participate to other periodical surveys (3-4 times per year), 21,6% said they might be available, 0,2% did not know and 21,9% said they were not available because they considered these surveys on the problems of the tourist demand not useful or not interesting, or because they said they do not have time²².

Finally, the research showed that a relevant number of operators accept to be periodically interviewed, but these claims must be interpreted cautiously. As shown by the two following phone surveys carried out by Doxa, decreases in availability and interest were frequent and thus the methodology had to be revised.

5. THE SEARCH FOR DATA QUALITY: THE CHANGE IN THE RESEARCH METHODOLOGY

²¹ This is probably due to the fact that this question was asked too much in advance, as well as to a lack of availability of some operators.

²² Moreover, half of the operators interviewed claim that they would be available for online surveys (38% consider this kind of cooperation "certain" and 18% consider it "probable"), which are often preferred to phone interviews. However, the actual cooperation might be inferior if the interviewees are not repeatedly solicited, also by phone.

The monitoring system of the tourist flows realized also through the specialized services offered by Doxa did not prove to be completely efficient in terms of promptness²³ and reliability.

For this reason, it was deemed necessary to find another way to get an accurate knowledge of the market dynamics through the creation of a new sample group of companies which can grant availability and correctness in the analysis and study of tourist flows.

If the sample group proves efficient in reaching this first aim, in the future the analysis of the Veronese tourism system can be enlarged to include other management problems.

The project includes a close collaboration between researchers of the University of Verona, the Province of Verona and in particular with the IAT (that is, the Tourist Information Centre) personnel, who will conduct the interviews instead of Doxa. A new sampling plan was thus developed in order to chose a representative group of hotels and other structures' managers/owners to be interviewed.

On the basis of the information obtained from the research carried out between 2006 and 2007 with the collaboration of Doxa S.p.A., the questionnaire has been modified to create a more concise one, which focuses more efficiently on the specific aims of the research.

In order to guarantee a correct comprehension of the questionnaire on the part of the interviewers and to be sure of the correct use of the same, the research group organized a meeting with the interviewers to illustrate the key principles of the research methodology, to underline the relevant role of the interviewer and the importance of their knowledge of the tourism situation of each destination, and to present and discuss the questionnaire itself.

The innovation of this research methodology consists mainly in the fact that the interviews will not be conducted by the personnel of a "neutral" market research company, but by IAT employees who know the territory and the tourism operators, and who are known by the operators themselves. This can seemingly undermine the neutrality of the data collection, but it also brings a series of advantages in terms of:

- promptness: as the interviewer knows the tourism operators, he/she will probably know when it is best to call and who to ask for in order to communicate effectively with somebody who can answer the questions;
- reliability: for instance, the interviewer might be able to realize if the answers are in line with the company's reality or rather show a lack of interest for the research and an attempt to get rid of the interviewer in the quickest time possible, in which case the interview would be interrupted and the interviewed excluded from the sample group.

At the end of every interview cycle, which will take place within one week after the end of each period, there will be an activity aimed at providing an interpretation of the results of the field work. Such results will be summarized and promptly communicated (one week for the first concise report) by university researchers through a final report which will summarize the quantitative data and underline the issues shared and discussed with public and private tourism operators.

The effectiveness of these corrections to the original methodology adopted by the Tourist Lab has not yet been tested: the first results will probably be available at the end of the summer season 2008. However, we would like to conclude by underlining the importance of an evidence-based knowledge of the tourist demand, also to avoid that the emotional

²³ In practice, the communication of the aggregated data from the market research company to the researchers who had the task to interpret such data took longer than expected, and the delay was due to the company itself, as well as to the delays of the tourism operators in providing their answers.

sphere or other disturbances might influence the choices of destination management as well as those within the single companies.

“Suffice it to think about the impossibility to decide in a neutral and objective way in situations implying any kind of general emotional interest (emotional involvement), about the attempt to reject unwelcome information (defensive avoidance), about the obsessive search for information which leads to the impossibility to decide (hypervigilance), about the preference for a reduction of displeasure and post-decisional repentance (minimization of regret), or more simply, about the interference introduced by the necessity to decide quickly (urgency) in order to understand how varied and wide these modalities of decisions’ distortion can be”²⁴.

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²⁴ See F. Brunetti, F. Simeoni (2004), “Trappole cognitive e valutazione degli investimenti industriali: primi spunti di riflessione”, XXVI AIDEA Congress, *Knowledge management e successo aziendale*, Udine november 2003. On this issue, Brunetti recommends J.R. Eiser, J. Van Der Pligt (1988), *Atteggiamenti e decisioni*, Bologna, Il Mulino; R. Rumiati (2000), *Decidere*, Bologna, Il Mulino (chapters 5 and 6) e R. Rumiati, N. Bovini (2001), *Psicologia della decisione*, Bologna, Il Mulino (in particular chapter 5).

THE DEVELOPMENT OF A VENUE EVALUATION TOOL (VET) FOR TOURIST ATTRACTIONS

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Introduction

As services have come to dominate many economies the importance of tourism and hospitality has become a major economic activity and the marketing of these activities has taken on greater prominence (Kandampully, 2000, La Lopa and Marechi, 1999). It is no longer a luxury for small numbers of people, it has become an important and constant feature in the lives of many people, part of their lifestyle and as such a global industry (Kandampully, 2000). Tourism is defined as comprising "the activities of persons travelling to and staying in places outside their usual environmentfor leisure, business and other purposes" (EUROSTAT, *et al*, 2001). Tourism covers *inter alia*, such industries as hotels, restaurants, transport and travel agencies (Bryan *et al*, 2006). The tourism industry generates £85 billion pounds for the British economy and is one of the biggest employers responsible for 1.4 million jobs (Department for Culture, Media and Sport, 2007). The number of visits to the UK from overseas was the highest ever recorded in 2005 (<http://www.statistics.gov.uk>) with an estimated total of 30 million visitors with record spending of £14.2 billion. This represents an increase of 8 per cent in constant price terms from 1985 to 2005 and 6% from 2004-2005.

Liverpool, the sixth largest city in the UK and has a population of 441800 (www.liverpool.gov.uk/business/index.asp). Not only is it one of the largest cities, it has become one of the fastest growing cities outside of Inner London and Greater Manchester, growing at a pace which has outstripped the rest of Merseyside and the North West region as a whole. Renowned for its maritime heritage, architecture, literature and sport, it was awarded the accolade of European Capital of Culture (ECOC) for 2008.

However, Liverpool contains the highest poverty levels in the UK and carries the legacy of thirty years of severe economic decline from the 1960s through to the early 1990s. Since then however, the city has witnessed an increase in employment levels and inward private investment in the form of hotels, call centres and new retail developments. Given this economic upturn and the ECOC award, Liverpool is redefining itself as a desirable tourist destination and investment centre.

Tourism spending has increased from £335 million in 1990 to £604 million in 2000 (Jones and Wilks-Heeg, 2004) whilst Liverpool John Lennon airport saw passenger numbers increase 190% in the three year period 1997-2000.

According to Liverpool City Council's website "In 2008 around 2 million extra visitors are expected to participate in one of Europe's most dynamic programmes of international

festivals and events...” The Council has established a new company called “The Liverpool Culture Company”. This company’s aim “is for 2008 to leave a lasting and positive legacy for the people of Liverpool including more jobs, a stronger economy and a better place to live” (www.liverpool.gov.uk/leisure_and_culture/capital_of_culture/index.asp).

A dominant question in this year of ECOC is whether or not the city is ready to open its doors to those new visitors and whether or not it will be able to offer them an experience that will satisfy them and hopefully encourage repeat visits to Liverpool.

This paper focuses on one aspect of the cultural programme in the city, museums and galleries. Museums are public institutions funded by government. The importance of museums and the role they play in the cultural heritage of the UK is seen in a current policy document from the Department for Culture, Media and Sport (DCMS) which states “museums’ contribution to the economy is well documented and the pull they exert on overseas visitors well known” (DCMS, 2006). Whilst the importance of National Museums Liverpool (NML) in the cultural programme is overwhelmingly important, the economic activity they help to generate cannot be underestimated, not only for Liverpool but for the North-West of the UK as a whole. Given this economic impact it is important that the visitor experience is monitored, measured and managed.

The main aims of this paper are therefore:

1. To develop a set of management tools that will allow the monitoring, measuring and management of the visitor experience by National Museums Liverpool.
2. To test these tools by using them to measure museum performance.

National Museums Liverpool (NML)

The DCMS paper refers to the Museums Association definition of what a museum actually is “museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artefacts and specimens which they hold in trust for society” (DCMS, 2006, p8).

NML is unique in being the only national museum service outside of London and boasts universal collections held in eight museums, namely:

- World Museum Liverpool
- Walker Art Gallery
- Lady Lever Art Gallery
- Sudley House
- Merseyside Maritime Museum
- HM Customs and Excise National Museum
- National Conservation Centre
- National Slavery Museum

Its vision is “providing routes to discovery, awareness and learning for all, our vision is to be progressive and outward looking, exciting and inspiring people in ways that are inclusive yet challenging. We achieve our vision through our exhibitions, learning programmes, partnerships, research, archaeological fieldwork and the care and development of our collections and buildings” (National Museums Liverpool, 2006, p2). Given this vision and the fact that museums are operating in a much more competitive environment, making sure that customers are satisfied with their experience at any of these museums is becoming much more important as a management priority.

Williams (2006) argues that consumers are concerned with achieving pleasurable experiences. Management therefore should move from the marketing of the service to the marketing of the experience. It is also accepted (Williams *et al.* 1999) that over the last two decades there has been a high level of convergence between private and public sector organisations. Consequently there has been an increasing emphasis within public sector organisations to

become more customer oriented with service quality a major concern. Museums, as public sector organisations, are no exception. Ingram (1995) argues that in an increasingly sophisticated market tourism needs a more professional and planned approach to service, finance and management.

The Visitor Experience

In the tourism sector Rowley (1999) identifies an increased emphasis on staff and customer relations but comments that customer service is only one aspect of overall customer satisfaction. Customer satisfaction is a much broader concept/process which begins as soon as a customer for example makes a call to the museum, logs onto its website or attempts to park the car to access it. From a management perspective, achieving customer satisfaction in the museum sector might be far more difficult than in other sectors of the economy such as for example retail outlets and restaurants due to the level of diversity across consumers and their differing individual needs and expectations from their experience. Visitor attractions generally and museums particularly have a variety of service concepts ranging from hands-on fun to high culture. This heterogeneity of the service offerings adds to the difficulties in trying to manage the visitor experience. Whilst the quality of the customer experience will vary greatly from one customer to another and as such is very difficult to measure, there are likely to be some common key considerations which the customer will experience from gaining information about the attraction to leaving it. Rowley (1999) questions “what is the customer experience?” (of a museum). These will range much more widely than for example a specific exhibition or painting to areas such as the toilets, knowledge of a guide or sales assistant to the quality of the food in the restaurant.

Drummond *et al* (2006) within the context of Scottish Heritage Visitor Attractions found that visitors have developed more sophisticated tastes as they have become more widely travelled and informed leading to even greater expectations from future experiences. They also found that service quality and the quality of visitors’ experiences interact and can be used to achieve visitor loyalty. This concurs with Kandampully’s (2000) view that “quality of service has become a factor important in the overall tourism experience and one which dictates the success of the tourism business”. Other commentators (English Tourism Council, 2003, Ingram, 1995) also acknowledge this position claiming that a good and memorable experience for the customer is seldom achieved by chance. Visitor needs and wants have to be anticipated and planned for. However, once everything is in place the service needs to be monitored, measured and managed to ensure that what is planned and promised is actually delivered. It is the monitoring, measurement and management of service quality that is at the core of this paper.

Quality, Satisfaction and Loyalty

Service quality is inherently difficult to define and measure and has been the subject of much debate over the last two decades (Dale, 2003). Quality as a concept is embedded into many different types of organisation and tourism related ones are no exception. It is the intangible nature of the service offering in tourism related activities that make defining quality difficult (Kandampully, 2000). Definitions might also vary with individuals or from attraction to attraction.

What a museum is offering is essentially a service to the public. According to Gronroos (2001), a service is a process made up of unique characteristics; there is no product as such within a service only what he calls “interactive processes”. Such interactive processes are delivered through a set of resources such as employees, technology, materials and the physical environment. Gronroos also emphasises that it is not just the service outcome (the “what”) that is important to the consumer but the process involved in delivering that service

(the “how”). Therefore where customers can they will judge the performance of a service on the service outcome, or technical quality as he calls it, as well as the process of delivery or functional quality. In other words perception of performance is the measure they will use.

Service quality is important because it is one of the variables upon which customer satisfaction is dependent. Superior service quality leads to satisfied customers (Cronin and Taylor, 1992; Hoisington and Naumann, 2003; Spreng and MacKoy, 1996).

Satisfaction can be divided into two types; cumulative satisfaction associated with the overall experience and transactional satisfaction associated with reactions to a particular transaction. In a service such as a museum the customer may experience a number of transactions that will impact on her/his overall satisfaction, for example at the reception desk, in the cafeteria or restaurant, in the gift shop and in the toilets.

The relationship between service quality and satisfaction is given further importance, as the aim of service providers is to develop loyal customers in order to increase the profitability of the organisation or to at least maintain their competitive position in the market place. Keeping customers satisfied, or preferably, very satisfied, is what leads to customer loyalty. Customer loyalty is discernible in many forms of customer behaviour. Jones and Sasser Jr. (1995) grouped ways of measuring loyalty into three main categories:

- 1 Intent to re-purchase;
- 2 Primary behaviour – actual customer re-purchasing behaviour; i.e. recency, frequency, amount, retention, and longevity;
- 3 Secondary behaviour – e.g. customer referrals, endorsements and spreading positive word-of-mouth.

Translating this into museum services, this includes intent to visit again, how frequently and recently a visitor used ancillary services, such as the gift shop or catering services, and lastly the willingness to recommend the museum to friends, neighbours and colleagues and to relate tales of positive experiences.

Service encounters or ‘moments of truth’ are recognized within the service quality research field as a key concept (Carlzon, 1989; Dale, 2003; Edvardsson and Nilsson-Vitell, 2004; Zeithaml and Bitner, 2000) and involve direct interaction between service provider and service user. It has been well articulated within the literature that each moment of truth impacts on the service user’s overall impression and evaluation of the service (Dale, 2003) and ultimately it is they (the customers) who are the final and most appropriate arbiters of service quality. What is clear from the aforementioned discussion is that if tourism organisations are going to provide customers with a good quality service, they can only do this by firstly understanding the needs of their customers (Kandampully 2000) and then ensuring that these needs are continually met. This requires measurement of performance. As Kandampully (2000 p.11) states “herein lies the challenge for tourism businesses in the future. Competition will be driven by the intense preoccupation with the quality of service to enhance the overall tourism experience”.

Measuring the tourist experience

Measurement of services has traditionally been more difficult than measuring the quality of manufactured goods and products. This is mainly due to the unique characteristics of services; they are intangible, heterogeneous, perishable, production and consumption take place simultaneously and the customer participates in the delivery process (Fitzsimmons and Fitzsimmons, 2006). The more popular measurement methods include audits by third parties, mystery customer visits aimed at measuring the service processes from the customer viewpoint against service standards, and a range of methods designed to capture “the voice of the customer” usually in the form of satisfaction surveys, focus groups, complaints management and walk-through audits (WtAs). This last technique (WtA) is a performance assessment questionnaire that systematically evaluates perceptions of the service from the customer's

perspective aimed at identifying areas for improvement (Fitzsimmons and Fitzsimmons, 2006). It has been used successfully in restaurants (Fitzsimmons and Maurer, 1991) and in a Hong Kong law firm (Koljonen and Reid, 2000) as well as the Helsinki Museum of Art and Design (Fitzsimmons and Fitzsimmons, 2006). It has been described by Rowley (1999, p308) as “an important approach to the evaluation of the total customer experience which encompasses consideration of the way in which the variety of individual service exchanges come together to provide an integrated experience”. However, Johnston (1999) suggests that because it addresses only specified structural issues it may lack the necessary flexibility to assess customer perceptions of processes.

In the UK, as a visitor attraction, museums can market themselves in terms of quality by achieving a quality assurance standard through the Visitor Attractions Quality Assurance Service (VAQAS). The purpose of the scheme is to provide the opportunity for attraction operators to enhance the quality of their operations and spread best practice. This is achieved through assessment visits by a quality assurance assessor. The assessor will have a checklist of activities to review from initial telephone contact with the attraction right through to a customer’s departure. On completion of the assessment, feedback will be provided detailing strengths and weaknesses identified and areas for improvement discussed.

However, this one measurement instrument will not suffice for measuring all aspects of the tourist experience. Satisfaction with the people, technology, materials, processes and environment as well as their perceived level of performance require to be measured and clearly there needs to be some form of checklist developed for the managers of attractions to use in-between these satisfaction and performance measurements / surveys that will allow them to monitor on a regular (daily or weekly) basis the readiness of their service offerings from beginning to end before they open to visitors. This paper aims to detail the development of a Venue Evaluation Toolkit (VET) that will provide a complete solution to measuring the tourist experience by including:

- A Management Checklist;
- A Mystery Customer Evaluation Checklist;
- A Customer Satisfaction Survey Questionnaire.

It is the methods employed to develop the three parts of VET that are described in the next section.

Method

The initial method employed is similar to the first step in designing a walk through audit (WtA) questionnaire in that a flowchart of customer interactions with the service system from beginning to end is prepared. This flowchart begins with the customer approaching the entrance to the museum. Once inside the first transaction or moment of truth will take place at the Reception or Information desk. This process may involve people, material, technology and the environment. The customer will be seeking information and this too can be evaluated. Once past the reception area the customer will then visit the museum's attractions and again may interact with people, the attractions themselves and the museum's physical environment. At some stage during the visit the customer will use the museum’s ancillary facilities such as the toilets, elevators, cafeteria or restaurant and the gift or souvenir shop. Once again performance can be evaluated in terms of people, material, technology and physical environment.

Based on the flowchart of the museum walk-through service and in order to simulate the service processes experienced by a visitor to the museum a 79-question survey / checklist was developed to measure the performance of each aspect of the service. All museums visited contained the same service aspects as described by the various section headings that the checklist was partitioned into, namely:

- (A) Outside appearance;
- (B) Arrival at Reception;
- (C) Information;
- (D) The Museum Experience;
- (E) The Museum Facilities:
 - a. General;
 - b. Toilets;
 - c. The Cafeteria / Tearoom;
 - d. The Gift / Souvenir shop.

This performance measurement tool / checklist is suitable for use by a mystery customer or visitor and asks her/him to rate performance via the response to each question using a "Yes", "No" or "N/A" (not applicable) followed by a 5 point Likert scale where 1 = very bad, 2= bad, 3 = average (neither good nor bad), 4 = good and 5 = very good. (See Appendix A for an example section of this checklist).

The next stage was to adapt the Mystery Visitor Checklist into a Visitor Satisfaction Survey. The same service partitioning sections were retained for the customer satisfaction survey. The survey questionnaire also retained the same 79 questions with the addition of two questions at the end of the questionnaire asking about overall satisfaction with the museum experience and whether or not the museum would be recommended to others. At the beginning of the questionnaire there were a number of demographic questions that would allow further analysis of the information received by allowing the respondents to be segmented by, for example, country of origin. The usual assurances about participation being voluntary and anonymous were also given at the start of the questionnaire. The main difference in this questionnaire was that responses would be weighted. Researchers are divided as to whether questions measuring satisfaction should be weighted by their importance (Angur, 1998; Patterson and Spreng, 1997). The main issue being that different service attributes may be of unequal importance to different people and if so there should be some mechanism to allow for such a difference. It was decided to measure satisfaction and importance for the museums' service experience.

Visitors would be required to respond utilising a 5-point Likert scale of 1 to 5 where 1 is very unsatisfactory, 2 is unsatisfactory, 3 is neutral (neither satisfactory nor unsatisfactory), 4 is satisfactory and 5 is very satisfactory. This type of scale offers a common basis for responses to items concerned with different attributes of the museum experience. The importance that visitors place on each attribute would be measured utilising a 5-point Likert scale, where 1 is very unimportant, 2 is unimportant, 3 is neutral (neither important nor unimportant), 4 is important and 5 is very important. Respondents would be instructed to shade the circle next to the numbers that best represented their opinion on each attribute.

The use of both satisfaction and importance measures would allow Importance- Performance analysis to be conducted - so-called "quadrant analysis" (Dillon *et al*, 1993). This analysis produces a grid that shows which service attributes among those delivered by a service are important to its customers. The 2 x 2 matrix developed linking satisfaction with importance contains four areas or quadrants: Quadrant A being defined by low satisfaction and high importance; B being high satisfaction and high importance; C being high satisfaction and low importance and D being low satisfaction and low importance. Service attributes in quadrant A in the grid are identified as the priority areas for improvement as performance is low but importance among customers is ranked high. (See appendix B for an example section of this questionnaire).

The final part of the toolkit was to develop a Management Checklist for use on a daily or weekly basis. This checklist could be used to ensure that all structural aspects of the service were in place before opening to visitors. Since the checklist could concentrate only on

structural aspects such as whether or not the elevators were working or whether or not there was access to the disabled toilets the checklist would contain only 42 questions with a tick-box response choice of yes, no or not applicable. (See appendix C for an example section of this checklist). This checklist need not be the responsibility of one person but different sections could quite easily be delegated to the person in charge of the relevant area of the museum, for example the supervisor in charge of cleaners or the gift shop manager.

Testing the Toolkit

In order to test the Mystery Visitor Checklist, six of National Museums Liverpool attractions were visited, with the permission of National Museums Liverpool, and their performance measured using the checklist.

After each visit some questions were amended or dropped according to what worked in practice and what did not, until a final version was accepted as meeting the requirements of a valid and reliable evaluation tool. Findings from these test visits included poor signage, a broken elevator, lack of a queue management system, no maps of the museums available upon request, English language information only, lack of hot water in the gents toilet and a broken coffee machine.

To-date the Visitor Satisfaction Survey questionnaire and the Management Checklist have not been tested. This research is a work-in-progress and the aim is to pilot them in the near future with the permission of National Museums Liverpool.

Conclusions

This paper has described a method for measuring all aspects of a tourist's interaction with a visitor attraction. The mystery visitor checklist measures the effectiveness services processes. The visitor satisfaction survey questionnaire measures visitors' perceptions of performance as well as the importance of the museum's various service attributes. The management checklist provides venue managers with a checklist that can be used on a daily basis to ensure that all structural aspects of the service are in place and operating correctly before the venue opens its doors to visitors.

The technique employed and described in this paper can be adapted and adopted by most service organisations and can be utilised by staff internally or employed externally by independent, professional mystery customers or market research organisations.

The main limitations of the VET Toolkit are that it has been developed for use where the visitor is physically present, i.e. from the moment the visitor approaches the venue. It does not evaluate the quality of telephone contact or the quality of a venue's website, which in some cases may be the method of initial contact by a prospective visitor. However, these aspects of the service offering can quite easily be evaluated by a mystery caller or mystery surfer respectively. A mystery caller could measure such things as telephone response times and the quality of the telephone contact experience. A mystery surfer could report back on the quality of the website with regards to such things as speed of downloading of information, ease of navigation and the number of broken links. There is no aspect of the museum experience that cannot be evaluated. It is this evaluation that will allow management to identify any deficiencies in their service offering thus giving them the opportunity to correct them and put in place mechanisms to prevent their happening again. Only then can venue managers feel confident that the visitor experience will be an enjoyable one.

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Appendix A – Section of Mystery Customer/Visitor Checklist

	Yes	No	N/A	PERFORMANCE				
				1	2	3	4	5
(b) TOILETS								
1. Toilets were easily accessible?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Disabled toilets were available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Baby changing facilities were available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Toilets were clean?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Toilet paper was available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Hot water was available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Soap was available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Hand-drying facilities were available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix B A Section of the Visitor Questionnaire

Please rate.....	N/A	SATISFACTION					IMPORTANCE				
		1	2	3	4	5	1	2	3	4	5
(b) TOILETS											
1. The ease of access to toilets?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The availability of disabled toilets?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The availability of baby changing facilities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The cleanliness of the toilets?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The availability of toilet paper?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The availability of hot water?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The availability of soap?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The availability of hand-drying facilities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix C A Section of the Management Checklist

	Yes	No	N/A
(b) TOILETS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1. Toilets are easily accessible?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Disabled toilets are available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Baby changing facilities are available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The toilets have been cleaned?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Toilet paper is available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Hot water is available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Soap is available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Hand-drying facilities are available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HERITAGE TOURISM: LINKING QUALITY OF EXPERIENCE TO TRAINING AND COACHING

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Key words: Training and coaching, loyalty, service quality, quality of experience

Introduction

Tourism is important to Scotland, as spending by tourists amounts to over £4 billion annually. According to VisitScotland (2008) overall visitor numbers to Scottish visitor attractions increased by 1.8 per cent in 2007 to 45.7 million.

The Scottish tourism industry recognises that quality and training go hand in hand and that 'satisfied' is no longer good enough. Businesses need to encourage enthusiastic customers who will do the marketing for them (Scottish Enterprise, 2008).

According to Drummond, Cano and Kourouklis (2007) service quality and quality of experience are inextricably linked. The findings from the longitudinal study suggest that in many organisations service quality is viewed as a core qualifying factor for market entry and competing in the marketplace. Through the case work undertaken in the Heritage Visitor Attraction sector in Scotland it emerges that service quality is a prerequisite for quality of experience.

A Tourism Framework for Change (Scottish Executive, 2006) has the ambition to grow tourism by 50% by 2015 and at the same time to make Scotland one of the world's foremost tourism destinations. Dewar (2007) highlights that one of the key changes that need to take place across the industry is the requirement to constantly exceed visitor expectations by managing the quality of the visitor experience and attracting and developing the skills of people working in the industry.

The relationship between quality and training in HVAs has been made by governments and practitioners (Scottish Enterprise, 2006) and academics (Lennon and Graham, 2001; Drummond et al, 2007) and the purpose of this paper is to advance the work undertaken to date from a theoretical and empirical viewpoint and move the discussion forward on the importance of the human resource.

Research Methodology

The approach adopted has been developed from the initial study undertaken to establish the relationship between service quality and quality of experience (Drummond, Cano and Anderson, 2006). One of the original cases is revisited to evaluate the role that training and coaching play in the quality of experience for the visitor. Interviews with management coupled with feedback from a focus group consisting of loyal customers are the main

instruments used to undertake this work, and personal observations and experience on the part of the paper's authors adds further weight to the findings. Additionally literature is reviewed to extract relevant concepts and constructs to enable confirmation and comparison with practice and theory.

The research utilises an inductive and deductive route in the evaluation of the updated model. A tailored training and coaching process is developed as a result of better understanding of the relationship between service quality, quality of experience and visitors' loyalty, this approach also considers other appropriate models, and recommendations are made as a result of an improved understanding of the relationship between quality of experience and training and coaching.

The research design is summarised in figure one below.

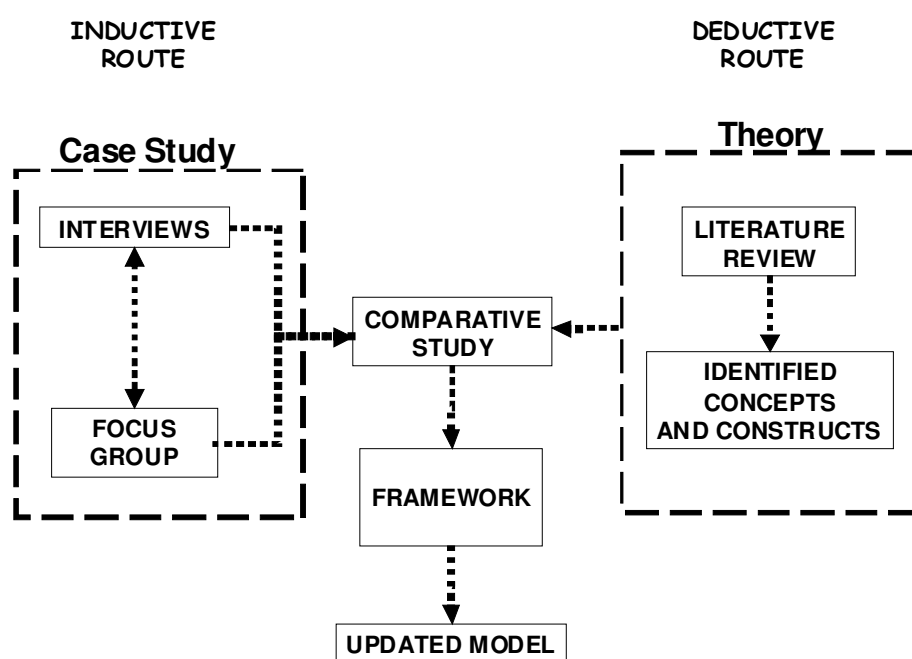


Figure 1 Research Design

Literature Review

Literature was reviewed to identify a number of concepts that influence the organisational climate of Heritage Visitor Attractions, in a similar approach to that summarised by Davidson (2003). The results of the literature review are presented under identified themes.

Strategic Approach

Poon (2006) indicates that competitive strategies are as necessary for governments and tourism destinations as they are for industry players. They can set the foundation for developing a robust tourism industry and they often have the resources to undertake a high level of research and benchmarking on other global tourist destinations.

Government agencies in Scotland appear to follow this approach. The current tourism strategy for Scotland resulted from government collaboration with the private sector throughout 2005 (Scottish Enterprise, 2008). It takes a fresh look at what's happening in tourism markets, both globally and in Scotland, and how the tourism market might change over the next decade.

There is a recognised need to improve quality of the tourism product to compete effectively and this is a key target highlighted in the strategy (Scottish Enterprise, 2008). In addition, VisitScotland (2007), Scotland's leading tourism agency, points out that the world's leading tourism destinations use culture and heritage to differentiate themselves from other destinations. Their benchmarking research (VisitScotland, 2007) indicates that these destinations also depend on domestic tourism as well as the international market. This dependence on the home market makes it all the more important to develop loyalty and repeat business, especially in a small country.

In an effort to achieve its strategic objectives, the Scottish Executive (2004) committed to developing stronger partnerships with the tourism industry, invest in people and skills and continue to invest in the quality of the Scottish tourism product. An authentic experience (with the experience mattering more than the destination) is a critical factor in tourist choice today according to VisitScotland (2007) whose enduring philosophy "must be to exceed our visitors' expectations. We must manage the quality of the overall visitor experience, including the quality of our food and accommodation, the quality of the service that is provided to our visitors, and the quality of the environment. Key to this will be attracting and developing the skills to deliver this quality".

Service Quality and Quality of Experience

However, quality, and in particular service quality, is not enough to encourage visitors to return to an HVA. Other factors linked with satisfaction are found to be equally if not more important. Crompton and Love (1995) defined satisfaction as quality of experience. Tian-Cole and Crompton (2003) go on to define satisfaction as the psychological outcome resulting from their participation in tourism activities. Quality of experience is therefore related to, not just the dimensions of service quality, but also to the psychological outcome of the experience of the visitor i.e. how satisfied the customer is. Faché (2000) also stresses that in tourism the customer dominance is high.

HVAs therefore, need to focus on the over-riding demands of the customers to ensure that they are creating experiences during the visit that meet their expectations. This is a difficult area in which to obtain data, particularly in the service sector where extraneous factors can alter perception of the visitor experience – weather, high or low number of visitors, party composition etc. Data is critical to enable measurement and feedback to inform and develop subsequent service delivery leading to improvement in satisfaction, quality of experience and repeat business. Training and coaching may bring about ways of extracting feedback from staff and customers to inform the delivery process as well as helping visitor attractions improve management and operational skills. The overall outcome is a better experience for all concerned with the HVA – customers, managers and employees.

Service quality in tourism has been largely measured through a range of techniques that have been developed from the supplier's viewpoint where examples include measurement against standardised criteria such as The National Quality Assurance Schemes (Briggs, Sutherland and Drummond, 2005). The quality of experience, on the other hand, varies from individual to individual and is much more difficult to measure.

The results from the work undertaken by Drummond et al (2007) confirmed that current methods of measuring service quality in the Heritage Visitor Attraction sector are not sufficiently robust in providing the type of information on visitors' quality of experience that can feed into developing and implementing an organisation's competitive strategy. Training

and coaching can assist in designing a more rigorous system of measuring the quality of service offered by HVAs and in providing a roadmap for gaining competitive advantage and ultimately sustainability in such a volatile environment.

Training and Feedback

Many of the management and operational skills to improve quality of experience can be developed through a range of training and coaching approaches. Recently Scotland has experienced a variety of tourism initiatives developed and driven by a number of tourism agencies. Programmes like Welcome Host and initiatives like Pride and Passion, the industry-led movement to improve the visitor experience, have been embraced with enthusiasm in the past. The current training programme being promoted to all tourism businesses is '100k Welcomes' – a tourism leadership development course and the nationally-recognised customer experience training programme for Scotland (www.100kwelcomes.co.uk). This course is designed to help tourism businesses achieve better results through focusing on developing and delivering customer service, achieving excellent performance through great leadership and continuous improvement based on customer feedback.

One of VisitScotland's targets is that every culture and heritage organisation will collect feedback from their own customers to help them "know their visitor" - who they are, why they have come and what they want out of their trip - and use this to inform their business strategies. As part of this approach the Corporate Plan emphasises that getting the quality right every time is increasingly important. Technology is such these days that if someone has a bad experience during their visit, they will share their information by email, blog or through websites like Trip Advisor (VisitScotland, 2007).

Over the last few decades the constant approach that has been in place to raise quality in Scottish tourism is VisitScotland's Quality Assurance System. The developing role of the importance of quality stimulates demand for training by selling to tourism businesses the bottom line benefits of management and staff development. The lead agency for Scotland recognises that people are looking for professional service and an authentic experience and that anything less can ruin even the best visitor experience (VisitScotland, 2005).

People and skills affect the profitability and sustainability of a tourism enterprise. VisitScotland's target is to ensure that everybody working in tourism and its related sectors has the skills and attitude to give visitors a warm welcome and an enjoyable and interesting stay, to add positively to every visitor experience. Their ambition is to have the best regarded tourism workforce in the world, with highly-skilled managers and leaders who nurture and value their staff. They believe that this will improve the employee experience which will, in turn, provide a better customer experience - and visitors will be more likely to spend more, and to return (VisitScotland, 2008).

If employees are well trained, they will not only be able to provide a high quality service for visitors they will have the skills to gather information about their visitors to provide effective information and marketing to visitors to develop and enhance their product. Gathering customer feedback should in turn assist businesses in identifying where the training needs for the tourism enterprise. By working with agencies such as People 1st will, they hope, ensure that tourism employees will have a "skills passport" which will enable staff to record their skills and qualifications and allow these to be recognised by all tourism employers. Their aspiration is that by 2010, all tourism businesses - including those operated by the public and voluntary sectors - will use and accept the skills passport (VisitScotland 2008).

The Relationship between Contract and Volunteer Staff

There may be additional issues to consider when reviewing training and skills development. Leishman (1993) argued that as the role and function of heritage organisations alters to meet the needs of the competitive visitor attraction sector, the demand for new skills has led to new types of employee. There is also a prevalence of voluntary support in many HVAs and a number of issues emerge when dealing with the volunteer sector. Lennon and Graham (2001) identified that the work of volunteers cannot be fully controlled or their skills developed. Their research into the Scottish Culture and Heritage Sector highlighted that development of volunteers' skills could bring personal development to the individual and other social benefits might replace financial reward. This is an important dimension when considering their interaction with customers in enhancing the visitor experience.

The uniqueness of the HVA sector is recognised by Lennon and Graham (2001) in that these heritage organisations are reliant on an exceptionally diverse labour force which includes a high proportion of seasonal, volunteer and contract staff. Added to this aspect economic pressures mean this sector has to focus more on commercial independence as well as the demand for an authentic experience from the consumer. Their study highlights the need to adapt to a fast-changing environment and suggests that the operational performance of staff must be improved while, at the same time, staff morale raised to ensure that the organisation can capitalise on their involvement with improving the visitor experience.

Jago and Deery (2002) found that volunteers and paid staff had quite different views about what constituted quality service, with volunteers emphasising 'passion' and paid staff emphasising 'professional'. Their research also illustrated that a high level of cooperation between staff and volunteers enhances quality service.

Derrett (1999) suggests that effective use of marketing skills in heritage attractions can be central to the success of an organisation and argues that marketing allows for 'quality' evaluation of consumer satisfaction and expectations. Leaders in the HVA sector need to take these factors into account when allocating roles and determining a development strategy that includes training and coaching.

Empowerment

According to Poon (2006:254) "Quality is perhaps the most important principle for competitiveness in the travel and tourism industry". He further suggests that the key to quality in the tourism industry is human resources and that to become a leader in tourism the ability to empower, redirect and reward the industry's most valuable assets is imperative. This confirms what the key agencies driving quality into Scottish tourism organisations have included in their strategies.

Service failure is often more acutely recognised in the tourism and leisure industry because of the perceptual nature of the sector and the level of human interaction. Williams and Buswell (2003) observed that experiences in this sector can raise a high level of passion and emotion. Many service encounters in service industries are standardised but, with a customer base at most Heritage Visitor Attractions (HVAs) that is both heterogeneous and culturally diverse this can be a complex process to manage effectively. Service recovery and failure need to be considered at the design stage of the service with frontline employees provided with the necessary training and coaching to ensure the anticipated quality of experience for the customer can be delivered.

Gronroos (2000) suggests that empowerment of frontline staff is critical to improving the quality of service delivery. He encourages management to make a commitment to frontline staff through the facilitating, coaching and trusting of individual staff members. According to Thwaites and Williams (2006) empowerment clearly requires extensive training and if staff members instigate service recovery without appropriate empowerment training there is always the risk of overstepping organisational boundaries. Service quality depends heavily on the effectiveness with which front-line employees deal with customers and in their research, Sheng and Yi (2004) provide evidence of the positive relationship between training and higher levels of employee service behaviour. Their results also indicated that when employees demonstrate excellent service behaviour, the customers' perception of service quality is increased. Their findings illustrate that when an employee perceives their organisation as one that has sound HRM functions such as recruitment, selection and training they are then enabled to carry out serving customers.

Davidson (2003) reviews the performance on the customer satisfaction scores of major hotels. He points out that treating human resources in a strategic manner is the basis of any successful service organisation where the majority of its output is characterised by intangibility, heterogeneity and simultaneous production and consumption. The need for training and coaching is important in dealing with these characteristics and in helping bridge the gap between the organisation and the customer. Davidson (2003) argues that if a good organisational climate exists for service, innovation and HR/employee welfare then it follows that the overall organisational climate will also be good and this provides the best possible conditions for quality service to take place. Additionally he highlights the importance of Empowerment and Training and indicates they are essential element for a successful organisation.

Managing Training

According to Watson et al (2004) the increasing competitive environment means that many Scottish Visitor Attractions are turning their attention to managerial competence. The lack of formal training and development to equip managers to manage their organisations more effectively means there is a danger that visitor attractions will not have the skills needed to cope with the evolving business environment. Their research revealed complacency towards the provision of any training and development in some attractions and highlighted the difficult task facing industry bodies whose role it is to enhance training and development within the sector. The results indicated that many managers are not realising the vital role that people management skills will play in ensuring success for their businesses in the future.

Having reviewed the literature and considered a range of concepts and models from seminal studies in the field of service quality and the visitor experience the HVA case study and customer feedback will be considered in order to synthesise the findings and develop a framework for future development in the area. Recommendations in relation to training and coaching will be made to lead towards improving the overall visitor experience in the Scottish HVA sector.

Other Issues

Current thinking in Scotland's key public agencies for the development and marketing of tourism in the country indicates that there is an increasing interest in extended education resulting in more demand for history and culture-related holidays (Scottish Enterprise, 2008).

This, in turn, requires the HVA to revise the product and service regularly to meet the expectations of the 'new' visitor.

Driving a step change in quality awareness throughout an organisation involves a culture change in the way performance is measured and reviewed. However it does result in employees having increased confidence in their authority and competence and the quality results will often reflect this.

Coaching skills have become an indispensable part of the contemporary workplace. Managers are expected to be skilled at coaching their staff to enhance employee engagement, wellbeing and performance and to facilitate organisational and personal change (Chartered Institute of Personal Development, 2004).

Case Study: Pollok House, Glasgow

Pollok Estate has been the home of the Maxwell family since the mid-13th century. The house is an impressive 18th century mansion, filled with collections of Spanish art, antique furniture, silverware and ceramics and a library. It is situated in Pollok Country Park in the south of the City and is only a short walk from the Burrell Collection. The HVA is owned by Glasgow City Council and managed by the National Trust for Scotland (NTS). In 2005 it enjoyed 110,000 visitors and the numbers have remained buoyant since then. The attraction is a member of VisitScotland's Quality Assurance scheme.

Research by the authors in 2005 (Drummond et al, 2006) found that management felt that although Quality was a vitally important factor for consideration by the HVA the quality assurance schemes and awards were only a basic leveler against competition. In addition to a basic level of service quality Pollok House needed to find that 'vital spark' - the differentiator to set it apart from competitors. There was a constant need to look beyond the tourism sector and measure against the 'upper quartile' when considering service quality and customer service - e.g. Marks and Spencer, Tesco, cinema complexes. The longitudinal study found that management remained committed to the same philosophy in 2007 and there was still the sense that the key customer satisfaction factors are a 'entertainment/enjoyment' factor, a sense of value for money, the educational aspects of the visit and the customer service chain-of-delivery, from the telephonist to the waiting staff in the restaurant (Drummond et al, 2007).

Customer research was undertaken by this HVA a few years ago and the practice continues today. That research is tailored to visitors of that particular attraction. Almost 50% of the visitors to the property come to the restaurant alone and the majority of them are repeat customers. Visitor numbers to Pollok House are increasing annually despite the fact that visitor attractions in Scotland have doubled over the last decade and the market has only increased by 5% (Scottish Visitor Attraction Monitor, 2002) and that the most popular attraction in Scotland is a few miles away in the West End of the city of Glasgow - Glasgow Kelvingrove Art Gallery and Museum (www.bbc.co.uk). The level of customer satisfaction is measured by the HVA as an indicator of the service quality offered - satisfaction with the house itself and its contents, satisfaction with the home baking in the restaurant, satisfaction with the quality of products in the retail shop.

From management interviews undertaken in 2007 there was a sense that no written scripts exact the best measurement of the visitor experience - it is the feedback in the Guest Book,

the smile on the child's face, the 'chat' with the volunteer, among other things, that help formulate the success of each product and service in the visitor experience.

Senior Management identify sales, visitor numbers and repeat business as key measures of these attributes along with feedback from customers, 'mystery shoppers' and staff members. Critical aspects in the overall service are recognised as the partnership and communication within the customer chain, including internal and external relationships with staff and public bodies such as NTS itself, Historic Scotland and Glasgow City Council.

When asked about the value that NTS has brought to the HVA there was no hesitation in identifying the value of their expertise in conservation and finding funding, as well as their experience in restoration and 'turning round properties like Pollok into viable propositions'. The key challenges for Pollok House from the outset of NTS management of the property were to make it viable and encourage people to visit. The main measures used to examine the level of service quality offered are the level of customer satisfaction and repeat business.

There are now a range of events throughout the year designed to attract both repeat and new visitors. These include the successful and well-established Christmas Event such as 'Mrs. Claus' and the 'Teddy Bears' event – both have been measured by the high demand for tickets. Staff are encouraged to be creative and come up with novel ideas for events. More recent products and services include Mrs. Cottontail and the Easter 'Highland Cow' Hunt. The Soup Tours and the Murder Mystery events have also created interest for different market segments – tourist groups, local families and corporate events. These events also factor in access to merchandising and retail opportunities which generates more income.

The aspects that management believed critical in winning customers and achieving growth, loyalty and sustainability were the 'educational and entertainment experiences' and the 'quality of service offered by the staff'. According to senior management in 2007 the critical success factors are People, Innovation and the 'unique wow factor'. Today motivation of staff is seen as a key factor to success under the People banner, while generation of new ideas for business growth and solving problems were key aspects under Innovation.

Management experience of involving employees in each of these areas indicated that 'staff got excited about being involved in decision-making and this rubbed off on customers in an individual way'.

Training of People was seen as critical in enhancing the quality of experience in earlier research and this is confirmed by recent discussions with management. In 2007 a training morning was introduced every month and in addition to covering key operational aspects such as Health and Safety and rota systems an educational and innovative aspect was included – from lectures on archaeology from other Trust specialists to brain-storming sessions to create new ideas for different market segments. Recently there has been the introduction of regional induction sessions that enable staff to feel part of a bigger Trust 'family'.

The role of training and coaching is seen to play a key role in delivering a seamless service journey for the customer – from the website to telephonist to guide to waiting staff. Education, entertainment and a sense of value for money are viewed as the key Customer Satisfaction factors and staff development and empowerment are seen as essential in delivering these and ensuring they are tailored to individual needs.

Repeat business is also seen to be a key factor in the process of counteracting competitors and new products and services need to be introduced to maintain a high level of interest. The training and coaching of staff are recognised as instrumental in the development of these innovations and staff are enabled and encouraged to visit other NTS properties and different visitor attractions to help in the process.

One factor critical to building a loyal customer base is seen to be the effectiveness of training and coaching. In order to achieve loyalty in customers, the gap between the perceived service and the experienced service must be identified, managed and minimised. Equally so, staff loyalty must also be a consideration in the training and coaching. Loyal staff are more likely to stay and to deliver the desired service. Repeat customers in HVAs are more likely to feel important if they are recognised and the service is tailored to suit them.

Future success is seen by management to be about ‘tailoring our offerings, not standardising them’. This is also seen as a way of enabling staff to find their own, individual areas of interest and to become passionate about them. This, in turn, is evident to visitors and they react positively to the experience. HVAs need to find their uniqueness and capture this through their staff and their marketing effort. The offerings need to be refreshed for the visitor and staff alike.

Management leadership is critical to these developments and this particular HVA is fortunate in having a leader who recognises the importance of staff training, coaching and teamwork in achieving outcomes that can be considered rewarding for all involved – the customers, the staff, management, NTS, the community and the City of Glasgow.

Focus Group Results

A small focus group of repeat visitors to Pollok House was interviewed to consider the key factors that made them return to the HVA on a regular basis and to further explore ways in which the organisation might develop their strategy for training and coaching of staff.

The group comprised a sample from across a range of visitor types - male/female, young/middle-aged/elderly, single/couple/family, local/national/international.

A range of questions were asked about the following areas:

- Reasons for repeat visits,
- factors that were important in the overall visitor experience and
- the role of the HVA staff with service quality and overall satisfaction

Reasons for repeat visits

The interview with the group took place over one session and the key findings confirm some of the points already discussed with management. However, there were a few areas that offer additional insight into the quality considerations of the visitor experience.

One of the main reasons or ‘pull factors’ of the HVA in relation to repeat visits was its location and proximity to other attractions – the Burrell Collection, Pollok Park and the ease of transport from the city of Glasgow and access from the car park to the attraction itself. There were comments about the tranquillity of the setting in such a bustling city environment and ‘a sense of escape from everyday hectic life’. A range of activities available in all weather was also an important factor.

Factors that were important in the overall visitor experience

‘Versatility’ and ‘quality’ were 2 main themes that featured in the group discussions on the visitor experience. Visitors were drawn back to the HVA, again and again, because of the versatility and range of products on offer – e.g. you could come on one occasion and just have coffee and a home-made scone in the restaurant before a visit to the gift shop where you could buy some traditional Scottish produce. Then walk round the park without visiting the rest of the House.

On another occasion you could bring visitors to enjoy the artworks of El Greco, Blake and Murillo, among others, and be guided professionally by a volunteer who was passionate about the architecture and art.

In addition, on subsequent visits you could come and enjoy a local art club’s display of their annual work on the walls ‘downstairs’ or attend a musical soiree in the library ‘upstairs’.

There was a sense of pride and ownership evident in those in the group that lived in the vicinity. A visit to the House was a regular occurrence and almost a ritual in some cases.

Versatility was also seen to be important in relation to service delivery. Each group member identified they had different needs and felt that the staff at Pollok were attentive to their individual requirements – tailoring the service where possible.

The quality of the produce on offer was another important factor in the visitor experience – the ‘delicious’ home-made soup in the restaurant, the ‘hot, proper’ cup of coffee, the ‘clean’ table and environment, the friendly and ‘polite’ waitress, the interaction with visitors and, again, the willingness to please were common observations within the focus group.

The group was then asked about the importance of the VisitScotland Quality Assurance Scheme in influencing their decision to visit an HVA. None of the group was aware of the rating awarded to Pollok House and further discussion indicated that although the focus group was happy that it was highly rated it was not a key factor in helping them arrive at a decision to visit the HVA or not.

The role of HVA staff with service quality and overall satisfaction

The discussions then led to the overall ‘visitor experience’ and the role that staff played in satisfaction. Again there was a range of experiences shared that indicated the importance of staff from the initial stages of the visit in relation to service quality – the greeting at the main entrance of Pollok House, the flower display entirely from garden flowers and shrubbery to the cleanliness of the entrance hall.

‘Sign-posting’ was seen as crucial by all in the group – the role that the greeter played in engaging with the visitor right away. The personal interaction and guidance by staff in directing and informing the visitor of products and services immediately available was seen to be important. The role of staff in the promotion of events in the near future was also viewed to be a good opportunity to encourage repeat business and the attention of each employee to the needs of the individual or group was clearly important – e.g. elderly members provided with help to descend stairs, mothers directed to changing facilities for babies, international visitors provided with translation assistance etc.

The interaction with staff was recognised by all in the focus group as a very important element in service quality and the visitor experience. However, it was only when the interviewer led the discussion to ‘relationships with training’ that factors such as expertise of guide, the specialist restoration of period style, the home-made cooking and friendly service skills, the quality of stock in gift shop and the cleanliness of facilities and guidance that the group began to make a connection between their satisfaction and desire to return time and time again to the HVA and training and coaching of staff.

Discussion

Tourism managers strive to improve service quality and levels of visitor satisfaction in the belief that this will create loyal customers (Tian-Cole and Crompton, 2003).

Service quality, however, has to be the foundation for achieving loyalty yet in itself is not enough. The Scottish Executive (2002) asserted that the provision of a quality of service that complements and emphasises the country's unique assets is the best way to ensure sustainable long-term growth. They highlighted that it is not enough to rest on the quality of service that the tourism industry currently offers.

Monitoring demand patterns and customer profiling is essential to ensuring that services are designed on sound customer knowledge and one of the key methods of undertaking this is by training staff to feel empowered to generate that information effectively.

The above case study illustrates that the grading awarded by VisitScotland's Quality Assurance Scheme is not enough to offer a quality of experience that ensures customer satisfaction and long-term loyalty. The quality of service identified through the VisitScotland scheme represents a base line for entering the market place and for operational purposes. The quality of experience has to be addressed by each HVA in an individual manner. There are some general aspects that are applicable across the sector to help provide a basis for development but it is the responsibility of the owners/administrators and management to ensure that the HVA remains competitive. The factors involved in delivering the quality of experience can be considered as the customer winning factors i.e. the factors that win customers.

The feedback from the customer focus group confirms many of the key factors addressed by the management of the case study but it was interesting to note that members of the group were not always able to make an obvious connection between what made them loyal to the HVA and staff training. However, when this was discussed further and examples were given to illustrate connections between quality of visitor experience and staff training in a range of skills they were clearly able to associate the concepts.

Both management and the focus group indicated that it is important that staff have the necessary skills to deliver a service that is tailored to individual customers. In order to achieve this, employees have to have both experience and training. Experience can be enhanced by working with a mentor who coaches at the same time. Training should be carried out with a focus on developing the necessary communication skills such as customer mood recognition and understanding customer behaviour. Furthermore, coaching can help in improving engagement with the customers. Through effective coaching and training programmes staff can become empowered and an indirect benefit can be staff loyalty, not just staff retention. The authors feel that these two aspects are not the same. While staff may remain in their post they may not be loyal or motivated and staff loyalty and motivation are two aspects that appear to be vital to the quality of visitor experience.

Framework for the future

The findings from this piece of research indicate that training in Heritage Visitor Attractions could be developed to include a number of key areas to improve performance and achieve a higher level of customer and staff loyalty enhancing the visitor experience.

Refinement of the work already undertaken by the authors over the last few years coupled with the findings from this study has highlighted the main areas that should be considered for future consideration. This has led the authors to develop a framework for designing and

rolling out a training programme that could be tailored for individual Heritage Visitor Attractions.

It identifies 8 key elements that are seen as critical to the sustainability of the HVA sector.

Termed 'HERITAGE Training' the framework considers:

- H – Hospitality (looking after people in a quality-driven environment)
- E – Empowerment of staff (leadership, motivation, confidence-building, coaching)
- R – Responding to change (flexibility, adaptability, tailoring the products and service)
- I – Innovation and creativity (new ideas, new products)
- T – Trust and Loyalty (sense of belonging, values, rewards)
- A – Ability and Attitude (competent and attentive)
- G – Growing the organisation – (culture, climate and collaboration)
- E – Engaging (with customers and staff – communication and feedback)

Hospitality literature considers that the concept is closely associated with human interactions (Brotherton, 1999) and it was felt, therefore, as it addresses 'looking after people' it should be a foundation for developing the training framework.

Empowerment and involvement in decision-making is crucial to understanding customer requirements. Motivated staff with strong leadership guiding the way is a powerful combination that can build confidence that cascades throughout the organisation. HERITAGE Training considers these aspects and, in addition, HVAs need to be aware that the range of diverse labour markets impact on empowerment – the volunteer, the specialist, the waiting staff etc.

Responding to change is seen as a key factor in achieving growth (VisitScotland, 2007). HVA Management and staff need to have the ability to respond more quickly as ever-changing events occur. Heritage Tourism organisations need to recognise this and prepare for it. The case study and the focus group indicated the desire for the visitor to be treated as an individual and that means changing and tailoring the service delivery to suit the client needs. Training is essential in adapting to a rapidly changing world of work.

Innovation was highlighted by management in the original research as necessary for repeat business (Drummond et al, 2006). The tourism sector needs to innovate to compete effectively. VisitScotland recognise this in their Tourism Prospectus: Investing for Growth (2007). Events and festivals are seen as crucial in this context and the HVA sector is well placed to capitalise on this as the case study illustrates. However, training and encouragement of creativity are important keys in unlocking management and employee potential.

Trust and Loyalty are seen to be key elements in the success of any organisation and as the literature and case study indicates the linkage of these elements to performance and staff retention are as strong as they are to customer loyalty. A sense of belonging and of being valued by employers can lead to a strong bond of trust and loyalty. When employees are rewarded it is an additional motivator.

Ability and attitude of the people looking after the customers is critical to providing the level of visitor experience that will lead to repeat visits. Management and Staff need training and coaching to ensure they develop skills that range from being competent at operational tasks to

being attentive to the needs of customers. This emphasis can benefit the organisation in improving service delivery and strengthening the service chain.

Growing the organisation. Growth is a key ambition for the Scottish Government and although tourism is recognised as a mature industry in Scotland it has been singled out by all parties as an economic sector capable of growing by 50% within 10 years (VisitScotland (2007). Training plays a vital role in realising that ambition and support is available to Heritage organisations to play their part in growing the sector – not by attracting higher numbers but by getting people to spend more time and more money at the attractions. Organisational culture change, the service climate and collaboration with others are seen as key drivers in achieving this ambition.

Engagement with the customer and others in the service chain will strengthen the quality of the visitor experience. The development of a team approach is seen as an integral part of providing a unified, stream-lined organisational approach for the customer. Feedback has already been singled out in this paper as a fundamental activity to improve service quality and quality of experience and as a key contribution to developing effective training.

This ‘HERITAGE Training’ framework for improving performance builds on the literature findings and the research undertaken by the authors in HVAs over a number of years.

Updated Model

In previous work undertaken in the HVA sector the authors developed a model to depict the relationship between service quality, quality of experience and loyalty. This model can be developed further to include the relationship with training and coaching in HVAs as in Figure 2:

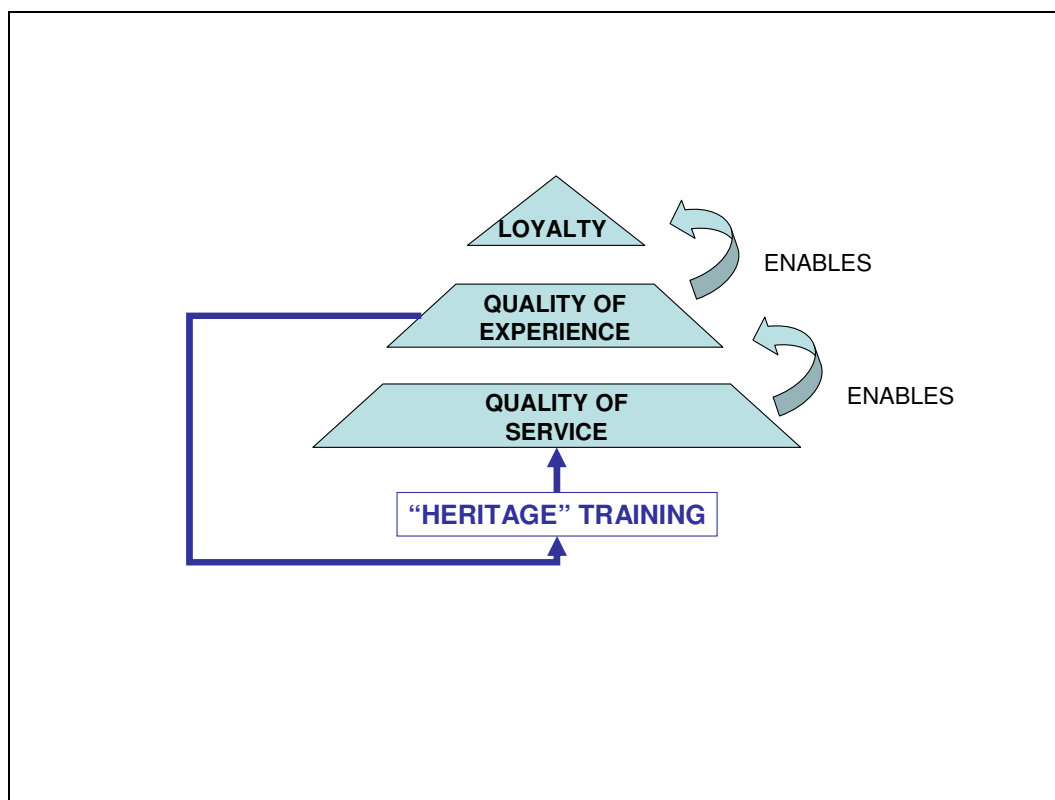


Figure 1: Relationship between quality of service, quality of experience, loyalty, training and coaching.

Conclusions

Quality of Service and Quality of Experience still provide the foundation for achieving customer loyalty. However, continually adapting to the customer requirements forms the mechanism for sustainability and training is seen as fundamental to this process.

Literature was reviewed in the paper from across the wider areas of service quality, quality of experience, loyalty, training and coaching and a number of concepts were identified as essential to sustainable operations of Heritage Visitor Attractions. These concepts were reinforced by findings from the Scottish case study illustrated here. The viewpoints from management and customers at Pollok House helped with the design of the constructs underpinning the 'HERITAGE' framework.

Training and coaching form an integral part of the framework to develop and integrate the areas included - Hospitality, Empowerment, Responding to Change, Innovation, Trust and Loyalty, Ability and Attitude, Growing the organisation and Engagement. The importance of managing the human resource is highlighted in each element.

Finally, the relationship between Quality of Service, Quality of Experience and Loyalty which had been illustrated by a model in previous work was updated to include the key activities of Training and Coaching as critical factors in HVA sustainability.

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HIGH QUALITY IN AGRITOURISM SERVICES FOR SUSTAINABLE COMPETITIVE ADVANTAGE

Carmen Gallucci, Vittoria Marino, Giada Mainolfi

1. Introduction

Post-modern trends in contemporary society, emblemised by the evolution of traditional cultural models, is determining a transition towards collective and distinct ways of identity building in terms of enhancing the *ethics of aesthetics* as a vector of socialisation (Maffesoli 1993). The outcome renders the time dimension flexible, in terms of constant presence. This shift, pervasively spreading across the dynamics of consumption, is replacing the tangible components of supply as the principal criterion of product choice, and is focusing on the experience that the consumer enjoys. In other words, there is a change in terms of value perception of the attributes considered decisive or fundamental for customer satisfaction, that affirms – from the point of view of the Company - the redirecting of its competitive strategies towards holistic and relational marketing (Gummesson 1999). This occurs even more so in the service sectors where the intangibility of supply is a highly critical factor in evaluation mechanisms on the part of the consumer, in the absence, *ex ante*, of objective factors inherent to the quality of the delivery process. Deriving from the area of *Service Management*, and more precisely from that of territorial marketing, even the tourism sector is obliged to deal with evolutionary and complex socio-cultural dynamics, recording significant changes both quantitatively in terms of demand *per se* and qualitatively in terms of expectations demand (Pencarelli 2003).

Compared to the wider sphere typical of the service sector, the specificity of tourism demand, identified in the *personal* involvement of the consumer from a psycho-emotive point of view, commits the Company to defining supply that is closely connected/exclusively calibrated to the peculiar needs of shared aesthetical experiences. The critical success factor, in this case, lies in the identification of conceptual formats of an experiential kind which are highly innovative but above all, flexible. The attention to total quality, at this stage, becomes consequently, a cross-cutting managerial and administrative philosophy, that underpins the Company in its many actions and manifestations (Grönroos, 1994). In other words, the prospects of success and sustainability of the service sector company's competitive advantage, are alimented and amplified by a virtuous circle of quality which, if on the one hand, enables improvement of organizational efficacy and efficiency on the other, acts as a pivot and catalyser of *customer satisfaction* to the extent in which it is approved and implemented in all the phases of the planning-delivery process of the service. In this perspective, interactivity, integration, customization and co-production are the cardinal points of *service management* (Gummesson & Lovelock 2004). The paradigm of a post-modern framework, in effect, is manifest in the search for greater involvement on the part of the consumer-tourist, who claims the right to “self-determine” the offer, thus sanctioning a distancing from the categories of mass consumption addressed to all and sundry, of an exquisitely “Ford -type” character.

If on the one hand, the literature has already widely accredited and accepted the need to modernise/update the traditionally passive role of the consumer qualifying the term consumer with the term *prosumer* – to counteract the ontological and structural limits connected to the process of service delivery – on the other, the specifics of the tourism sector contribute to these considerations adding ulterior elements of complexity, the outcome of a personal involvement (i.e. up front) of an emotional, psychological and culturally totalizing nature, impacting strongly (mostly in subjective terms) on the global evaluation of the quality of the

tourism offer (Vargo & Lusch 2004b; Franch, Martini, Novi Inveradi & Buffa 2006; Casarin 1996).

In particular, the approach to the issue of total quality in the agritourism sector, has to take into account that the experiential nature of the product is at one and the same time, linked to the enhancement of the territory in terms of its being a scenario structurally functional to the determination and completion of the offer. These crucial elements are analysed in the context of the Service Dominant Logic model (Vargo e Lusch 2004a; Vargo e Lusch 2006) and the perspectives of the economy of experience (Pine e Gilmore 2000) which highlight the specificity of new types of fruition in which the consumer's role is that of co-producer of value inside a competitive arena characterised by interactive relations between company and client.

2. The virtuous circle of quality in agritourism holiday services

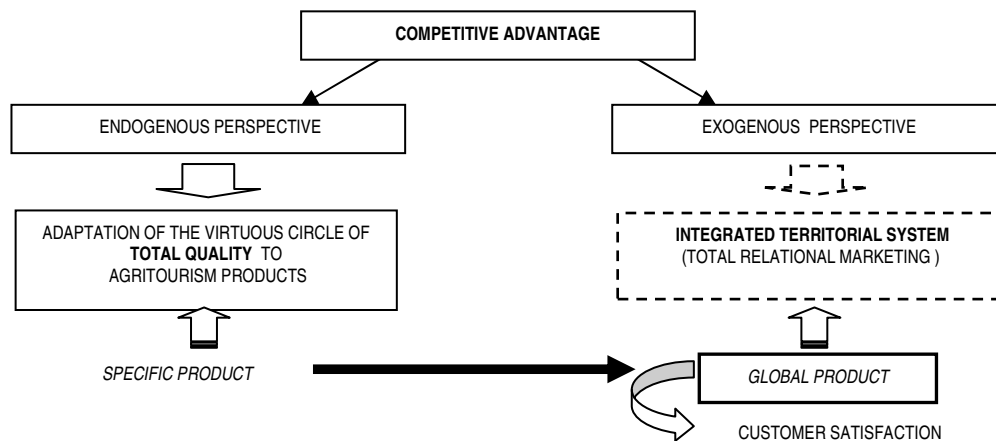
The approach to the issue of total quality in the agritourism holiday sector gains elements of ulterior complexity, in that the specificity, already part of the experiential nature of the product, is intrinsically bound to the enhancement of the territory as the scenario structurally functional to the determination and the completion of the offer; in effect, the determining elements of *total experience* connected to the nature of the territory - attractiveness, accessibility, hospitality, environment, ambience and entertainment¹ - need to be interpreted as highly critical variables in the construction of *customer satisfaction*, imposing on the company the maximum endeavour in planning and intervention². Basically, from an internal perspective, the planning-delivery system of this specific tourism product³ needs to be defined, corresponding to the growing process of complexity with regard to the expectations of the end consumer, i.e. flexible and modular triggered from the diverse needs for customization and involvement of demand. As regards the external perspective, relational synergies need to be created, involving the many stakeholders in the territorial system, which concur, with their own offers, in the achieving of an effectively global product, i.e. globally planned and perceived (fig. 1).

¹ What Pencarelli (2003) means by *attractiveness* “the suitability of tourism resources in attracting tourist to the territory”, listing among the main factors of choice on the part of the consumer; *accessibility* in terms of “the facility – physical, economic and informative – with which the guests can reach and enjoy experiences staged in the territory”; *hospitality* as “the coherent presence of all those goods and services of support or of facilitation that render physically realisable tourism experience”; the *ambientation* in terms of “capacity of the territory to immerse the guests in the experiential context organized”; *animation* as “the cultural and social vivacity of the territory envisaged or required by the experience”.

² Very often in fact, the driving force in consumer decisions of a *total leisure experience* is obtained from the elements of attractiveness of the territory rather than from the *core* offer of a specific agritourism firm. In these terms, it is possible to interpret the territory as one of the levers of a widened marketing mix.

³ This qualification refers to the definition of the product from the point of view of the agritourism offer. More precisely, Casarin affirms that this particular tourism product is made up of “the specific mix of components and elements of attractiveness that constitute the offer and that converges, together with other products, in the global product perceived by the tourist”. Cfr. CASARIN F. (1996), *Il marketing dei prodotti turistici*, Giappichelli, Torino.

Fig. 1 – The dual perspective of competitive advantage of agritourism sector firms



Source: adapted by the Authors

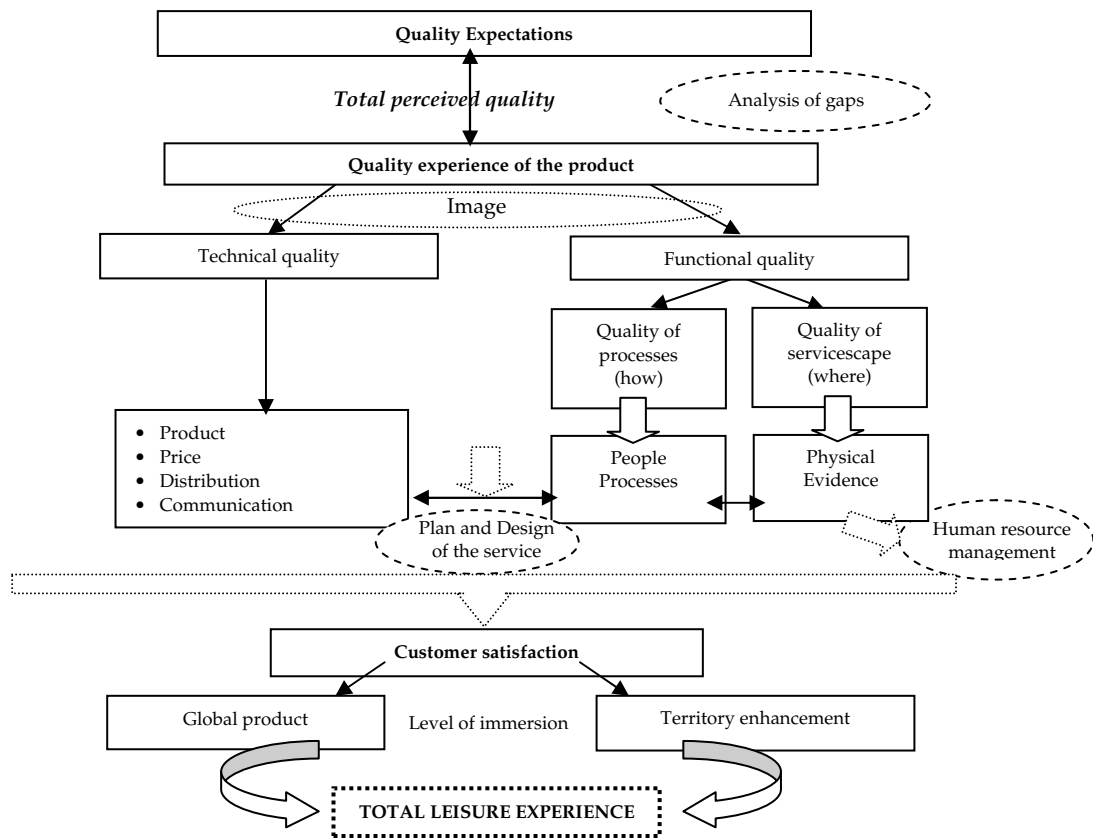
The convergence between the two perspectives, accordingly, enables the company to implement a holistic and quality integrated managerial approach, rejecting a short-sighted vision of the strategic framework to avoid jeopardising competitive advantage⁴.

However, quality management is considered a necessary but not unique condition for determining customer satisfaction, in that the latter is influenced by a number of factors of a situational and personal kind, that go beyond the possibility of prediction and intervention on the part of the company. Furthermore, the perception of quality from the point of view of the customer is made up of many interconnected elements that jointly determine the evaluation of the service. The operative implications in company terms of these considerations, accordingly, fall into two categories: on the one hand, the specific agri-tourism holiday firm's offer conceived in terms of an integrated logics system, which places the accent not only on the intrinsic characteristics of the agri-tourism product itself, but rather on how it is delivered. Secondly, from a complementary point of view, the company's typical marketing mix needs to be conceived in terms of enhancing both the people (human resources), *physical evidence*⁵ and the process, as necessary operative levers to highlight the multi-dimensionality characterising the sector (fig. 2).

⁴ Reference here is made to two examples of traditional short-sightedness of marketing: the first envisages an unsuccessful focussing of business policies on the end client; the second a scarce consideration of the strategic role of human resources in the firm. In the systemic perspective privileged here, the actors present on the territory are very important *stakeholders* in that they are subjects directly involved – with full entitlement – in a process of co-production of value for the consumer, on a par with “internal partners” in the agritourism firm. These considerations, emerge consequently, from the need to carefully deal with total quality both in terms of the external market and that internal to the firm; in other words, towards its environmental supra and sub-systems.

⁵ In this sense it is possible to interpret the territory as a lever of an extended marketing mix. The *physical evidence*, in effect, is represented not merely by the place where the agritourism as a service stands but rather – in the sense of an integrated and systemic vision of the global offer – an “environmental platform” which hosts it, connoting and determining in some way tourist choice in terms of holiday destination.

Fig. 2 – The perceived quality of service in a service perspective related to agritourism firms



Source: Adaptation by the Authors of the Total Quality Model - Grönroos (1994; 2000)

The awareness of the importance of this perspective in the delivery of agritourism services consequently, leads to enhancing not only quality from a strictly technical point of view, i.e. relative to the result achieved in terms of output *tout court*, but rather from a functional point of view, i.e. the process, that prospects favourable possibilities of competitive differentiation for the company⁶.

Naturally, in a vision of integration finalized to the achieving of competitive advantage pivoted on total quality management, individual territorial operators participating in the predisposition of a global product, need both to define their own specific product in synergic terms by coherently articulating the levers of the extended marketing mix, and furthermore, to adhere knowingly to a *network* logic in which the relations (informative, cognitive, evaluating and productive) represent the main propulsive vector for the determining of customer satisfaction. However, *customer satisfaction* is closely inter-related not only to the analysing of the needs expressed in demand, i.e. the implicit, highly relevant, critical factors in terms of the extent of involvement in the fulfilment of a *total leisure experience*.

⁶ The model of total perceived quality to which constant reference is made in the present work is the one elaborated by Grönroos (1994), the articulation of which is envisaged in a technical and functional dimension. However, taking into account the growing importance attributed to *servicescape* (Sherry 1998), the insertion of a dimension linked to place was considered opportune, which well suits the specificity of the agritourism product, or in other words, in the sense of its being a global experiential output the product of the empathetic relationship between manufacturer and consumer.

The trend towards *Total Quality Management* in agri-tourism holiday firms through careful attention to all the service planning-delivery phases i.e. a coherent and synergic definition of the tools necessary has to guarantee an offer that globally satisfies, the consumer's experiential desires. This means attributing value in an equal perspective in terms of systemic integration with the supra and sub-systems of the territory, in order to exploit their tourism potential. Consequently, the approach to total management quality as a condition of obtaining and sustaining competitive advantage, envisages for each dimension of the endogenous and exogenous perspective of our approach, the identification of *best practices*, in terms of procedures and actions to be implemented to guarantee customer satisfaction. Generally, four categories of tools are identified (Golinelli e Simoni 2006): *cognitive tools*, a core element in defining the perception of value of the offer on the part of the many interlocutors of the company – in that they are directly influential on the image of the product, i.e. of the territory; *ITC tools*, functional not only for facilitating the *trait d'union* between agritourism demand and supply, but rather in terms of facilitating the exchange of information between stakeholders who are part of the territory system, in a logic of mutual sharing and learning; *organizational tools* that are part of the combination of actions aimed at an integrated and cooperative relationship, both internal to the firm as well as externally amongst the diverse territory actors by means of whom ideas and joint projects can be coordinated; *trade marketing tools*, which allow individual firms operating on the territory to qualify themselves as sole agents with respect to commercial brokers, National Tourism Organisation (N.T.O.), Destination Management Organisation (D.M.O.), so as to promote and encourage cooperative relations promoting co-evolution of the territorial system.

In endogenous terms, the framework of the total quality management model (fig. 2) imposes that the agri-tourism firm structure an extended marketing mix that goes beyond the multidimensional element in the sense of specific product. In effect, the parameters considered satisfactory by customers in terms of their own consumer experience, concern not only the technical characteristics of the offer, i.e. the *output* of the delivery process, but rather – and above all – the means of delivery of the agri-tourism service itself and consequently, attention addressed to those “intangible” critical factors that sanction the real difference between a *service concept* of a firm from that of its competitors and the place, i.e. the “setting” where the different interactive relations of the service are developed⁷. Guaranteeing constant *customer satisfaction* means integrating a series of elements that positively influence the *ex-ante* perception of the customer relative to the quality the agri-tourism service delivers, in the expectation that subsequent fruition will effectively confirm such expectations. In the absence of previous evaluating elements regarding the quality of the product, certifications, voluntary subscription to quality schemes or environmental guarantees are fundamental tools for simplifying the process of collecting and screening information that directs consumer choice. In effect, given that modalities of consumption are directed increasingly towards a progressive contraction of the product's life cycle, i.e. the amount of time that individuals dedicate to their holiday, these guarantees function as a catalyser for customer decision making, deviating, from a psychological viewpoint, the role of responsibility in terms of satisfaction obtained from the trip. Furthermore, the specificity of the needs underpinning the agri-tourism product, is reflected in the search for unique emotional and involving experiences that are reflected in a flexible range of offers. The definition of a *package-based* standard – that respects however, the specifications of defined quality – has to be accompanied by the possibility for customers to extend and independently construct the experiential product tailored to their needs, in function of their desire for participation and

⁷ Il *servicescape* è “l'ambiente fisico e sociale che circonda nell'immediato un'esperienza di servizio, una transazione o un evento”. Cfr. BITNER J. (2000), *The servicescape*, in SWARTZ T.A., IACOBUCCI (Eds.), *Handbook of services marketing & management*, Thousands oaks, Sage Publications, p. 38.

“immersion”, thus sealing their role as *prosumers* characteristic of contemporary models of production-fruition of services (Pine e Gilmore 2000). An imperative for the agri-tourism firm is to carefully evaluate the choice of suppliers at the beginning of the chain, seeking both a significant *trade-off* between product quality (alimentary and otherwise) and the optimising of purchase costs; in this sense, the possibilities for contact and interaction are amplified by the use of *e-procurement* systems, which, besides facilitating the identification of actors with whom to create cooperative relations (independently of their geographical position) allows for the automatizing – and consequently speed up – of the process of ordering raw materials, with significant advantages in terms of efficiency and organisational efficacy (Golinelli e Simoni 2006). On the other hand, the definition of the *core* offer (catering and accommodation) needs to be accompanied by the possibility for consumers to independently construct their own consumption experience, on the basis of personal needs, i.e. of a more or less global fruition. Agri-tourism holidays, consequently, have to envisage collateral activity, organized and managed independently, capable of extending the *service concept*, connoting it with attributes that are differentiated for the end customer: enogastronomy degustations, taking part in rural activities – such as *trekking*, *birdwatching*, *horseriding*, etc. – sales of typical products are instruments by means of which the customer can be involved (although not in a complete sense), enhancing, albeit with different degrees of intensity and participation, the need for contact with nature, the rediscovery of traditions and genuine foods, relaxing and hospitality etc., which all characterise this specific travel experience. The planning of agri-tourism holiday services, however, has to conform to a synergic articulation of the levers of the marketing mix, so as to guarantee an adequate link between demand and agritourism offer. More precisely, the predisposition of activities and procedures constantly addressed to the fulfilling of a customer’s needs, as well as the optimising of times and available resources, allow the company not only to tailor its skills and competences to suit demand but also to manage in logistic terms, the fluctuations and the cycles predictable of demand, in order to deal with structural limits and operative capacity characteristic of periods when client consumption is densely concentrated. Furthermore, the prior identification of quality standards to guide the behaviour and attitudes of all the actors operating in the agri-tourism sector firm enables the Company, likewise to reduce the probability of *gaps* in terms of quality and opens up wide horizons for achieving competitive advantage, thanks to end client satisfaction. In this sense, the agritourism firm can select from a range of tools (tab. 1) by means of which to achieve a specific offer pivoted on total quality, in which integration and coherence is the first step towards defining a unique product, i.e. totally inimitable by its competitors.

However, the shift towards total quality in the agri-tourism firm is still not capable of replacing and/or complying with the conditions that determine *customer satisfaction*, given that the specificity of the demand concerns the combined presence of possibilities of self-construction of the products, and individual choice in the degree of involvement in the agri-tourism experience. In these terms, a priority - of paramount importance – would be to abandon company entrenchments in terms of the search for spaces of differentiation and exclusively addressed to perfecting their specific product; on the contrary, creating relational synergies with other stakeholders operating on the territory and integrating and enriching the agri-tourism offer with a surplus value would qualify the firm in an effectively global way.

Tab. 1 - The mix of instruments for the constructing of product specifications geared to total quality

a) *Technical quality*

COMPONENTS	INSTRUMENTS	TYPE OF INSTRUMENT
Product	Quality accreditation (certificates)	Cognitive
	Participation in voluntary quality schemes	Cognitive
	Environmental guarantees	Cognitive
	Initial/Prior selection of suppliers	Organizational
	E-procurement	Organizational/informative
	Rural tourism activity	Cognitive
	Degustation of typical and eno-	Cognitive
	Sale of typical products	Cognitive
Price	Yield management	Organizational
	Promotors	Cognitive
	Incentives (mixed bundling)	Cognitive
Distribution	Official site (e-commerce)	Informative
	Indirect sales (tour operator and agencies)	Organizational
	Specialised Fairs open to consumers	Cognitive
	Link on specialised portals	informative/cognitive
Communication	Territorial portals (link e banner)	Informative
	Official site	Informative
	Editorials and articles in specialised	Cognitive
	Indications from Associations in the sector	Cognitive
	Indications from Members of	Cognitive
	Participation in sector fairs	Cognitive
	Participation in integrated tourism circuits	Cognitive
	Sponsorship of enogastronomical circuits	Cognitive
	Forum/blogs/newsletters	informative/cognitive
Leaflets, brochures, catalogues	Cognitive	

b) *Functional quality*

COMPONENTS	INSTRUMENTS	TYPE OF INSTRUMENT
People	Training and Update Courses	Organizational
	Sharing of goals	Organizational/cognitive
	Divulgence of organizational culture	Organizational/cognitive
	Sharing of results and performance	Organizational
	Reporting activities	Organizational
	Cooperative and democratic climate	Organizational/cognitive
	Incentives	Cognitive/organizational
	Empowerment/emotional labour	Cognitive/organizational
Physical Evidence	Coordinated image	Cognitive
	Handbook of visual identity	Organizational/cognitive
	Welcoming family atmosphere/environment	Cognitive
Process	Complaints and recovery management	Organizational/cognitive
	Suggestions from clients	Cognitive
	ICT/database	Organizational/informative
	Definition of quality specifications	Organizational/informative
	Monitoring process of service delivery	Organizational/informative
	Quali-quantitative investigations re consumers	Organizational/informative
	Analysis of customer presences (demand flow)	Organizational/informative

Source: Adapted by the Authors

The acceptance by all the stakeholders involved, of a total quality paradigm however, is seen as a structural proviso for customer satisfaction. The customer needs to perceive the final product not as the mere juxtaposition of diverse offers but rather, as a synergic and global combination of additional services. Secondly, a set of organizational tools needs to be identified, that integrates and harmonises the actions of the various territory actors involved, to satisfy and comply with needs in terms of entertainment, education, aesthetic experience and evasion that connote specific agritourism holiday demand (tab. 2).

Tab. 2 – The mix of tools for the construction of a global product, in a horizontal systemic integration logic

Areas of experience			
Entertainment	Education	Aesthetic experience	Leisure/Evasion
Degustation and purchase of typical products Popular Music Festivals Organization of shows Hospitality <i>Outgoing Services</i> Integrated Tourism circuits	Visits to museums Theme trips Courses of degustation Workshop On local traditions Exhibitions	Group excursions Guided Visits Theme Parks Enogastronomical Circuits	Health and Beauty Spas Theme packages Event organisation Sports Activities Enogastronomic events

Source: adapted by the Authors

In effect, the question is one of creating an extended value chain thanks to which, customers can decide on the most suitable type of holiday for their needs, choosing from the range of destinations offered: eno-gastronomical degustations, organization of theme holidays, group excursions, participation in circuits of integrated tourism, constitute, in this respect, just some of the options for differentiation and diversification of the agri-tourism holiday *service concept*, not simply in the prospect of competitive advantage on a local scale, but rather, on a sustainability scale. In effect, given the progressive contraction of the life cycle of holidays generally speaking, flexible and modular products enable customers not only to reiterate their experience, by choosing from the different, yet at the same time equally involving range of offers, but also to deal more knowledgeably with seasonal fluctuations in demand itself. Consequently, the need emerges for a widespread and accepted culture of intra and inter-organization, as only a common vision aiming to achieve values that go beyond personalised business logics, can result in constant, lasting and qualified success.

However, simply implementing the logics of horizontal systemic integration, even though functional to the definition of an offer conceived on a global scale, is still not capable of fully satisfying/meeting the potential of value creation for the end customer. The specificity of the agri-tourism holiday *service concept*, lies, in actual fact, in the enhancement of the territory as a driving force that determines the perception of *customer satisfaction*, in the sense of an arena for experiential consumption, declined by a degree of involvement and immersion in the environment which is entirely personal and independent. Accordingly, the agritourism firm necessarily, not only has to present a flexible and modular agri-tourism offer, based on diverse needs, but also to decline the same within a well-defined context, where compatibility and harmonisation between the agri-tourism product and the tourism vocation of the territory functions both as a catalyser and perfecting element of the *value proposition*. In fact, the capacity of transferring to the customer the surplus value generated from an offer conceived on a global scale, depends on the degree of interaction and adaptation of the latter coded in symbolic and proxemic terms which define the *framework* in which the consumption experience is extricated. It is fundamental, accordingly, to correlate the maximum degree of consonance and resonance with the supra-systems of reference, in order to implement a

reciprocal process of value creation, represented respectively by the consolidation of a sustainable competitive advantage and by the evolution of the environment towards a dynamic equilibrium. These considerations, translated in terms of company decision-making as regards the extending of the company's relational fabric, i.e. – fidelity to the systemic approach – of vertical integration with actors which, albeit not participating directly in the creation of the agri-tourism product, contribute to extending the value consistency in terms of image and perception in proportion to which, they function as an additional *trait d'union* between demand and supply (tour operator, the public and other *destination management organizations*).

From an operative point of view, the possibility of the firm to collate the benefits deriving from the activities and competences of the above mentioned stakeholders is inter-related to its capacity for implementing a mix of specific instruments by means of which, common intentions necessary to ratify the reciprocity of production and exchange of values, can become effective. The potential of the vocation for territory tourism in promotional, developmental and regulatory terms, is the conclusive factor that determines the achieving of a *total experience* as a core element in the process of building customer satisfaction. Furthermore, the creation of a holistic and integrated relational network that includes the diverse stakeholders involved in the planning-delivery phase of the agri-tourism service, adds impulse to the “area logics” that promotes conditions for creating a dynamic and proactive context the aim of which being to increase and consolidate the competitive advantage of the integrated territory system.

In the light of these considerations, the dual approach, identified as the pre-supposition for achieving competitive superiority for the agri-tourism firm, would seem to justify the need for a shift in terms of total quality – in the planning process of the global *product offering* – for the systemic integration of the stakeholders involved. The connecting link between the many intentions and individualist strategies therefore, can be traced in the pursuit and acceptance of the trend towards total relational marketing, i.e. in the creation of synergies and structural inter-links that comply with the possibility for the co-production of value (both of an economic and immaterial kind). On a parallel plane, the reciprocity factor of this type of exchange is conceived as a limit in terms of achieving *customer satisfaction*, in that the evaluation on the part of clients in terms of fruition of the service, refers to the satisfaction of the diverse needs a single firm would find difficulty in dealing with. The change in the logics that underpin experiential consumption, furthermore, contribute to the complexity of demand, in terms of projection of identity sought, and identified on the basis of personalised criteria of participative involvement in defining the offer. In this sense, the integration with specific offers on the part of individual territory stakeholders feeds a virtuous circle of value creation, as it guarantees not only a greater degree of consumer satisfaction by means of a *multipurpose holiday*, but rather the activation of *interfirm-specific* processes and inter-organizational self-learning devices that, being inimitable, broaden the prospects the local territory system has of gaining and sustaining competitive advantage.

3. A case-study: the Mustilli agri-tourism firm

In the agri-tourism service sector, the concept of quality, in the sense of mere final control of the delivery process, is being abandoned in favour of a quality system that starts from a preliminary assessment of conditions internal to the organisation (a systemic integration with sub-systems perspective), by means of approaches synergic with territorial supra-systems (a systemic integration with supra-systems perspective) for the realisation of a global product consonant with the myriad needs of the tourist (Golinelli 2005). In order to better understand the phenomenon, an investigation to analyse the model of quality implemented by an effective

agri-tourism firm, was carried out. From an in-depth analysis of the different categories of agri-tourism offered in the Campania area, (taking into account the focus *items* of our research), it was decided to conduct our investigation at Mustilli's agritourism establishment, situated in S. Agata de' Goti in the province of Benevento. The Mustilli firm experience is an example of *best-practice* in which the trend in favour of quality in managerial, productive, structural and recreational terms, has become the differentiating factor on which the firm's competitive advantage is based. The in-depth study of a case of business excellence, has consequently, resulted in the emerging of highly critical areas to deal with in order to predispose a system of tourist offer – of a non-hotel nature – capable of bending vertical and horizontal systemic logics to the service of territorial development.

The Mustilli firm is a classic case of a family-run business that dates back to the 1500s, the period in which the family moved from Ravello to the Sannite village of S. Agata de' Goti, where they had decided to live and work. In particular, the 'Mustilli' farm was started in the 1960s by Leonardo and Marilì Mustilli who had decided to start the family tradition of wine producing again. As regards hospitality, on the contrary, the agri-tourism firm belonging to the Mustilli family was started up in 1993 as a privileged destination for travellers in search of places rich in history and where tourists could be fascinated by local traditions and flavours. The hospitality structure records on average a number of tourists yearly, equal to 700 of whom 70% are Italian guests while the remaining 30% are non-Italian visitors from and outside Europe. The main productive sector is prevalently wine production which as mentioned above, has always been the core activity of the Mustilli family. Other main activities are hospitality, accommodation and catering but Mustilli's tourism offer is particularly flexible, succeeding as it does, in presenting to its customers an experiential product that is modelled on the desire and wish for involvement on the part of the clients themselves.

We have already had an opportunity of examining the multi-dimensional nature of the quality of tourism services (both in terms of technical and functional quality). At this point, it would be interesting to verify the combination of instruments used for constructing "the Mustilli product" geared towards total quality. From a rapid analysis of the instruments used by the Mustilli firm, the distinct desire emerges to address the planning of their agritourism product in the direction of an extended global product, which fully exploits the potential deriving not only from the synergic coordination between the various marketing activities, but also and above all, from the intense cooperation with the territory system involved. The values on which the competitiveness of the firm is based, are undoubtedly, hospitality, tradition and above all, the bond with the territory itself. The product appears particularly "flexible" in that various elements co-exist, the contours of which, are not always easily distinguishable (Di Cesare 2004; Formato 2006). Besides the attention addressed to selecting and using the ingredients – the raw materials - supported, furthermore, by subscription to voluntary systems of quality, the agritourism firm immerses the visitor into the culture of the area, counting above all, on tourist-rural and catering activities. Both these initiatives in effect, construct the arena in which the offer is "presented" and tell the tale of the cultural patrimony of the territory both in material (relative to tangible resources) and immaterial terms (traditions, cultural resources, knowledge and folklore). (Tab. 3).

Tab. 3 - The mix of instruments of the total quality model of the agritourism firm Mustilli (*Technical quality*)a) *Product and communication*

PRODUCT		COMMUNICATION	
<i>Tools</i>	<i>Type</i>	<i>Tools</i>	<i>Type</i>
Preselecting of suppliers	Org.	Editorials and articles in specialist reviews	Cogn.
Voluntary subscription to systems of quality	Cogn.	Leaflets, brochures, catalogues	Cogn.
Rural tourism activity	Cogn.	Sponsorship of cultural events (Sannio Film Fest)	Cogn.
Traditional Campania Cuisine	Cogn./org.	Propaganda (placement in the Michelin Guide)	Cogn.
Degustation of typical products	Cogn.	Participation in thematic tourism circuits	Cogn.
Sale of typical products	Cogn.	Mentions by Associations in the sector (Slow Food)	Cogn.
		Official website (www.mustilli.com)	Inf.
		Weekly newsletter (News of events at the Cantine Mustilli)	Inf./cogn.
		Presence on portals (www.agriturist.it ⁸ ; www.bbplanet.it ; etc.)	Inf./cogn.

b) *Distribution and price*

DISTRIBUTION		PRICE	
<i>Tools</i>		<i>Tools</i>	<i>ype</i>
Indirect sales (tour operators and Agencies)	Org.	Price-target	Org.
Links on specialist portals	Info./cogn.		

What is happening is a transformation from the pure and simple act of selling a bottle of wine or any other artisan product, to a refreshment, catering service or eno-gastronomic degustation, planned with great attention to detail and dictated not so much by fashion but rather by the informed intention to participate in the more often than not hidden, wealth of local culture. In particular, the restaurant service, a point of excellence claimed by Mustilli, under the direction of Mrs. Marili Mustilli whose desire to ensure that her guests enjoy the genuine flavours of the Campania tradition, has wittingly revised them adding her own special touch of creativity. The offer, consequently, intended not simply as a single product, but a set of activities linked to the vital client-firm relationship, is formulated at the precise moment the client comes into contact with the firm. Naturally, in order to succeed the firm commits itself to a tight-knit relationship with the visitor involved, thus grasping the salient characteristics of the experience of consumption the visitor wishes - or aspires - to enjoy.

Such experiences distil value in the broadest sense, favouring the placement of the Mustilli product within wider and more complex systems of offers (fairs, exhibitions, concerts and other events) organised in symbiosis with the territory. Besides reinforcing the link with the territorial system and with local stakeholders, these systems enable the displaying of different products to suit different needs as opposed to simply completing traditional offers by means of experiential marketing policies (Pencarelli e Forlani 2006).

⁸ Agriturist is the National Association for Agritourism, the Environment and the Territory, the first agritourism association in Italy, established by Confagricoltura in 1965, to promote and guarantee agritourism, i.e. national products, regional enogastronomy, the environment, the landscape and rural culture. Agriturist was given Ministerial recognition, i.e. the "associazione ambientalista" award for these service in 1987. Cfr. AGRITURIST, in www.agriturist.it, *download* del 29.06.2007.

Besides the elements more closely connected to product incentives, a particular strategic relevance lies in the communicational activities implemented by the firm, in the sense that these are not exclusively a vehicle of publicity for increasing the firm's visibility – an important factor naturally enough – but above all a tool for stimulating and creating potential and reinforcing synergies with the territory so as to co-evolve with it. These activities can be traced to three main areas: propaganda, events and electronic channels. As regards the first, the Mustilli family attributes strategic value above all to the editorials and articles in specific specialist sector periodicals, considering them the most efficacious and persuasive form of communication. The success of their agri-tourism firm, as Mrs. Mustilli declares, is kindled constantly thanks also to their presence in tourism and eno-gastronomic publications of international renown (e.g. the Michelin Guide). With reference to the events, on the contrary, besides taking part in tourism theme circuits – e.g. ‘*Le strade del vino* and *Falanghina Felix*’ – which, as mentioned above, extend the confines of the offer. Another case in point is Mustilli's sponsoring role in cultural manifestations on an international scale, e.g.. the Sannio Film Fest, an international Festival of cinema in costume, held annually at S. Agata de' Goti. Once again Mustilli demonstrates the importance of linking its name to an event capable of attracting quality tourism, and this is demonstrated by the fact that the Mustilli firm presents its own annual award at the festival⁹. In conclusion, the Mustilli firm itself seems to confirm the thesis that the electronic channel can be perfectly reconciled with the “olde worlde” of agri-tourism. In actual fact, the electronic channel is an efficient and efficacious communication *medium* capable of offering maximum visibility at not particularly high costs. The electronic channel in effect, is turning out for the Mustilli agri-tourism firm to be, a valid alternative to the traditional package holiday catalogue, even though as far as the booking phase is concerned, many prefer to book direct or by telephone¹⁰. The firm's presence in the network is assured not only by means of its own website (www.mustilli.com), but also through portal participation (*click & click*) integrating the functions of the traditional research engine with those typical of an Internet Service Provider (e.g. www.agriturist.it; www.agricamping.it). In the first instance – the firm's website – the agri-tourism firm definitely has greater freedom in describing its offer, freely choosing its format, graphics not to mention content. On the contrary, in the case of the firm's presence on the portal, the partial renouncing of independence in terms of decision making is compensated for with greater visibility. The decision to be present on high traffic infomediaries and/or metamediaries, furthermore, allows for the establishment to benefit almost automatically, from the same reputation of reliability afforded to the host information portal. In particular, the metamediaries have turned out to be a reserve for reaching new or potential clients¹¹. Before analysing the functional quality tools, it should be underlined that the two quality dimensions (technical and functional) do not have an identical role as regards total quality status, reaching different positions on the basis of the resources possessed (endogenous vision) and of the objectives to be reached on the market (exogenous vision). The necessity to affirm one's own competitive advantages with respect to competitors, is often a driver for

⁹ The Premio Mustilli is always awarded to a particularly distinguished and talented film actor.

¹⁰ EDITORIAL, “Agriturismo: è internet il primo mezzo di prenotazione”, in www.agriturist.it, *download* del 22.11.2005.

¹¹ The purpose of the metamediary is to create a *metamarket* wherein to include all the activities which in the navigator/consumer's view, satisfy a specific set of needs. Cfr. PRANDELLI E. e VERONA G. (2002), *Marketing in rete*, McGraw-Hill, Milano, p. 377. Naturally the efficacy of the presence on an information portal will depend on its capacity to guarantee not simply visibility but above all, the access to full and comprehensive information in terms of what the agritourism firm offers (e.g. photos of the amenities/establishment, telephone numbers, brief outlines of the services provided).

more focus on the functional quality of the process, which is certainly less easily imitated by rival firms (tab. 4).

Tab. 4 - The mix of tools of the Mustilli agritourism firm total quality model (*Functional quality*)

PERSONS	
<i>Tools</i>	<i>Type</i>
Training and Update Courses	Organizational
Creation of work groups	Cognitive
Cooperative and democratic atmosphere	Cognitive
Remunerative and incentive based award system	Cognitive
PHYSICAL EVIDENCE	
<i>Tools</i>	<i>Type</i>
Welcoming family environment	Cognitive
Coordinated Image	Cognitive
PROCESS	
<i>Tools</i>	<i>Type</i>
Complaints Section	Organizational/cognitive
Client Suggestions	Cognitive
Analysis number of visitors	Organizational/informative
Periodic enquiries on clients	Organizational
Monitoring of delivery process	Organizational

A key element at the basis of the model of quality of the Mustilli offer is represented by their degree of *commitment*. Cohesion, subscribing to the firm's objectives, trust and reciprocal respect are the essence of the bond the firm has with all its staff involved in the running of the business. Agri-tourism – but also the Mustilli vineyards – is a family run business enlarged to the extent where staff, from many different generations, are part of the firm. This process of continuity has favoured the creation of a motivated workplace which guarantees decisive support to all the activities undertaken, well-trying or experimental, as the staff feel that the strategic value of their skill and expertise is recognized, called upon as they are, to guarantee the specific diffusion of Mustilli value in favour of the different stakeholders. However, the forming of a kind of “family in the family” does not always have just the outcome of a positive impact on the distributing process; sometimes the group creates a barrier towards outsiders, hindering the arrival of new expertise in the firm. On the basis of this experience, the Mustilli owners have intensified monitoring activities over the entire process of planning and distributing, paying careful attention to the work atmosphere. Their aim has been to guarantee a democratic and cooperative environment capable of looking outwards without compromising deep-seated knowledge and skills. Tools such as continuous in-house training, updating or refresher courses and implementing systems of incentives have been particularly efficacious. These activities are fundamental for ensuring constant improvement in the quality of the service designed and offered. Naturally, improving the service means also improving the quality of the relationship with the clients, sustaining their level of *customer satisfaction*. The measuring tools are of a prevalently indirect kind, materialising in the impressions gathered directly from the staff of the firm. In the past, the firm implemented measures of direct data collecting, by administering questionnaires on *customer satisfaction*, however, managing an integrated system of observation has turned out to be particularly onerous. The ease in collecting data by means of an indirect method however, could incur the risk that “self-evaluation” is not entirely representative of the effective perceptions of the clients. In this sense, it should be noted that the firm would appear to be safeguarding itself by carrying out periodical cross checks by comparing the results of self-evaluation from inside the firm and information deriving from eventual complaints. Eventual gaps resulting can then be

utilised to highlight aspects pertaining to customer satisfaction either in terms of under or overestimation. It is well-known that not all clients make complaints and when doing so, often use unofficial tools that are difficult to monitor, this would indicate that firms perceive the necessity to stimulate both dialogue and the propensity for information concerning eventual disservices, not only with the aim of remedying relations but, above all, to keep a close watch on and to reduce negative word-of-mouth repercussions (Iasevoli 1999). With regard to the *physical evidence* component the Mustilli agri-tourism is lucky enough to benefit from an enthralling, unique natural scenario such as the hamlet of S. Agata de' Goti, constructed upon a craggy ridge of volcanic rock. S. Agata is a mosaic of paved roads, cloisters and noblemen's palaces¹². The Rainone palace, where the agri-tourism establishment is situated is a fitting refuge for those who would like to visit the ancient Sannite city. The rooms of the palace enjoying a stupendous view over the hamlet, are all different, but furnished with identical care so that guests can feel at home in a familiar and warm atmosphere that respects the architectural elements and furnishings typical of the local culture.

At this stage, it would be opportune to underline how the quality project in terms of the (agri)tourism firm does not exhaust itself in these two components (technical and functional), the system of offer in actual fact, can be considered an effectively global one when it manages to stimulate collective territory projects. The commitment of the Mustilli firm is addressed to the territory system, not only in terms of contributing directly to its enhancement, but above all, in guaranteeing its guests the opportunity of experimenting aesthetic experiences modelled on the diverse visiting vocations, present within the macro-segment of "agritourists".

The tools used for the construction of the global offer of the firm Mustilli seem in a perspective of experiential marketing, to embrace the different contexts of experience already examined above (Pine e Gilmore 2000). With their project Mustilli agri-tourism, a system of services and products, skilfully planned to capture and surprise their clients' emotional sphere has been made possible, giving them the sensation of directing the process of constructing their own personal offer (fig. 3) (Resciniti 2004). Naturally, the optimum condition would be that of succeeding to stimulate active participation on the part of clients that does not materialize exclusively in entertainment (e.g. degustations, musical events, etc.), but which involve them as protagonists in individual events (rural and productive activity)¹³.

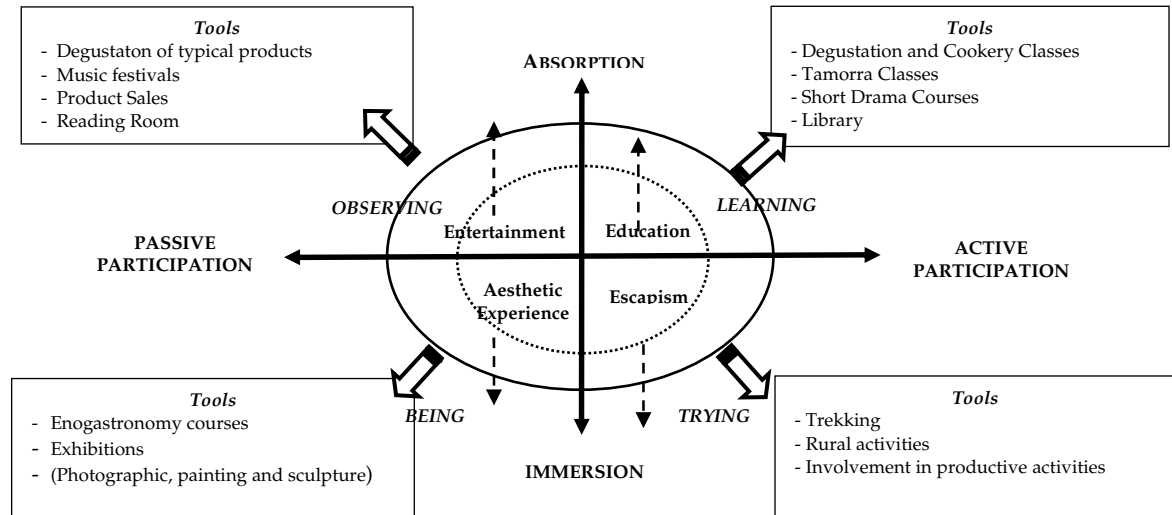
This condition is not however, seen as an imperative, indispensable for the success of the entire project. The Mustilli family, in effect, appear well aware of the fact that the real challenge is that of planning a *multipurpose system* that allows for the exploring of all the potential of the different contexts and attempting to combine them in a balanced and coherent way with the expectations of the relative *audience*. Each portion of the sphere delimits the field of action for each individual experiential project, it being understood that entertainment -

¹² The town of S. Agata de' Goti is one of the two Campania towns that have currently been given the Italian Touring Club's environmental quality tourism brand award in the context of "Progetto Bandiere Arancioni". The brand is awarded to the town which provides quality hospitality to excellent standards. The Bandiere Arancioni project was set up in 1998 in Liguria to respond to the need to enhance inland areas. The Touring Club elaborated a model of analysis (Modello di Analisi Territoriale, M.A.T.) which identified the first "arancioni" (orange flag towns). Since then the Touring Club has actively promoted the scheme in order to spread the brand award throughout Italy. At the present time, orange flag towns number 142. EDITORIALE: "Le bandiere arancioni", in www.touringclub.it, download del 30.11.2007

¹³ Moreover, agritourism services are qualified by a relation-oriented offer where the staff-guest relationship is not infrequently characterised by the involvement of the guests in productive or transformational activities (e.g. crop-picking, preparation of preserves, cheesemaking etc.). Cfr. RUISI M. (2004), *Turismo relazionale*, Giuffrè, Milano.

in the sense of passive reception of experiences – cannot be considered the only avenue to explore, but certainly a valid basis to start from, representing one of the oldest forms of experience¹⁴.

Fig. 3 - The tools used for constructing a global Mustilli offer in the logics of a horizontal integrated system



Source: the Authors' elaboration of the contexts of experience model - PINE B.J., GILMORE J.H., 2000

Included in the different tools, connected to the entertainment sphere, of particular interest is the initiative “Le cantine Mustilli”, a musical evening that takes place every Saturday in the old cellars of the firm. Even though the wine and eno-gastonomic degustations are the main specialities, the specific *location* lends itself as a stage for musical, literary and cinematography meetings (Martino 2007).

The relational value of this type of experiential activity derives from the capacity to produce lasting effects through a programme of events characterised by a recurring *leitmotiv*. The products and services are designed here for constructing an experience of value that extends over time, a persistence, an “aftertaste” that goes beyond the moment of enjoyment but, by means of the brand and the territory in which the event is organised, remains impressed in the mind of the consumer. The many different types of educational tools organised by the firm come to mind (e.g.. degustation and cookery classes) that help to complete the absorbing process of *edutainment* carried out in coherence with the other partners operating on the territory (fig. 3) (Mainolfi 2005). In the global experiential project, consequently, the level of intensity of the aesthetical experiences conceived for the visitor/tourist are a function of the degree of sensitivity on the part of the firm towards the territory as a system. Only the recognition of the strategic value of the use of integrated systems, above all on a horizontal scale, would allow for the organising of a wider/broader more complex offer, on which to erect a model of quality capable of auto-alimenting and continually improving internal and external performance¹⁵. Guests that reach a tourist destination, choosing specific receptive

¹⁴ Entertainment is intended as a passive absorption of experiences enjoyed through a person’s senses. It is fundamental to underline that not every experience generates pure entertainment in the sense of “the act of engaging the attention agreeably, of amusing or of diverting, whether in private, as by conversation, or in public, by performances of some kind”. Cfr. *Oxford Dictionary*.

¹⁵ Cfr. GOLINELLI G.M. (2005), *op. cit.* Local territory tourism systems, in effect, can be considered as made up of numerous sub-systems which, integrated one with the other, each with its own specificity (Institutions, hospitality and catering firms, local manufacturers, tour operators, travel agencies, cultural associations, etc.), evolve over time, formulating new quality paths for tourism development. IASEVOLI G. (1999), *op. cit*

structures, bring with them a mix of needs and expectations that have to be satisfied during their stay. Tailoring the quality of the receptive service offered to meet the needs of the agritourist, and to the capacity of the destination to offer services and elements of attraction, has meant for the Mustilli firm, success in translating in an extremely creative fashion the *desiderata* of the client into original and attractive tourism products (Martini 2005).

4. Conclusions

The key element of success of the agritourism offer is without doubt that of reinforcing the link between culture, environment, typical factor and economic development. The recent revival of these values creates in effect, a particularly favourable climate for such tourism offers. Thus the agritourism sector enjoys a positive image in the eyes of its reference *audience* despite the extent of structural and functional fragmentation of the public and private sector operators, delegated to the promotion of tourism products. The realisation of efficacious strategies of enhancement of firms in the agritourism sector will depend on the capacity of their offer to respond to the ever pressing needs of evolving consumers looking for “Quality” that is constant over time and in space. The goal of the agritourism offer consequently, should be that of a *leisure experience*; a polyhedric offer in which the stay, the catering activities and the organisation of events converge in a Model of Quality that becomes accordingly, the privileged tool for achieving the systemic integration between rural tourism services, the enhancement of typical products, the promotion of bio-diversity and naturally, the local territory. The trend for Total Quality and the promotion of an integrated territory system emerge as interpretative keys for a process of co-production of value in which the “wider” relational system – that encapsulates the specific products belonging to territorial partners – distils value by encouraging the co-evolution of the territory system; a virtuous spiral, consequently, with which to achieve lasting competitive advantage.

In this sense the experience of the Mustilli firm represents a concrete example of ability in identifying a model of agritourism management to guarantee improvement both in organisational efficiency and efficacy. Furthermore, in the Mustilli model *customer satisfaction* no longer represents the ultimate destination towards which internal and external processes need to be guided, but rather a starting point from which to design a “global” agritourism experience that creatively matches and combines internal resources with those present in the cultural, natural and eno-gastronomic patrimony of local communities, its contagious power of attraction contributing at one and the same time, to their constant enhancement.

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MUSEUMS AS KNOWLEDGE – CREATING SYSTEMS: HOW NEW TECHNOLOGIES CAN IMPROVE QUALITY

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Key words: Museums, Knowledge, New Technologies

1. Introduction

Museum Management studies involve different and specific perspectives and their evolution has led to outline and try to solve economical, financial, marketing, managerial aspects which appear critical within museums.

American and British literature¹, first of all, focused on the benefits museums can obtain through the adoption of Management models and perspectives. As has been forward,² cardinal necessities in Museum Administration can be divided into five distinct areas:

- a. a stable organization and adequate means of support
- b. a definite plan, carefully made in accordance with the possibilities of the institution and the needs of the community
- c. a good collection
- d. a staff of competent curators
- e. a suitable building

Authors therefore focused attention on the role of the curator (Bradford H. 1994), the relevance of personnel management (Friedman R. 1994), the outline of a financial mission (Harney A.L. 1994), the need for museum planning (Hatton A. 1994) and in particular on the adaptation of marketing policies to non- commercial realities such as museums (McLean F. 1994, Kotler P., Kotler N. 1997, Kawashima N. 1998) These concepts obviously fit great museums where there is at least the presence of a curator or a director, and managerial and financial autonomous decisions can be taken.

Through the evolution of marketing and management studies museums have been pushed into the marketplace and are now considered organizations producing services³. This means competing for visitors with each other and with other cultural and leisure attractions and carefully managing resource productivity and economic responsibility, even without reaching profitability.

The Italian reality has been shown to be even more complex due to some well known peculiarities. First of all the prevalence of public museums and the deriving lack of economic and financial autonomy strongly conditions the decisional power of the single institutions. Secondly, among the huge number of museums in Italy (around 4,000)⁴ two opposite poles exist characterized by different opportunities and goals. On the one hand, some great and very famous museums attract huge number of visitors and often face problems of overcrowding; on the other hand a great number of smaller museums consists of “a spread heritage”⁵, culturally relevant but spread throughout the country and usually located far away from the

¹ Moore K. (1994), Edison G., Dean D. (1994), Kotler N., Kotler P. (1997)

² Browne Goode G. (1985)

³ Mc Lean F, (1994), Bagdadli S. (1997)

⁴ The total number of museums differs according to the different methodologies of relevation and to the inclusion or not of some specific cultural assets such as archeological sites for example.

⁵ Paolucci A. (1996) defined the Italian reality with the well-known expression “museo diffuso”

main art cities or off the main tourist routes. Many of these museums are even closed to the public and in most cases have to tackle problems related to increased demand, lack of any administrative independence and professional personnel.

In Italy this has meant, in the last few years, a great change both in attitudes and in behaviour within museums. Preservation and safeguard of cultural assets are still, as was traditionally the case in the past, a primary goal for museums, but on the basis of this sole activity museums can be mainly considered deposits of cultural heritage. On the contrary considering the public an essential element of museums and adopting a market – oriented perspective means assuming the display function is central. It could also be said that preservation of cultural heritage is essential in providing for future generations, while the display function is related to present generations.

This acknowledgement has led to a greater attention to visitors' satisfaction and to a reorganization⁶ of the so called "added services" such as bookshop, bar, restaurant, cloak room and so on, in order to obtain effectiveness and profitability.

The concept of quality has been increasingly referred to, and the need to improve it is taken more and more for granted. Therefore, quality standards for museums in Italy have been developed, on the background of the European context and in particular the accreditation system developed in the UK, and, at the same time, concepts of Total quality Management are being applied for the assessment of museums⁷.

Notwithstanding the advantages related to the application of managerial methods to cultural assets, a reflexion on the concept of quality in museums can't be carried on without a previous consideration of the meaning and the role that a museum plays in the community nowadays: it is important to recognize fully the challenges which museums currently face.

3. The mission of the contemporary museum

With specific reference to Italy, museums are nowadays part of a wide cultural heritage which is open to everybody for public enjoyment.⁸ The growth of cultural tourism and cultural consumption and the presence of a more and more demanding visitor have obliged museums to make choices and to adopt behaviour capable of creating better conditions for visitors. Service Management perspective has helped to develop the supply of a museum. At least in biggest museums the display of the collection is offered with a whole series of specific educational, museografic as well as commercial services.

For years museums have simply adapted to public demand and from this point of view they have behaved "passively". Today's demand for both a better fruition of the main museums as well as an increase in the number of visitors to the smaller museums, pose new questions of how to improve quality and revitalize the supply of culture.

Museums should seize the initiative, not simply passively responding to events but actively seeking to shape them as far as possible. So far museums have tended to be reactive rather than proactive; they have assumed "passive behaviours". The current focus on management is increasingly enabling museums to grasp more firmly why they exist, what they aim to achieve, and how this can most effectively be realized.⁹

Museums exist because there is a collection and a cultural project around it; they can be thought as the memory of the past and the witness of a specific geographical area and

⁶ A logic of externalization of these services has been introduced through the Ronchei Law (L.14/1/1993, n.4)

⁷ Negri M., Sani M. (2001)

⁸ In the past museums started off as private collections, the result of a single person's interest in collecting objects from a shared cultural base in order to preserve them from the risk of being destroyed.

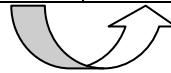
⁹ Moore K. (1994)

context¹⁰. Therefore the main question is whether their collections can be considered not just as rents but as resources not being directly exploited to gain profitability but used to produce high quality cultural services.

This conception means revalorizing the “social dimension” of museums in the trade-off with their “economic dimension”; it’s then throughout the creation of networks with businesses and local authorities that economical externalities can be obtained.

Fig. 1. The mission of museums

	Traditional Museum	Contemporary Museum
Behaviour	Adaptive towards demand	Proactive towards demand
Focus	Quantitative and qualitative aspects of museum visiting	Communication and coomprehension of the meaning of the collection
Mission	Show of the collection	Production and diffusion of knowledge



The artistic, historical, and archaeological assets preserved by a museum are not just a driving force for economic enhancement, but resources that can be used in the process of cultural development of the community.

As a consequence, **museums’** main purpose doesn’t imply to simply display the collection but to use it as means of communication with the public.

Nowadays the role played by a “proactive” museum does not consist only of preserving and safeguarding cultural assets and of showing its collection, but mainly of communicating and spreading culture, encouraging the public to visit museums and above all to gain a better understanding of works of art so as to have meaningful experiences.

4. The creation of knowledge

Two specific aspects related to service logics and managerial perspective can be underlined for the achievement of museums purposes.

First of all the conception of museums as “services organizations” drives attention towards the resources needed to manage activities.

Especially with regard to human resources, we can find a huge heritage of cultural knowledge and specific know how, so as museums could be defined as “knowledge resource systems”. Within organisation explicit and tacit knowledge¹¹ is incorporated and its internal and external diffusion is needed in order to create innovative projects and to achieve better goals.

Through the exploitation of all these resources and competences museums can be able to activate a process for creating and spreading culture, so as to reach the goals of educating people and of attracting new segments of the public, acting as competence centres.

¹¹ Nonaka I. (1997) divides the concept of knowledge into two dimensions: epistemological, related to the difference between codified and implicit knowledge, and ontological, related to the diffusion of knowledge at various social levels.

Cultural assets have a rich cognitive value which, due to its considerable complexity, only people with particular skills and background can actually understand and explain further to limited groups of population.

Managerial perspective aids to outline that it doesn't exist one single public for museums, but many different kinds of public: visitors and not visitors, tourists and residential, segments of demand with a great level of differentiation according to age, sex, cultural level, motivation, learning attitude. Different segments of demand need different ways of communicating with the museum in order to learn and to improve their cultural knowledge.

Until nowadays museums didn't succeed in creating a supply differentiation coherent with the differentiation of the demand.

Because of the structure of buildings and the limited physical areas, in Italian museums, the display of the collection has been characterized by a high level of standardization and it has not often specifically thought for the public.

On the contrary principles and methods of displaying a collection, stands, arrangement of the objects of a collection, informative supports, and educational instruments should vary according to different kinds of public. Above all the transfer of knowledge should be incorporated in innovative projects, characterized by a coherence among segments of demand, supply and distribution.

Different levels of goals can be pursued by museums for different kinds of public.

For example, taking into account visitors, some of them could be:

- simple memory of the visit
- overcoming of cognitive obstacles¹²
- incentive for cultural deepening
- better comprehension of the cultural project on which the collection is based.

In addition museums can be thought socially responsible towards non-visitors. In that case means of communication could be set up in order to inform about the same existence of the museum and its collections or to stimulate people to visit or to know more about it.

Museums have several options to get differentiation and communication effectiveness, using both the traditional methods of collection display and arrangement of objects, and some newer ones such as managing opening hours for different goals, organizing exhibitions, setting up laboratories and ateliers, and using new information technology instruments and learning methods.

4. The role of new technologies.

In the last years technology has been more and more widely used within museums. It can provide for several aspects of museum activities, such as preservation and scientific development.

Technology can be used, for instance, to check environmental, climate and light condition so as to preserve collections and to guarantee security.

It represents a fundamental basis for scientific studies, allowing the analysis of specific components and creation process of works of art, as well as restoring operations. Some results of technology application are shown in catalogues, archives and data bases.

Information and communication technology can also be considered a crucial resource in a market-oriented perspective, where it could facilitate accessibility to museums both in a physical and in a cognitive way.

¹² Mc Lean F. (1994)

In Italy not many museums are able to display their whole collection to the public. For bigger museums it depends on the lack of adequate spaces or on the intense activity of exchanging loans; smaller museums instead don't sometimes have even the resources to be opened to the public. In those cases works of art could be accessible and visible to the public through informative supports.

With regards to cognitive accessibility, new technologies can afford museums to spread culture and knowledge, more easily getting to the public of non - visitors and creating new means of communication with the public of visitors, so as to increase their level of comprehension and appreciation.

Among the huge quantity of interactive multimedia, attention can be focused on virtual museums, created both inside and outside museums.

A virtual museums fruition inside the museums can be guaranteed through the set up of terminals and computer sites, while a virtual museum fruition outside the museums is obviously related to Internet and to web-sites.

Apart from single museums' decisions, attention can be focused on the possibility to overcome the physical obstacles linked to the display of the collection; the creation of virtual museums could combine cultural components which are even located in different contexts far from each other, producing a project otherwise impossible to realize in the real space. What can be generated is an "impossible museum".

Similar solutions could also be thought for those smaller museums, lacking of minimum resources and with few visitors in Italy; their collections, included in virtual itineraries, could become visible to the public as well as integrate cultural offers of a specific area or period.

5. New technologies and museums in Florence

5.1. Emerging technologies within museums

Many museums have begun to create within their buildings terminals and computer sites. The initial aim was mainly to provide for visitors a halls map and information about services and collections.

Scientific Museums, first of all, due to the nature of their collections, have developed the use of these technical instruments so as to establish new forms of cultural communication with visitors.

The Museum of the History of the Science represents a significant example in Florence.

Its collection of scientific instruments belonging to the Medici and Lorena Families includes the original instruments used by Galileo.

Similarly to what done by the Scientific Museum in Oxford, collecting Newton's instruments, visitors can improve their level of understanding of the collections. They can observe real objects in the halls and then specific programs on computers, with the aid of dynamic images, explain how such instruments worked and were used in the past.

In art museums too, similar computer programs can be widely applied so as to give visitors further information about artistic techniques, objects and authors.

"Invisible museums" can be created, showing all those objects, preserved inside deposits, which are not accessible to public because of the lack of space.

5.2. The structure of web-sites

Only recently have Italian museums begun to use new technologies to get to a greater number of visitors and to increase their communication effectiveness.

The kind of technology and its level of use are extremely different in relation to the types of museums and their directing administrations.

As to web sites a major degree of development can be shown by the museums of the “Polo Museale Fiorentino”. It includes eighteen museums, and among them the most visited museums in Florence, such as Galleria degli Uffizi, Galleria dell’Accademia and Galleria Palatina in Palazzo Pitti.

The web site structure is homogeneous and the most framed you can find within all the museums in Florence.

On analyzing it, information can be divided into four different sections:

- commercial news: opening, costs, booking, etc.
- scientific products: digital archives, catalogues, data bases
- cultural products: virtual museum, visits on line, exhibitions on
- activities news and reports: laboratories, courses, visits organized for specific categories of public.

What emerges with evidence is that for each of the main museums commercial news are adequately given.

Great relevance is attributed within the site to scientific products. This section occupies a large space within the site including inventories, catalogues, digital archives, photographs as well as information about documentation centres and historical archives of Galleries in Florence and documents related to specific museums.

As to cultural products, the web site includes a description of exhibitions which are now on as well as an archive of the past exhibitions and events organized by museums.

A virtual museum is included, containing a description of each display space and the images of the main collected objects.

A search process allows visitors to visualize single objects, with description and information about them, but this search process seems to be thought more for people with expertise than for common visitors without a specific culture in history of art.

A virtual museum including animations, itineraries through the collections and the spaces of the museum, doesn’t exist; just a reproduction of some spaces in three dimensions is provided.

Finally, in the web site museum activities are quite stressed. From this point of view a didactic centre, which operate for all the museums of the Polo, effectively create specific products related to segments of demand.

Chronological and theme itineraries, laboratories and courses about artistic techniques are organized. Relevant initiatives consist of a series of meetings with families, of teenagers and parents, which are generally not very close to museums, as well as special itineraries for blind people, based on music, poetry and the use of touch.

The web site can be judged quite complete and well framed, but it can be considered almost an isolated case among the Florentine museums.

Even the web sites of Municipality Museums, which include Palazzo Vecchio, the fifth museum in Florence for number of visitors, have a much simpler framework. Visitors can find commercial news, a general description of the museum, some photographs but a very restricted number of other activities.

The link with the “Museo dei Ragazzi” is the only exception.

The innovative project has been carried out by a network of museums (Palazzo Vecchio, Istituto e Museo di Storia della Scienza, Museo Stibbert) and has led to create a wide range of laboratories and ateliers for schools, children and families. The innovative aspect of the supply consists of using forms of interactive communication and a maieutic method, based on games and hands-on methods, and applying them both to historical contents. In the specific web site a mascot character takes the visitor through dynamic itineraries and games.

Compared to the web sites of some great museums in Europe, differences clearly emerge.

The British museum in London, for example, is one of the biggest museums all over the world and it can surely offer to visitors a great variety of collections and opportunities.

With regard to the web site, it contains visiting information, collection data bases, proposals of a wide range of activities, events, courses and trails, but the structure itself seems to have a different purpose. Since the home page main relevance has been given to the contact with visitors and to the possibilities of exploring museums. Several itineraries through the Galleries, on line tours, organized by theme, country or world culture, specific virtual journeys for families and children are offered. With the aid of dynamic images public can virtually visit the museum and is oriented and guided within the complexity of collections.

Similar structures are shown by biggest museums in Europe, such as Louvre, where a marketing function and a market orientation have been developed since many years.

6. Conclusive remarks

Museums can undoubtedly take advantage of new information technologies.

They have at disposal new means of communication with the public, of both visitors and non visitors, so to get in touch with different segments of demand and to increase their attractiveness.

Even a simple comparison among web sites show great differences, concerning more the general structure than the specific content.

In Italian web sites the scientific section emerges with its wide range of well studied products and even the descriptions of objects and collections seem to have been thought for a public of good cultural level. The traditional concept of museum, regarded as a place of study and preservation, is still prominent.

The British Museum web site, on the contrary, is focused on visitors; the main purpose seems to make them explore the museum, offering many different virtual itineraries and using a simple language. It is market - oriented and not yet product - oriented.

Assuming that museums' main purpose is to produce culture and to improve the comprehension of collections, the new opportunities offered by a virtual world are exploited.

The achievement of these goals obviously depends on the quality of museums' supply and on the value of the cultural projects. Problems can then be related to a quality check, in a field where the results, depending on people specific competence, can be measured with difficulty. Collecting data related to number and different types of web contacts could be the first step to do in web sites where the statistics section should be more developed.

It is difficult to measure goals which can be synthesized in a British Museum's sentence: "Whatever your age or level of interest, you can always something new".

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PRODUCT VARIETY AND BRAND PORTFOLIOS STRATEGIES IN THE HOTEL BUSINESS

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Key words: *brand portfolio, brand architecture, variety, hotels, product platform*

1. The expansion of product variety in the hotel sector

In the last two decades hotel groups have introduced several new lodging products in order to satisfy different classes of guests proposing also format innovations (Rushmore S., Baum E., 2002): all-suite hotels, hard budget hotels, extended stay hotels, boutique hotels, lifestyle hotels, motels, resorts, casino hotels, timesharing.

In effect, the trend toward variety (Ramdas, 2003) and product proliferation (Bayus, Putsis, 1999) is not strictly typical of hotel services but may be found in many businesses, because customers demands and expectations about selection are higher and higher.

The increase in product variety has been accompanied by deep changes in the sector structure. In fact, the hotel sector, especially in northern America, but also in the other continents, has accelerated its evolution from an industry made up of small and independent hotel owner-operators to a market dominated by major international groups and institutional investors. The main trend is currently represented by the separation of the three core elements of the hotel business: building property, hotel operation management and brand management (Mauri, 2004). Consequently in many cases there is the so-called separation between *bricks & brains* (Jones Lang LaSalle Hotels, 2002). Hotels are conducted through business models (owned, managed, franchised) that may involve three types of operators (real estate owners, hotel managers, hotel brand franchisors).

The competitive focus of the major hotel operators is also changing. Historically the most important players of the lodging sector had developed and operated a standardized form of service that was targeted to a single class of guests (Rushmore S., Baum E., 2002). For example we can remember the cases of Holiday Inn, Marriott and Hilton. In detail, Holiday Inn provided hotels oriented toward mid-rate clients, both business and leisure. On the other side, Hilton and Marriott were intended to satisfy more affluent customers through the offering of higher quality services. Consequently, these companies developed strong brands with a specific positioning.

Nevertheless, starting from the 1980s, but especially in the 1990s, these groups developed new strategies in order to reach at the same moment different classes of guests, through the systematic development of distinct brands, products and services, designed to appeal to different customer segments and profiles.

The expansion of product variety has the purpose of developing both vertical and horizontal differentiation: the first refers to variation in terms of quality levels of products within a category, while in the second products vary in certain characteristics but not in the performance level (Randall, Ulrich, Reibstein, 1998).

This variety's increment may also be useful for developing more complex pricing strategies, based on price discrimination, able to extract more consumer surplus. Actually, over the past

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years, yield/revenue management techniques have been increasingly applied in the hotel sector (Vinod, 2004).

The development of new product/market combinations has changed the set of the hotel groups' competitive relationships with other players, implying the encounter of new competitors as well as of some former competitors that have undertaken a similar expansion path from the traditional market. Consequently a multimarket competition, also called multiple point competition, takes place (Karnani, Wernerfelt, 1985; Vicari 1989). Finally, it is important to notice that the pursuit of economies of scope and multimarket competition are likely to occur simultaneously (Gimeno, Woo, 1999).

2. Brand strategies in the hotel sector

The pursued strategy of enlarging product variety has implied the development of new brands; so that, at present, each of the most important hotel groups owns a product/brand portfolio (Aaker, 2004). These brand portfolios are highly dynamic as brands are continuously created, purchased, sold or repositioned.¹

The Exhibit 1 shows the brand portfolio of some of the main hotel groups divided per service tiers whilst Exhibit 2 presents the Marriott Group brand portfolio.

In any cases it is important to underline that both the revenue and the cost implications of product variety decisions are highly complicated. As a matter of fact, from the demand side this explosion of new brands may create a great consumers' confusion regarding both brand identity and perceived benefits. Therefore it is necessary to manage brands in a coordinated way in order to avoid confusion in consumers' perceptions and overlapping product-development and promotional efforts.

From the supply side, product proliferation generates operational complexities and increases operating costs in sourcing, manufacturing, and distribution. Then, as many new hotels are conducted through franchising contracts, there are also risks involving brand integrity and price coordination.










¹ See some examples in paragraph 3.

Exhibit 1. Hotel groups brand portfolio divided per service tiers

	Accor	IHG InterContinental	Hilton	Marriott	Rezidor	Starwood	Wyndham
Luxury	Sofitel	Intercontinental	Conrad Waldorf Astoria	The Ritz Carlton J.W. Marriott	Regent	St. Regis Luxury collection	
Lifestyle		Indigo		Bulgari Hot. & Res	Missoni	W Hotels	
Upscale	Pullman	Crowne Plaza Staybridge Suites	Hilton Doubletree Embassy suites Homewood suites H. Grand vacations	Marriott Renaissance Marriott execuStay Grand residences	Radisson sas Hot. & Res.	Westin Sheraton Le Meridien Element	Wingate Wyndham
Mid-range	Novotel Mercure Suite Hotels Adagio	Holiday Inn Candlewood Suites	Garden Inn	Courtyard TownePlace suites	Park inn	Four Points Aloft	Howard Johnson Baymont Inn Ramada AmeriHost Inn
Economy	Ibis All seasons	Holiday In express	Hampton Inn	Fairfield Inn SpringHill suites	Country Inn		Days Inn Super 8
Budget	Formule 1 Motel 6 Etap Studio 6						Knights Inn Travelodge

Source: our elaborations based on corporate internet sites. It is useful to remark that service tiers identification and brand allocation are subjective choices that may vary according to different market observers.

Exhibit 2. Marriott Group brand portfolio according to level of service (price/value tier) and usage occasions.

Price/Value Tiers	Super-Premium			
	Premium			
	High Quality			
	Mid-Price			
	Economy			
		Extended Stay	Hotel	Time Share
		Usage Occasion		

Source: Prophet, Davis S. (2005).

In conclusion there are two main risks:

- overlapping brands in a portfolio offering similar products/services targeted to the same customer and consequent cannibalization;
- inefficient allocation of resources and lack of costs optimization.

The effect may be the decrease in brand equity. For instance we can observe that, differently from the past decades, in the last Interbrand rankings there were no hospitality brands among the 100 most valuable world brands.

To better organize the topic of brand development directions, we will refer to some theoretical models used to classify the brand strategies.

Kotler and Armstrong (2005) exposed a matrix (see Exhibit 3) representing the strategies a company may develop combining brand name and product category (both current or new).

Exhibit 3. Brand strategies matrix

<i>Brand name</i>	<i>existing</i>	LINE EXTENSION	BRAND EXTENSION
	<i>new</i>	MULTIBRANDS	NEW BRANDS
		<i>existing</i>	<i>new</i>
		<i>Product category</i>	

Source: Kotler, Armstrong (2005).

A company makes a brand line extension by using an established product's brand name to launch a new, slightly different item in the same product category, with the purpose of capturing share from competitors and answering to the need of variety.

The brand extension (or brand stretching) strategy is based on the launch of a new or modified product in a new product category using an existing brand, in order to capture share in a new product market using the equity of the existing brand.

With the multibranding strategy a company holds two or more brands in the same product category. These brands, known as flanker or fighter brands, offer different features appealing to different buying motivations.

Finally, the new brands strategy is appropriate for introducing a new product in a new product category and it helps denoting a different line of products by the same company.

Trying to apply this model to the hotel business we have found difficult to describe properly the lodging groups market behaviour using the four cited strategies. Actually, it is the increase in product variety and differentiation, common to most markets, that may need a more analytical scheme.

In detail the points of discussion regard what to consider a current product category and what a new category. Why do we have to consider the development of a mid-range chain by a hotel group, that had a core business in the upscale hotellerie, "line extension strategy" (i.e. Fairfield Inn by Marriott) and to classify the launch of a luxury car by an automotive group (i.e. Lexus and Scion by Toyota or Acura by Honda) "new brands strategy"?

The problem regards what is to be considered new, both in brand name as well as in product category. We can remark the difference between vertical and horizontal differentiation, stressing the fact that there are product lines with different quality levels and lines with a range of variety of features, which offer a different set of benefits, but one even quality level.

Exhibit 4. Examples of new brands strategy in the automotive market



Source: corporate sites

Dealing with the hospitality sector, we can notice that in the same business (product family²) there are very different product variants and so it is important to check if a multibranded hotel group covers only one or more price/value tier and customer segments.

Consequently we implemented a new matrix with the aim of interpreting the increased complexity and variety of hotel products (see Exhibit 5). The matrix is an attempt to distinguish whether a company adopts or not vertical differentiation both attempt to distinguish whether a company adopts or not vertical differentiation both on

Exhibit 5. Brand strategies matrix: our proposal

		Same product family		New product family
		<i>One Quality level</i>	<i>Many quality levels</i>	
Brand	<i>One</i>	HORIZONTAL LINE EXTENSION	VERTICAL LINE EXTENSION	BRAND EXTENSION
	<i>Many</i>	CONCENTRATED MULTIBRANDING	DIFFERENTIATED MULTIBRANDING	BRAND DIVERSIFICATION

Source: our elaborations

single branding and on multibranding. If a firm enters a new market with a new brand we prefer identifying this strategy like brand diversification rather than new brands strategy as it is possible to use a new brand also in a multibranding strategy.

This matrix tries also to integrate and classify the growing use in the hotel business of endorsed brands, that is the employ of a product brand fostered by a master brand.³ In detail the problem attains how to consider the endorsed branding strategy. Current or new brand? One or more brands? According to our opinion, this strategy, well developed by Accor, may be considered as differentiated multibranding even if with some links to vertical line extension.

3. Brand Architecture in the hotel business

While brand portfolio strategy addresses key strategic business issues and decisions rather than the linkages of brands, brand architecture provides a more tactical focus.

Brand architecture encompasses the structure of brands within an organizational entity. It represents in fact the relationships among the brands within a company's portfolio.

In an overall picture, it is possible to observe four types of brand architectures (Aaker, 2004):

² We can define a Product family as a group of related products that share common features, components, or subsystems and satisfy a variety of market segments.

³ About the topic of brand architecture see paragraph 3.

- Monolithic brand or Branded house. The company uses a single name across all its activities and this name is how they are known to all their stakeholders (consumers, employees, shareholders, partners, suppliers and other parties);
- Endorsed brands; they are still independent brands, but they are also endorsed by another brand, usually an organizational brand. The endorsement of a parent brand should add credibility to the endorsed brand in the eyes of consumers. This strategy also allows companies operating in many categories to differentiate their various product groups' positioning;
- Product brands or House of brands. The individual sub-brands are offered to consumers and the parent brand gets little or no prominence. Other stakeholders, like shareholders or partners, know the company by its parent brand;
- Subbrands under a master brand; the company uses subbrands (brands that have mainly a descriptive function and must be linked to a real brand) in order to apply the master brand to differentiated items.

In order to approach different price/performance tiers hotel groups had to leave the traditional monolithic brand architecture. For instance in a study dated 2000 (PricewaterhouseCoopers, 2000) Hilton was still classified as monolithic. Now the Hilton group has developed new solutions and counts 9 brands: Hilton, Conrad Hotels & Resorts, Doubletree, Embassy Suites, Hampton Hotels, Hilton Garden Inn, Homewood Suites, The Waldorf=Astoria Collection, Hilton Grand vacations (see Exhibit 6).⁴

The chosen brand architecture ranges from Product brand in the upper segments (i.e. Conrad) to endorsed brands in the mid-range (i.e. Hilton Garden Inn).

The Accor group, which developed its lodging activities later than other big north American hospitality groups, founded its rapid growth on the use of endorsed brands guaranteed by the group brand Accor; however the group has recently changed approach (see Exhibit 7). Differently from other formerly monolithically branded groups (like Hilton and Marriott), the name of the group is not the name of a product, but performed only the role of guarantor.

Accor has developed different lodging formulas for the various market segments. Among the budget hotels we can remember the development of the Formule 1 brand, able to offer to its customers “much more of what they need most and much less of what they are willing to do without” (Kim, Mauborgne, 1997).

Exhibit 6. Hilton Brand portfolio (2008)



Source: corporate internet sites

⁴ The brand Scandic has been sold in 2007.

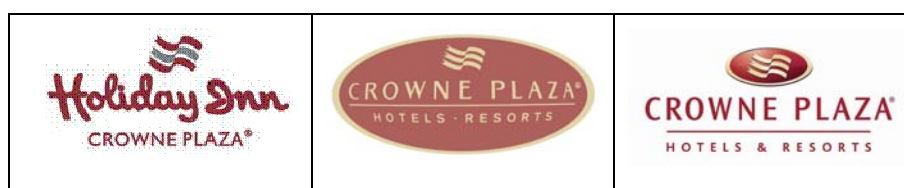
Exhibit 7. Recent changes in Accor brands: from endorsed to product brands

			
2006	2008	2006	2008

Source: corporate internet sites

While the Accor group, comparatively a newcomer in the sector, started directly using an endorsed branding structure, traditional hotel groups who wanted to adopt endorsed branding too found some problems. For example the Group owning the brand Holiday Inn, now named IHG, decided in the early eighties to develop an upscale product with higher quality structures, level of service and room amenities: Crowne Plaza. At the beginning the group chose an endorsed brand architecture with a prominent role of the parent brand (see Exhibit 8). However, this solution came out unsuccessful, being a brand focused on the mid-range service unable to guarantee a brand of a higher service level (Aaker, Joachimsthaler, 2000). So the combination of brands was abandoned and a product brand based architecture was chosen.⁵

Exhibit 8. Crowne Plaza: logo evolution



Source: corporate information

Following a different operating way, the Marriott group chose directly a “product brand” when entering the luxury segment through the acquisition of the Ritz-Carlton chain, whose brand has not been endorsed by the brand Marriott. Then in the eighties, when Marriott decided to enter some lower market segments, two new endorsed brands were created: Courtyard e Fairfield Inn. In detail, Courtyard is more business centred while Fairfield Inn is conceived for families. Both brands are endorsed by the brand Marriott (see Exhibit 9).

Exhibit 9. Marriott Group: examples of endorsed brands and recent changes toward an homogeneous style



Source: corporate internet sites

4. Service families and platform based service development

We have described the trend toward differentiation and the creation of new brands in order of better fulfil customer needs and expectations. Now we want to analyse how hotel groups may

⁵ On the contrary, the launch of the brand Express by Holiday Inn (an economy brand endorsed by a mid-range brand) worked well.

operate this process more effectively, minimizing the cost increases due to product variety. In particular we shall refer to the “product platform” concept.

The literature on product development has stressed the importance of product platforms to develop product families. According to some of the major authors who have studied the topic, product platform can be defined as:

- a collection of the common elements, especially the underlying core technology, implemented across a range of products (McGrath, 1995);
- the collection of assets i.e., components, processes, knowledge, people and relationships that are shared by a set of products (Robertson, Ulrich, 1998);
- a set of subsystems and interfaces that form a common structure from which a stream of derivative products can be efficiently developed and produced (Meyer, Lehnerd, 1997).

Many companies are employing product families and platform based product development to obtain a suitable variety for the market, while maintaining economies of scale and scope within their manufacturing processes (Meyer, DeTore, 1999).

In general terms we can remember that a product family is a group of related products that is derived from a product platform with the aim of satisfying a variety of market segments.

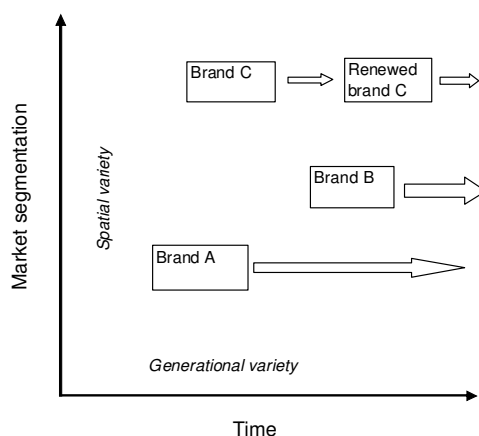
As Robertson and Ulrich pointed out, “by sharing components and production processes across a platform of products, companies can develop differentiated products efficiently, increase the flexibility and responsiveness of their manufacturing processes, and take market share away from competitors that develop only one product at a time” (Robertson, Ulrich, 1998).

Effective platform planning is able to balance the market value of product differentiation with affordable costs, thanks to economies achieved through commonality and the control of variety inducted complexity.

It is possible to say that service family architectures are based on a set of basic building blocks that can be configured appropriately in order to build different services based on the same set of assets. These building blocks should be designed to provide variability so as to facilitate configuration and assembly in order to produce a family of products/services.

As presented in Exhibit 10, product/service variety, whose aim is to satisfy different customer segments, may be increased over time by adding new variants (generational variety) or just modified through brand positioning.

Exhibit. 10. Product variety: spatial and generational



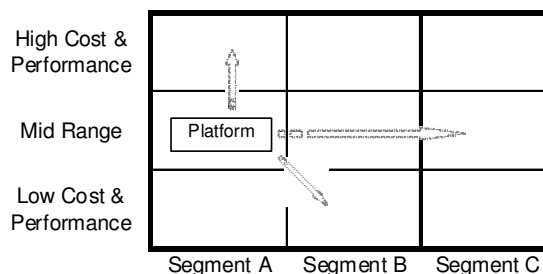
Source: adapted from Martin Ishii, 2000.

It is also possible to observe that a product family, employing the product/service platform model, may be developed through two different approaches (Simpson, 2004):

- a Top-down Approach (Proactive platform), where a company strategically manages and develops a family of products based on a product platform and its module- and/or scale-based derivatives; this may be the case of Accor hospitality activities;
- a Bottom-up Approach (Reactive redesign), when a company redesigns or consolidates a group of distinct products by standardizing components to improve economies of scale and reduce inventory.

In the second approach we can insert also the case of a single product group which uses the existing product itself for deriving new products as shown in Exhibit 11 (Meyer, Tertzakian, Utterback, 1997). This may be the case of Hilton and IHG.

Exhibit 11. Example of Platform Leveraging Strategy: A mid-range hotel product used to enter new segments by scaling up and down.



Source: adapted from Meyer, 1997.

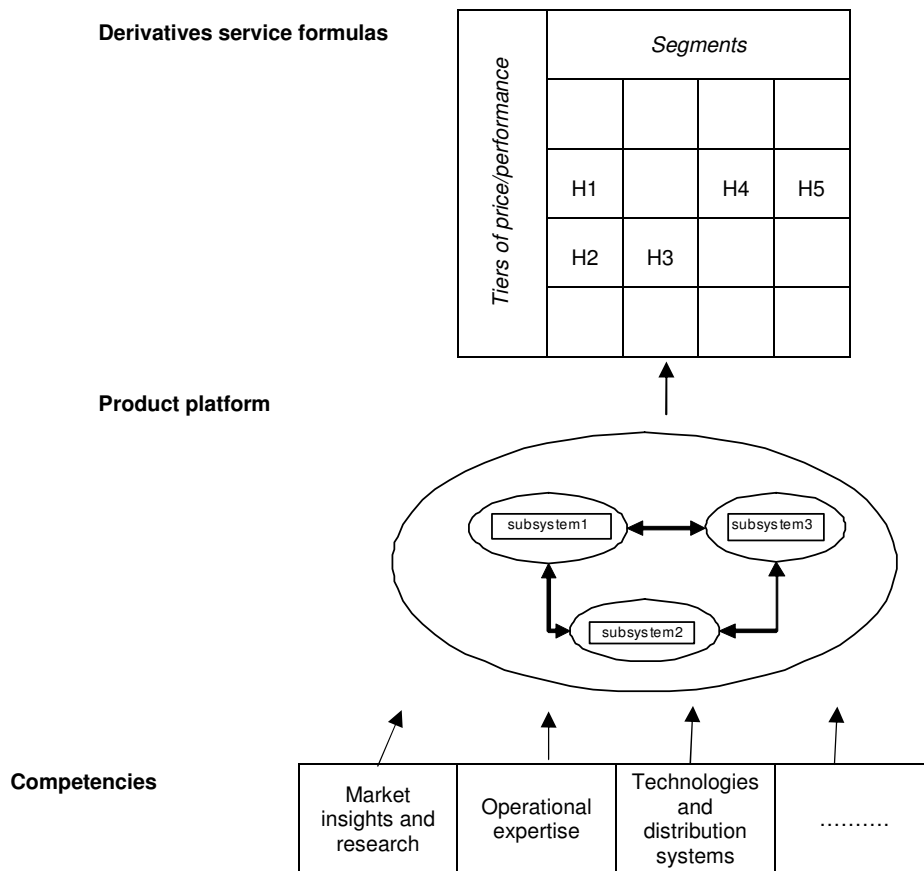
The use of service platform may be based on the integration of markets, products and technologies. Exhibit 12 shows an integrative model developed by Meyer and DeTore (1999) and here applied to the hotel business.

In the top of the figure there are the market segments, for example identified through price/performance levels and usage occasions (leisure, business, timesharing, etc.). The segments the lodging group wants to serve are covered employing products platform-based developed. In the bottom part of the chart there are the competencies, capable to nurture product platform subsystems and interfaces.

Through a multidisciplinary process, an hotel company designs and shapes products and services based on the solid understanding of their guests' needs and values. This development is based on the use of a common structure that may rely on competencies and subsystems both regarding:

- Marketing, communication and sales (internet sites, rewards programs, database marketing, etc.);
- Operation management (human resources, food and beverage, revenue management, finance, supply management, etc.);
- Balanced Scorecard;
- Guest Satisfaction Surveys and Quality control systems;
- Architecture & Construction;
- Training;
- Information Technology, Revenue Management and Reservation Systems.

Exhibit 12. A framework for integrating competencies, service platforms and markets in the hotel business



Source: adapted from Meyer, DeTore, 1999.

5. Conclusions

During the last two decades hotel groups have widened their product/brand portfolio by introducing several new lodging products in order to satisfy different classes of guests. This strategy implied the development of new brands, so that, at present, each of the main hospitality groups owns a brand portfolio, organized according to a brand architecture.

In this context it is important to plan the development process strategies following the logic of the “product platform” concept, because in hotel groups a set of components, processes, knowledge, people and relationships can be effectively shared by a portfolio of products/services. Economies of scale and scope are fulfilled through a common base regarding different management areas.

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CUSTOMER SATISFACTION SURVEYS IN THE HOSPITALITY INDUSTRY: A COMPARISON OF INTERNATIONAL HOTEL CHAINS QUESTIONNAIRES

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Key words: customer satisfaction, questionnaires, hospitality industry

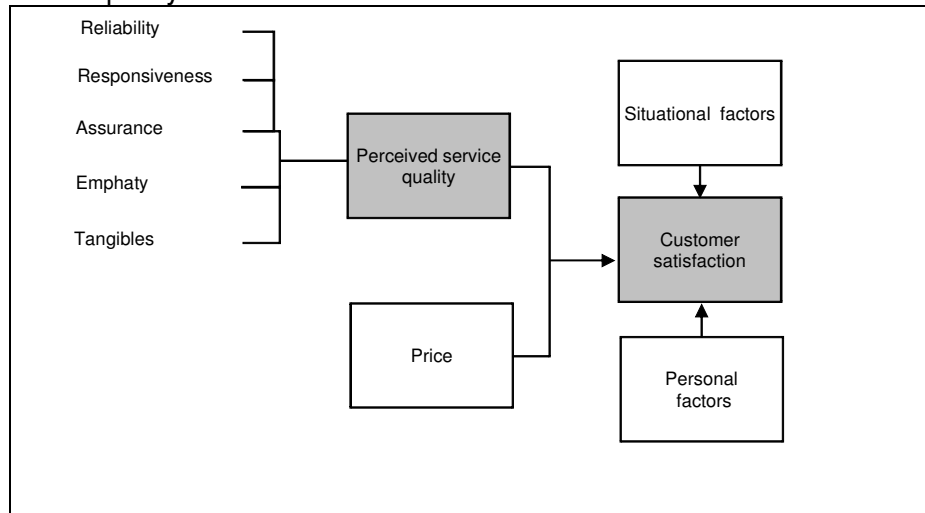
1. INTRODUCTION

In the service sector perceived quality and customer satisfaction are the result of a comparison between customer expectations and customer perceptions. The main difference between the two concepts depends on the meaning of expected service that in the case of satisfaction is what the customer expects to obtain by the service, while in the case of service quality is what the customer would like to obtain by the service (desired service) (Parasuraman et al., 1988). The terms satisfaction and quality are linked together and sometimes they are considered synonymous, even though researches reveal differences in the meaning of the two concepts (Bateson, Hoffman, 2000).

Is the service quality that influences customer satisfaction or is the customer satisfaction level that influences guest service quality evaluation? From the literature analysis comes out that the main research position considers satisfaction an “extensive” concept, otherwise the quality service evaluation focuses on some specific dimensions of the service. Therefore the quality is a component of the customer satisfaction, not the opposite as some managers state (Cronin et al., 1992; Oliver, 1993; Haksik et al., 2000). In particular, Zeithaml e Parasuraman (2006) consider perceived service quality and customer satisfaction deeply different in terms of causes and results (Orsingher, Marzocchi, 2003). The exhibit 1 shows the relationship between perceived service quality and customer satisfaction. Perceived service quality is the result of the comparison between expected quality and the customer experience and depends on some specific dimensions (reliability, responsiveness, assurance, empathy and tangibles). Customer satisfaction depends on all these factors and on other additional elements: price, personal and situational factors that can occur during the service supply. Therefore perceived service quality is the result of the evaluation of some specific service features while customer satisfaction comes out from the emotional experience of the customer after the service supply (Zeithaml et al., 2006; Chadee, Mattsson, 1996; Orsingher, Marzocchi, 2003).

In the case of a hotel, for instance, customer satisfaction depends on the room size and cleanliness, on the front desk operators courtesy, on the quality of tangibles (i.e. bathroom and room amenities), on the room price, on personal factors (i.e. customer's mood during the service supply) and finally on situational features (employees strikes, noise of other customers, etc.).

Exhibit 1 Service quality and customer satisfaction



Source: adapted from V. A. Zeithaml, M. J. Bitner (2006), *Services Marketing*.

The first set of elements can be controlled and monitored by the organization that can improve for example employees training and kind attitude if necessary, provide to better clean the guestroom or arrange a prompter transfer for the next time.

Otherwise it is not so easy to control personal factors, such as the emotion that arises in the customer's mind during the service supply, or other factors like a next door customer who troubles other hotel guests (Tian-Cole, Crompton, 2003).

The customer satisfaction and the customer's evaluation of the service depend on their previous expectations and needs: at the end of a stay, a guest wonders if he has been treated with respect as he deserved, if he has had everything he wanted, if the service has been adequate to his expectations and if he has been treated the same way as the other guests at the hotel. The equity perception is very important in the customer's mind: a client always wants to be considered the same level as others and wants to receive the service he paid for. A negative perception could definitely compromise the entire stay.

Therefore customer satisfaction can be considered a general behaviour of the organization that has the objective to create value for the customer, satisfying customers needs (Valdani, Busacca, 1995; Cozzi, Ferrero, 2000).

Referring to Vanhamme (2003) the customer satisfaction is defined as a psychological state, which results from a buying or a consumption experience. In defining customer satisfaction, it is essential also to analyze the specific role of emotion of surprise on satisfaction. Surprise would enhance all positive (or negative) emotions, such as joy (anger) that follow the experience. These more intense emotions could increase the satisfaction level of consumers.

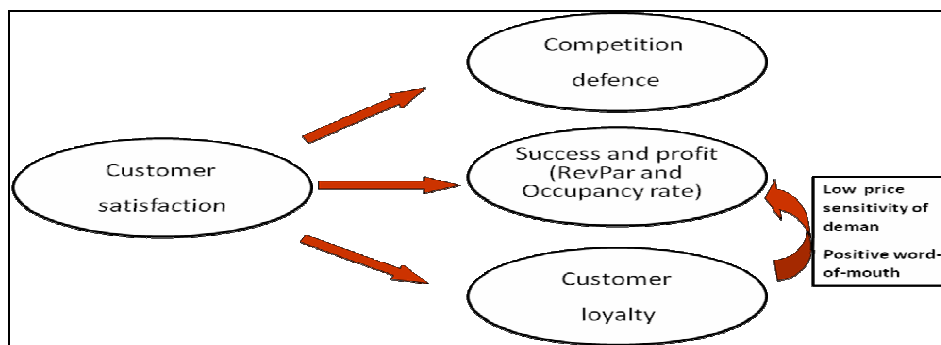
Customer satisfaction can also be considered as a competitive advantage and an effective defence system to be used among the competition. The main point is that customer satisfaction is taken in great consideration by a guest when deciding whether or not to come back to the same hotel, to talk about his/her experience (this influences positive or negative word-of-mouth) and in case, when choosing the holiday destination.

Customer satisfaction is then the ability of an organization to anticipate and manage customers' needs, showing competence, knowledge, responsibility and availability in applying strategic plans to meet guests' needs and wants. To better understand customers and exceed their expectations, it is necessary to satisfy their hidden and implicit wants as well. In

case, a good marketing strategy could be trying to gather information about guests possible future expectations.

Lots of researchers and hotel managers state that customer satisfaction represents a real cycle in the hospitality and travel industry. Referring to this statement, customer satisfaction generates the organization satisfaction (increase of customer loyalty, more profit) and employees' satisfaction (innovation and human resources investments). Employees' satisfaction is essential in creating guests' experiences and in determining all the ideas and perceptions that customers consider to evaluate their stay and that influence their satisfaction. Then customer satisfaction is the first step to increase customer loyalty and to improve the hotel performance (Occupancy Rate, Average Room Rate, RevPar). Moreover a loyal customer is more likely to return to the hotel even in case of a room rate increase and is ready to accept an inefficiency of the service. Loyal customers don't change even for an attractive offer elsewhere. Maintaining loyal customers is an integral part of any business: it is a great defence against the competition as well as the hypothesis of success and profitability to the company. An occasional guest is instead, more sensitive to price change. This relation is particularly intense when guests are very satisfied.

Exhibit 2. The results of customer satisfaction



Because of the incapability and impossibility of hospitality organizations to control some customer satisfaction aspects, researchers have elaborated different methods of customer satisfaction evaluation: direct and indirect index (Iasevoli, 1995; Quartapelle, 1994).

The direct index involves guests in the evaluation process (surveys, questionnaires, etc.). Good examples of direct index are: SERVQUAL model; Critical Incident Technique (CIT), that is based on the observation of customers' behaviour; Customer Satisfaction Survey (CSS), that investigates the level of satisfaction of current and potential customers asking their opinion; Problem Detection System (PDS), a quantitative technique that allows to identify problems and troubles that customers meet during the service supply.

Indirect index monitors customer satisfaction basing on some influencing elements (customer loyalty level; satisfied or refunded guaranty; customers complains; customer retention, etc.).

The next paragraphs will investigate the use of CSS in the hospitality industry and especially will be considered the customer satisfaction questionnaire.

2. THE CUSTOMER SATISFACTION SURVEY IN THE HOSPITALITY INDUSTRY

The customer satisfaction measurement is one of the most important aspects of the Hotel Quality Control Process. Hotel Organizations, especially hotel chains, understand the value of the customer satisfaction to create customer loyalty and try to investigate it asking the customer opinion.

There are several ways to ask the customer opinion. Generally the hotels use two kinds of methods. From one hand, they use more structured methods such as the questionnaires composed of fixed questions and, on the other hand, they prefer personal interviews, that are less structured methods but more personalized. They can be direct interviews (a meeting with the customer) or indirect interviews (phone calls). Upscale-luxury hotels generally prefer interviews because they want to create a deeper interaction with the customer and a higher service personalization. For instance the Hotel Manager could offer a cocktail to the customer or organize an event (happy hour) for a group of customers with the purpose of understanding their real impressions about the service.

The guest satisfaction questionnaire is the most common used method in the hotel sector. They are generally located in the hotel room or delivered directly to the customer at the check-in. In particular, the customer is asked to evaluate his experience for every hotel department (Housekeeping, Food & Beverage, etc.) giving a score on a scale of figures or to evaluate the gap between expectations and experience of the service (Zeithaml et al., 2006).

After the filling in, the customer is asked to give back the questionnaire at the front desk during the check-out or to mail it to the hotel after coming back home. The development of new technologies gives the hotels the possibility also to publish the form on the website of the company or to mail the questionnaire directly to the customer after the stay. In this last case the hotel should request the authorization directly to the customer according to the privacy and data protection rules of the country.

The immediate filling in of the questionnaire has some advantages: the customer remembers his experience and is able to give a more precise evaluation but in this case the questionnaire should be short and quick to fill in. It's not possible to ask too many questions. In the case of an afterwards filling in, the customer could not remember perfectly the service quality experience and so he could give a different evaluation in comparison with the situation just at the end of the service supply. The advantage is that in this case it is possible to ask more questions.

Moreover the questionnaire has become a way to ask more information about the guest with the objective to put the information gathered into the database of the company and use them to develop market research and to better profile the customer. For instance the hotel could ask the reason of the journey or of the choice of the hotel, the intention to come again in the same hotel/hotel chain (loyalty), the length of stay and the intention to develop word-of-mouth (to advise the hotel to a friend). Finally the questionnaire is usually a brochure that is used also as a mean of promotion. Sometimes the loyalty programs or special events are promoted.

The questionnaire as customer satisfaction survey tool has two main disadvantages: the low response rate and the self-selected sample. Only a few guests fill in the questionnaire and give it back. Usually they are very angry (not satisfied) or delighted by the service. Guests that are indifferent are less likely to respond. This causes a polarization of responses and a loss of information. Moreover the sample is generally self-selected that means that the participants to the survey are not the result of a profiling of the hotel but usually is composed of the actual responses (customers that give back the questionnaire). This problem has been overcoming with the e-mail questionnaire that is sent to a sample of customers decided by the company. For instance, a hotel could send a customer satisfaction form to all the frequent travellers or to all the corporate customers, etc.

3. A COMPARISON OF INTERNATIONAL CASE STUDIES

The objective of this research is to study the most common customer satisfaction measurement tool used by international hotel chains to investigate customer opinion on the service, trying to identify some similarities.

3.1. Research methodology

Questionnaires (paper and electronic documents) of some main international hotel chains of different service level and of geographical origin has been collected and analysed trying to understand differences and points in common according to their features and to their customer segmentation. Moreover interviews with general managers and quality managers of some of the chains allow to understand some general trends of the subject.

The exhibit 3 shows the hotel chains considered in the analysis.

Exhibit 3 The hotel chains investigated

n.	Hotel chain brand name	Service Level
1	Baglioni Hotels	Luxury
2	Marriott Hotels, Resorts and Suites	Upscale
3	Sheraton	Upscale
4	Crowne Plaza Hotels & Resorts	Upscale
5	Atahotels	Upscale
6	Hilton	Upscale
7	Sofitel	Upscale
8	NH Hotels	Upscale
9	Holiday Inn Hotels & Resorts	Mid-range
10	Days Inn	Economy
11	Travelodge	Economy
12	Four points by Sheraton	Economy

3.2. The hotel questionnaires structure

The analysis has implied the study of the structure of the questionnaires collected. We are able to find a very similar structure in most of the questionnaires. In particular we can identify some common points even if sometimes in a different order and position:

1. Introduction and management message (greetings and thanks);
2. General information about the customer (personal information, room number, date of arrival, etc.);
3. Other questions about the customers (loyalty, word-of-mouth, way of reservation, etc.);
4. Questions and items to evaluate the service (generally divided according to the hotel department);
5. Customer comments.

The first part is generally composed of a brief introduction where the management thanks the customer for his cooperation. This part can be included in the text of the questionnaire or be attached as a letter. The first solution is the most used; in fact we found out that all the cases analysed prefer this solution. Another point is the sign at the end of the message. The upscale hotels questionnaires are generally signed by the General Manager (i.e. Baglioni, Hilton, Sheraton). Other messages include only the reference to the position "The General Manager" without a specific name (i.e. Days Inn) and sometimes both of them are missing (FourPoints by Sheraton, Travelodge).

A specific case is that of Crowne Plaza which questionnaire is a small card called "30 seconds....for your opinions" that has the objective to occupy very little time of the customer

who is mainly a businessman in a hurry. In this case a long starting message could be inappropriate. An opposite case and strategy is that of Hilton which questionnaire is a sort of brochure composed of 6 pages where a lot of space (a page) is given to the message of the General Manager. The title of the document in fact is “Could we do more?” a question that communicates to the customer the intention to analyse in-depth his opinion trying to improve the performance for the next time.

The second and the third parts of the questionnaire are usually composed of the questions about guests general information. The purpose is to understand the kind of customer that stays at the hotel. The more frequent questions concern the name or the room number, the date of arrival, the length of stay, the country of origin, the gender, the age, the job and the purpose of stay. Sometimes we can find also questions about the customer loyalty, for example the number of stays in the past in that hotel chain, the membership to the frequent stay program or the intention to come back again to that hotel or to another of the same chain. Another point generally investigated is the reservation process. For instance the customer is asked to write down the way used to gather information about the structure and the way used to reserve the room (internet, travel agents, etc.).

As shown in exhibit 4 about 83% of the hotel chains considered investigate the purpose of stay and about 75% examine customer loyalty considering also the membership to the frequent stay program-FSP (50%). Only the 33% of the hotels ask questions about the intention to advise the hotel to other people (word-of-mouth), and the 16,7% about the source of information and the way used to reserve the room. NH is the only one chain that prefers to have a specific questionnaire that investigates just the customer satisfaction evaluation. In fact no other questions about additional information are present.

Exhibit 4 Guest information in the questionnaires

n.	Hotel chain	purpose of stay	customer loyalty	FSP membership	word-of-mouth	source of information	reservation channel
1	Baglioni Hotels	✓	-	-	-	✓	-
2	Marriott Hotels, Resorts and Suites	✓	✓	✓	-	-	-
3	Sheraton	✓	✓	✓	*	✓	-
4	Crowne Plaza Hotels & Resorts	✓	✓	✓	✓	-	-
5	Atahotels	-	✓	-	-	-	-
6	Hilton	✓	✓	-	-	-	-
7	Sofitel	✓	✓	-	-	-	-
8	NH hotels	-	-	-	-	-	-
9	Holiday Inn Hotels & Resorts	✓	✓	✓	✓	-	✓
10	Days Inn	✓	-	-	-	-	✓
11	Travelodge	✓	✓	✓	✓	-	-
12	Four points by Sheraton	✓	✓	✓	-	-	-
		83,3%	75,0%	50,0%	33,3%	16,7%	16,7%

* question insert only in the electronic questionnaire

The third and most important part of the questionnaire concerns the evaluation of the service by the customer giving a score on a scale of figures or evaluating the gap between expectations and experience of the service. This part is generally composed of questions about each hotel department, about the employee performance and about the overall satisfaction impression obtained by the customer.

The hotel departments considered are:

- Room department/housekeeping (room comfort, air conditioning, room and bathroom cleaning, room service, etc.);
- Front desk (service received at the check-in/check-out, staff professionalism, staff friendliness, staff responsiveness to the customer needs, etc.);
- Food & Beverage (quality of food and drinks in restaurant and bar, quality of service at restaurant and bar, etc.);
- Meeting & Congress (technical support and assistance, quality of technical equipment, etc.).

The performance of employees is investigated also with specific questions that ask the customer to mention the name of the staff member that provided an outstanding service or was especially helpful. From the analysis comes out that only two companies investigate this aspect. The first case is Hilton that adds to the questionnaire a specific card called “Hilton Moments”. In the card the customer is asked to mention the name of the employee, the department and the reason why the service provided can be considered outstanding. The second case is FourPoints by Sheraton that at the end of the questionnaire asks the customer to evaluate the general responsiveness of the employees giving also the name.

The last part of the customer satisfaction questionnaire is composed of the request of the guest comments. Sometimes this part is at the end of the questionnaire and regards general comments about the customer experience (Crowne Plaza, Sheraton, Marriott, Atahotels, Baglioni) while in other cases the comments are at the end of the group of questions of each department. For example Hilton asks free comments at the end of each department and FourPoints by Sheraton prefers to limit the comments asking specific questions about the way in which the hotel could improve the service performance (i.e. *How can we improve the cleanliness and the maintenance of your guestroom?*). This is also the case of Travelodge that at the end of the questionnaire asks what the hotel could do to make the customer stay more satisfying.

Through the comments the hotel is able to identify inefficiencies and strengths and to intervene if necessary while through the employee nomination the company is able to understand the real performance and commitment of the staff adjusting and improving his employees' incentive programmes.

3.3. The measurement scale

The core of the customer satisfaction questionnaires is the part in which the customer is asked to give a score on each item to understand his level of satisfaction.

Sometimes the customer is invited to compare their expectation with the service obtained as in the SERVQUAL model. In the case of Sofitel, for example, besides the discrepancy between expectations and perception of the customer the hotel considers also the importance given by the customer to each item. In other cases the guest is requested to give his opinion by means of a score on a scale of figures. The scale can be based on numerical values, for instance from 1 that is the worst value to 7 that is the best result, or based on descriptive adjectives such as excellent, good, poor (the service) and very satisfied, satisfied, not satisfied (the guests mood after the service supply).

The research reveals that all the hotels analysed use the Likert scale that is an ordered, one-dimensional scale from which respondents choose one option that best aligns with their view. It is the most widely used in customer satisfaction questionnaires.

In scoring, numbers are usually assigned to each option. The most used is the scale from 1 to 5 but a recent research found that data from 5-level, 7-level and 10-level items showed very similar characteristics (Dawes, 2008). The Likert scale allows the customers to quantify the obtained satisfaction level on a wider scale in comparison with those with only two levels of evaluation (dichotomic scale) even if also the Likert scale can have some distortion. The customer may avoid using extreme scores (central tendency bias) or agree with statements as presented (acquiescence bias).

With reference to the present research we can find different ways to apply the Likert scale. First of all the large majority of the questionnaires uses a mixed method according to the question. Sometimes specific questions are asked like in the case of FourPoints by Sheraton where very often it is asked to reply “yes” or “no” (i.e. *Was your room clean and well maintained?*). Anyway in the same questionnaire is easy to find different scales according to the kind of item.

Exhibit 5 Likert scale level used by the hotel chains analysed

n.	Hotel chain	3-level	4-level	5-level	6-level	7-level	10-level
1	Baglioni Hotels	-	-	✓	-	-	-
2	Marriott Hotels, Resorts and Suites	-	-	✓	✓	-	✓
3	Sheraton	-	✓	-	-	-	✓
4	Crowne Plaza Hotels & Resorts	✓	-	✓	-	-	-
5	Atahotels	✓	-	-	-	-	-
6	Hilton	-	-	✓	-	-	-
7	Sofitel	-	✓	-	-	-	-
8	NH Hotels	-	-	✓	-	-	-
9	Holiday Inn Hotels & Resorts	-	-	✓	-	-	-
10	Days Inn	✓	-	-	-	-	-
11	Travelodge	-	-	✓	-	-	-
12	Four points by Sheraton	-	-	-	-	-	✓

The exhibit 5 confirms what told before, the 5-level scale is the most used (58,3%): we can underline also a strong use of the 3-level scale. Small hotel chains use especially simpler questionnaires. It's important to notice that sometimes hotels have more than one scale in the same questionnaire. For example Marriott uses 3 different scale levels according to the kind of questions. The request of the overall satisfaction and the opinion on each hotel department are investigated with a 10-level scale while the questions about the loyalty of the customer (intention to come back and previous experiences in other hotels of the chain) are investigated by means of a 5 and 6-level scale. In this last scale the preference is to use adjectives that describe the customer opinion.

Besides the scoring, sometimes we can find the possibility to specify that it is not possible to give a score because the customer had no experience about that service (i.e. NH Hotels,

Sheraton). This allows the hotel to distinguish the guest that doesn't want to answer that question from that who cannot give his opinion because he doesn't have any experience about that service.

3.4. Results

The comparison of the 12 customer satisfaction questionnaires and the personal interviews with General Managers and Quality Managers of the hotel chains analysed pointed out that there is a relationship between the size of the hotel chains and the features of the questionnaire such as the complexity and completeness of it. The exhibit 6 shows a matrix that investigates these two variables:

- the size of the hotel chains according to the number of rooms (Hotels, 2006)
- the complexity of the questionnaires according to the length, the number of questions (depth of investigation for each department), the additional information requested (loyalty, reservation channel, etc) and the scoring.

Exhibit 6 Hotel chains positioning according to their size and questionnaire complexity

			 
high			 
		   	
medium			
			
low			
	low	medium	high
	questionnaire complexity		

The matrix shows that the hotel chains with a higher number of rooms have a more complex questionnaire while those characterized by a lower size prefer less complex solutions.

The reason could be that large hotel chains are generally effective organizations that develop hotel quality management programmes and the customer satisfaction survey is a part of that program. The results are then included in a balanced scorecard for a more precise analysis that link CSS results with the company performance.

On the contrary small hotel chains sometimes are less organized and in some cases they don't have a specific quality or customer satisfaction programme. Usually the results are not linked with the performance of the hotel and no action follows. This happens especially in the single-

unit hotels that sometimes develop a questionnaire only because “all the hotels have one” but they are not aware of the importance of the survey.

Observing the matrix we can consider also the role played by the geographical origin of the hotel chains. In particular, north american companies are characterized by a medium-high level of questionnaire complexity while the european hotel chains, that are generally of a lower size, develop questionnaire that are less complex. In fact, analysing the questionnaires with attention, we can notice that north american hotel chains develop more in-depth forms and use more complex scale levels with the purpose of better understanding the customer opinion and of gathering additional information about the guest (better profiling).

4. CONCLUSIONS

The analysis of customer satisfaction questionnaires in the hospitality industry carried out some interesting results.

Traditionally the questionnaire was a paper document located in the hotel rooms or delivered at the front desk during the check-in but a recent trend is to publish the questionnaire on the company website or to send the document by mail selecting the sample of customers. The use of new technologies allows the hotels to personalize the message, to partly avoid the problem of the self-selected sample and to improve the response rate. Moreover the analysis of the electronic questionnaires in comparison with the paper document reveals that it investigates more in depth the guest opinion asking more questions and additional information.

Another innovation due to new technologies that influence the customer satisfaction strategy is the development of web portals. Some of them have the function to sell the service (Expedia, Lastminute) others give only information (Trip Advisor). In any case in these portals the customer gives his opinion about the satisfaction level obtained by the service supply. These are very powerful tools that extend even more the importance of word-of-mouth, in this case by means of electronic channels. Moreover many travellers use these new tools during the purchasing process especially when they don't know the destination. Then web portals are obviously for the hotels a very important source of information about their guests' satisfaction. In fact during the interviews some General Managers confessed that they are taking seriously into consideration these portals also with systematic analysis and controls. Some single-unit hotels have even stopped using the customer satisfaction questionnaires and base their evaluations only on the analysis of web portals and on some periodical meetings and interactions with the customers.

The structure and the contents of the customer satisfaction questionnaires analysed are mainly the same even if sometimes are presented in a different order. In particular it is possible to identify a relationship between customer satisfaction questionnaire complexity and hotel chains size. The length, the numbers of questions about the customer opinion, the scale level and the number of questions about other customer additional information vary according to the hotel features. Small hotel chains, especially European, have simpler structure and less in-depth questions (for instance, not all the hotel departments are investigated or not additional information are requested). On the contrary, larger hotel chains, especially north American, are generally more effective organizations that develop specific quality programmes that include the customer satisfaction survey aimed to improve hotel performances and to comprehend customer needs.

In conclusion we can assert that even if the questionnaire is the most used tool to measure customer satisfaction in the hospitality industry and almost all the hotels (hotel chains or single-unit hotels) have one, only the hotel chains with a certain managerial ability and generally international are able to develop a customer satisfaction programme where the information gathered are then processed and interpreted to improve company's performance.

From the other hand the risk is that hotel chains give too much importance to the score forgetting that the main purpose of customer satisfaction surveys is to be aware of the customer needs with the purpose of creating a relationship that drives to loyalty.

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MAJOR SPORTS EVENTS AND HOST ECONOMY QUALITATIVE DEVELOPMENT

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1. Introduction

Sporting activities are becoming more and more important aspects of the *leisure* industry (Varaldo, 2002; Zagnoli, Radicchi, 2008a). In particular participation and attendance at sports events have become an increasing proportion in the recreational and entertainment lifestyle of people (Resciniti, 2004). Despite the existence of a wide-range of events in the sport sector - from experiential marketing events (Zagnoli, Radicchi, 2008b), to small local initiatives, sports training camps and matches of professional sports teams - this research focuses on *major sports events* (i.e. the Olympics, football World Cup, Americas' Cup) that is any large-scale event which (Hall, 1989; Hiller, 1998; Payne, 2007; Ritchie, 1984):

- is of fixed duration and on a short basis;
- is hosted not necessarily in a city, but even within a country;
- attracts a huge number of participants and spectators;
- has a great appeal to media at international level;
- means a relevant amount of investment (economic, infrastructure, logistic services, safe and security management, etc.) by host destinations;

Staging *major sports events* is a key objective of many governments worldwide since they have a *catalytic role* in the *qualitative development* of *host economies*.

Although the economic impact of major sports events is the most common issue discussed in the literature (Dabinett, 1990; Getz, 1997; Kurtzman, 2005; Mastermann, 2004), other factors on the host economy development also include (Chalkey, Essex, 1999; Smith, 2005; Weed, Bull, 2004; Whitson, 2004):

- enhancing international tourism attractiveness;
- reorienting the image of a place;
- boosting urban regeneration and renovation;
- improving quality of life for visitors and citizens.

The aim of this paper is to analyze the *effects* of a *major sports event* on the *development* (in terms of image, tourist attractiveness, urban renewal, quality of life, etc.) of the *host economy*.

The research methodology is based on a *multi-cases* study analysis (Yin, 2002) concerning major sport initiatives in a number of host places in Italy, Europe and worldwide. Results from previous researches developed within the Laurea Specialistica in Management dello Sport at the University of Florence were used to undertake the case studies (*primary source*).

A meta-analysis of salient research related to sports events management (i.e. Bowdin *et al.*, 2001; Chalip, 2006; Masterman, 2004), sport tourism destination (i.e. Higham, 2005; Weed, Bull, 2004) and urban development (i.e. Chalkley, Essex, 1999), was also conducted (*secondary source*). Analytical categories to explore major sports events implications on host economy development were mainly extrapolated from tourism destination management bibliographical resources (Chalip, 2006; Higham 2005; Whitson, Macintosh, 1996) (§. 2). Although destination management focuses on planning strategies of tourism destinations, indicators discussed within this literature are useful to verify the long-term efficacy and efficiency of governments' policies regarding the staging of a major sports event and therefore to make an evaluation of the host economy qualitative development.

Findings suggest that major sports events can have different implications for host destinations: from fostering an economic and social urban regeneration, to putting a city on a worldwide tourist

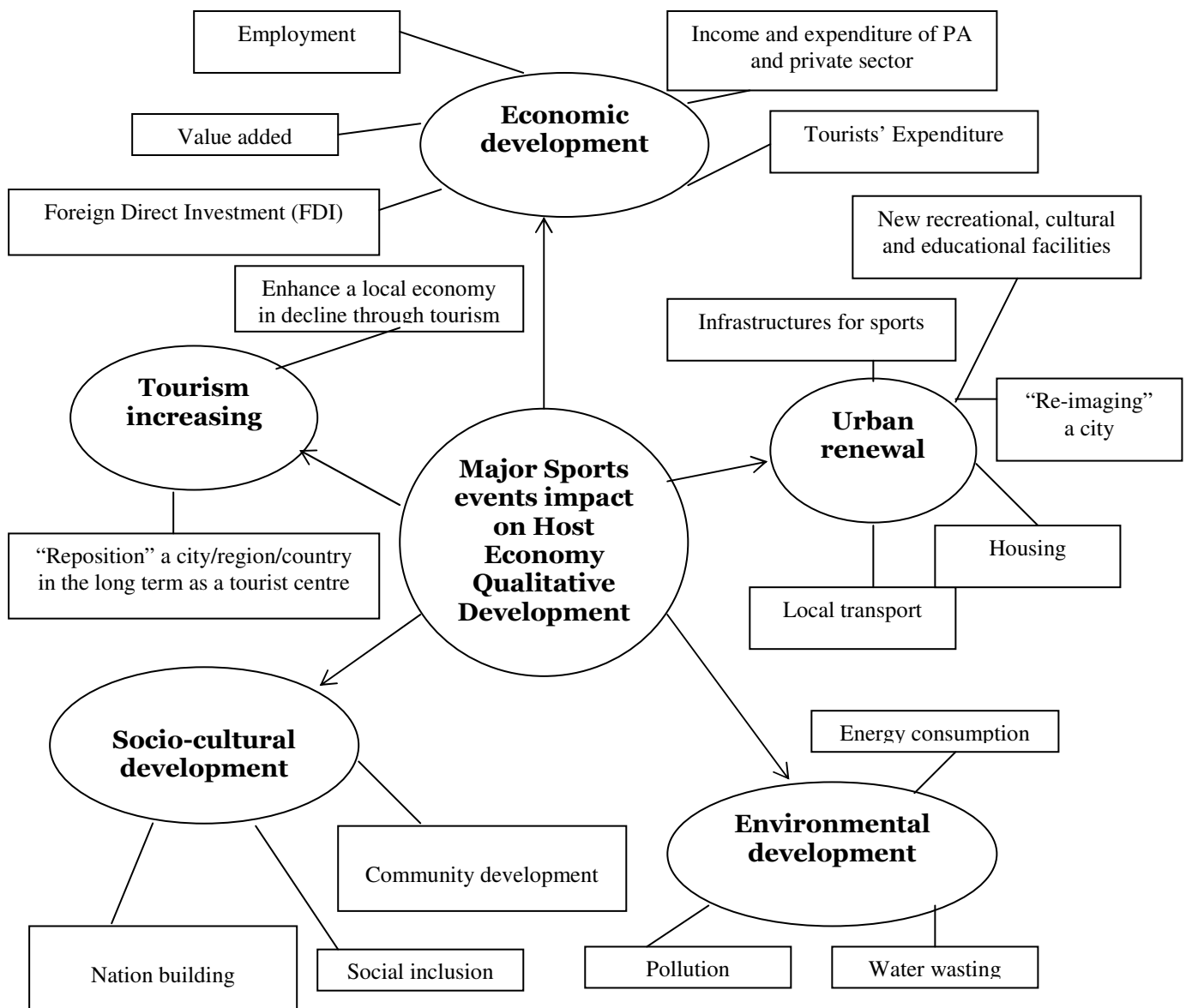
map, or even changing the unequal participation of a country in a global economy (§. 3). Although the proposed research is not expected to be exhaustive, the case studies along with the review of the selected literature allowed to develop a primary typology considerations of host economy qualitative development (§. 4).

2. Key indicators for a destination’s qualitative development

According to numerous authors (Allen *et al.*, 2002; Bowdin *et al.*, 2006; Chalip, 2006; Getz, 1997; Preuss, 2000; 2007; Ritchie, 1984) major sports events potential impacts on host economy development fall into five main categories (see Exhibit 1):

- economic development;
- tourism increasing;
- urban renewal;
- socio-cultural regeneration;
- environmental development.

Exhibit 1 – Key indicators for a destination’s qualitative development



Events effects on host economy development can have *multiple dimensions* both tangible and intangible (Grant Thornton, 2003; OMERO, 2006). Among *tangible* components there are:

- employment raise;
- new sporting and non-sporting infrastructures;
- leisure facilities;
- tourism increasing, etc.

The *intangible* dimensions include:

- diffusion of sports values;
- improvement of know-how in managing sports events;
- re-imaging of a city;
- nation building, etc.

The following sections analyzes some of the key indicators and sub-elements concerning the role of sport on host economy qualitative development.

2.1 Economic development¹

The economic benefits of sport activities include the *increase in income generated by hosting such events* and *a increase in the employment rate* as a result. The income increase is usually correlated to *capital investment* made by *public administration* and/or *private sector* not only for sports venues (stadiums, arena, ballparks, etc.), but also to regenerate urban areas (e.g. subways, roads, railways, airport upgraded, car parking, city restyling, etc.) and enhance tourist facilities (hotels, restaurants, leisure and entertainment services, etc.). One example is the 2006 Turin Winter Olympics that has brought for the Piedmont region an added value of €13 billion and a 2.8% increase in the rate of employment². The sectors gaining the greatest benefits in terms of added value and employment would be construction, commerce, hotels and restaurants³.

Another key economic indicator is the *additional* amount of *spending* by *visitors* on such items as accommodation, food, local transportation, rental cars, shopping and entertainment. The Super Bowl, one of the most-attended U.S. sports event, which in 2007 was held in Miami, brought more than 112,000 fans to South Florida with an average visitor spending of \$664 per day (Miami Herald, 2007). These figures can be easily understood considering that Super Bowl is first an entertainment event before being a sports event and with a whole week of festivities, ceremonies, pre-game shows, etc. has a huge potential impact on host local economy.

Even though there are only few researches concerning the role of sports events in attracting *foreign direct investments* (FDI) on host places (e.g. Bohlmann, Van Heerden, 2005), it can be argued that a major sports event may enhance the international status of a city or a country as a global business hub by increasing its infrastructure in terms of telecommunications, transports, new residential areas, and a better quality of life. A successful example is Atlanta (Georgia) which in 1996 hosted the Summer Olympics. National and international recognition of the city and state through extensive media exposure enhanced its reputation as one of the

¹It is important not to confuse economic impacts with “financial” profits and loss of sports events. In some cases an event may generate additional added value impact due to visitor expenditure but it is possible to earn less revenue than it costs to stage (Kurtzman, 2005). For some host destinations, achieving revenue from the staging of major sports events that exceeds the initial investment is not as important as the long-term economic benefits that will come from the future usage of the facilities and/or attraction of new visitors into the area. For example, the 2002 Salt Lake City Olympics is reported to have produced a relatively small surplus of \$40 million but there are expectations for the return on the original investment through new business and tourism (Mastermann, 2004).

²Source: Unione Industriale Torino (2005), *Valutazione degli effetti economici dei Giochi Olimpici Invernali di Torino 2006*, November.

³Source: Unione Industriale Torino (2005), *Ibid.*

world's leading business cities which in turn stimulated the relocation of many major companies in this area⁴.

2.2 *The increase in tourism activities*

Event tourism is a key aspect of host economy qualitative development. Major sports events are seen as catalysts for attracting visitors and increasing their average spend and length of stay during the event. They are also seen as *image-makers* of a place, developing high profiles of cities and/or countries, *repositioning* them as *tourism attractions* (Getz, 1997).

Some cities worldwide are easily recognizable by unique “physical icons” (Higham, 2005, p. 78) - for example Paris has the Eiffel Tower, New York has the Statue of Liberty, Rome has the Coliseum. Other places are as known at a global level for any cultural, historical and/or artistic asset. These destinations need to try to “reorient their image” (Smith, 2005) and raise their value by developing major sports events. Melbourne, for example, has worked to make its image more appealing to foreign visitors through a strategic use of sports. Hosting international sporting events such as the 2003 Rugby World Cup and the Melbourne Cup⁵ (horse racing), the city not only gained immense exposure as a sport tourism destination during the events, but also became an attractive place for all “active sport” tourists (Higham, 2005).

Hosting sport events have also the potential to *develop a local economy*, by providing an increase in tourism spending connected to the sport activity even off the event period. With over 75 million NASCAR⁶ fans all over the United States (NASCAR, 2006), there is a huge opportunity for North Carolina to advance tourism industry in a “state where traditional economic engines of tobacco and textiles are going” (Spanberg, 2003). In 2007 domestic tourists spent more than \$16 billion (7.2% increase over 2006), generating a total of more than \$1.3 billion in tax revenues and contributing to the increase of up 2% in local travel and tourism employment (North Carolina Dept. of Commerce, 2008). Most of the tourism income across the state is primarily brought in by the state's biggest cities such as Raleigh and Charlotte where NASCAR's circuits are settled. Since *North Carolina* is considered the *hub of NASCAR*, with more than 50 teams locally based, it sees an influx of visitors who not only travel here to attend racing events, but also to visit the “cluster of team race” with shops, race-related museums and other services facilities (Higham, 2005).

2.3 *Urban renewal*

Hosting a major sports event is often viewed as a potentially important tool in *urban regeneration*. It does that by bringing the opportunity to *improve* the *infrastructure* and *appearance* (new buildings, new architecture, etc.) of the host city (*tangible dimension*), and it also gives the opportunity to *transform* its *image* (*intangible dimension*), in essence a chance to “recreate its personality” (Smith, 2005).

To a *tangible level*, bidding for a major event such as the Olympic Games, the football World Cup or the rugby World Cup means to fund a substantial *capital infrastructure projects*, not only in terms of *sport facilities* and *venues* (new or renewed stadiums and arena, building the athletes village, etc.), but also in terms of *municipal* and *national transformation*. In their history the Olympics are traditionally being used as a vehicle to undertake long-overdue

⁴More than ten years later the 1996 Olympics, in 2006 Atlanta was home to nearly 1,600 international companies that employed more than 80,000. More than 20 percent of expansions and relocations to Atlanta in the last 10 years were from other countries so that Atlanta has 50 foreign consulates, 31 foreign chambers of commerce and 18 sister cities. *Source*: Metro Atlanta Chamber of Commerce (2006), “10 years later: Atlanta's Olympic legacy is still transforming city”.

⁵<http://www.melbournecup.com>.

⁶National Association of Stock Car Racing (NASCAR).

improvements to transportation and housing in depressed parts of a city (Payne, 2007). London that will host the 2012 Summer Olympics, besides undergoing an extraordinary sport construction workings⁷, will dramatically improve local transportation, from roadways to the London Underground⁸. The *social payoff* for East London will be a revitalized neighbourhood with 9,000 new, largely low-cost homes and brand new recreational, cultural, and educational facilities (Payne, 2007).

Major sports events are generally also a part of a wider *city's strategy for modernization* to increase tourist appealing (Roche, 2000). For example the redevelopment of the Faleron Bay in Athens had been a *municipal regeneration* purpose since the early 1960s⁹ and formed the basis of the city proposals for its candidature for the 1996 and 2004 Summer Olympic Games (Mastermann, 2004). The project purposes were clearly not only to prevent floods and upgrading the coastal area, but even establishing a *metropolitan attraction pole* for citizens and visitors¹⁰. After having hosted the 2004 Olympics, this area of the city is now provided with a number of new *leisure and entertainment facilities* which include a water plaza and esplanade, nautical sports complex and an open-air amphitheatre that during the games was the beach volley arena¹¹.

To an *intangible level*, the term urban renewal refers to “attempts by destinations to reconfigure their conceptions” (Smith, 2005, p. 219). For example such efforts have allowed many post-industrial cities to stimulate an *urban transition* from the established industrial sectors to the offer of new cultural services (see §. 3.4).

2.4 Socio-cultural development

The impact of a sports event must be seen not solely in terms of economic, infrastructural and tourism development, but to a greater extent on *social processes and relationships* (Coalter *et al.*, 2000). At social level sport can make contribution in nurturing community and youth development, personal skills and employment opportunities.

For example in the long-term a major sports event may enhance a “social glue” (Coalter *et al.*, 2000) among a *local or national community* through the shared sense of belonging or common purpose. To achieve *community development*, a greater degree of social cohesion and increased inclusion are required. To reach this goal, citizens would need to have facilities which promote social contacts and recreational networks. *Sporting facilities* built in occasion of a major event that become *multipurpose and accessible to all*, may contribute to *social*

⁷Including an 80,000-seat stadium as well as eight other arenas, an Olympic Village to house 17,000 athletes and officials, and the largest urban park created in Europe in 150 years. *Source*: Payne M. (2007), “A Gold-medal Partnership”, *Strategy+Business*, Issue 46, pp. 1-12.

⁸Olympic Javelin high-speed shuttle trains will transfer passengers between the Olympic site and mainland Europe in just 45 minutes, with a train arriving in London every 15 seconds during peak times. *Source*: Payne (2007), *Ibid.*

⁹By the end of the 20th century, Athens had absorbed close to 40% of the population and most of the economic activities of Greece. As a result, it experienced a rapid expansion of its urban fabric in all directions, down to the shores of the Saronic Gulf. Nevertheless, Athens did not become a coastal city and its relation with the sea remained undefined, both functionally and aesthetically. The situation deteriorated in the 1960s and 1970s with the construction of a raised rapid traffic artery along the Faleron coast (Poseidon Avenue) and the backfilling of large parts of the beachfront. The result was the creation of an extensive no-man's land in a most privileged location, and the condemnation of the residents along the coast to noise, pollution and constant flood threats. Since the 1970s and due to the strategic location of Faleron in the network of the functions of the capital, various efforts were made to improve the area. These, however were never implemented, while Faleron continued to deteriorate. *Source*: Ministry of Environment, Physical Planning and Public Works, *Regeneration of Faleron Bay, Olympic Projects 2004*.

¹⁰See footnote 9.

¹¹See footnote 9.

cohesion particularly in areas of economic and social deprivation, and provide wider value to local communities such as through development of community sports hubs (§. 3.4).

Major sports events also present opportunities for the *development of new skills and professional qualifications*. Through the involvement in the organisation of sports initiatives, individual participants can increase personal and social skills, self esteem and self confidence enhancing their “employability” to a future job in any sector, not just in sports.

2.5 Environmental development

Sports activities can strongly and significantly interact with the environment. It is therefore important for major sports events to be “sustainable” (Kaspar, 2001) and “eco-efficient” (Koivusalo, 2005) which means adopting a management strategy that links financial and environmental performance to create more value with an ecological impact.

Two areas of concern must be analyzed when speaking about the environmental implications of major events (Carbone, 2007; Kaspar, 2001):

- *impact on nature* of sport venues and/or infrastructure;
- *post use of sports facilities and infrastructure*.

The most visible impact of major events is the amount of *natural environment* used. In this regard, organizers must carefully select the areas for new sporting venues and facilities and balance sports needs with environmental constraints, especially in protected areas. Today potential exists for the construction of *environmentally-friendly buildings* which *save energy* and use *local building materials* that are homogenous with the surrounding environment. Examples of “eco-efficient actions” are temporary roofs and fitted carpets at the stadiums that can be reused and recycled after the event and/or venues that can save energy in terms of lighting and heating¹².

Transport is another central issue for any organizer, and distances between the venues should be as short as possible. Generally, incentives must be given to make *public transport* as *efficient* and *attractive* as possible to the spectators. Any environmental innovation such as bio-fuel, electric or hybrid cars is beneficial for the environment.

Implementation of *community recycling systems*, waste separation and avoidance programmes can also benefit the host community and its guests during the event. Multi-use cups and recyclable materials, as well as a recycling system, are important factors in creating an environmentally-friendly waste system.

The analysis of *post-use possibilities* is also of key importance in terms of urban environmental impact. Cities should plan in advance the after-use of sports events facilities in order to *avoid their obsolescence*. For example, the Millennium Stadium in Cardiff, built to stage the 1999 Rugby World Cup was designed to ultimately house different events and not just sports (Mastermann, 2004). The location for the venue is very accessible to downtown Cardiff and it is a catalyst of the citizens’ entertainment life.

3. A tentative framework for qualitative development of host destinations

Through the analysis of some major sports events which have been already concluded or that will be staged in the next future in a number of cities and countries in Italy, Europe and worldwide, this section proposes a preliminary framework for the host economy qualitative development. *Different typologies* to be followed are *based* on the *extent* to which *indicators* and sub-elements discussed above (see §. 2) would have impacted a specific area such as a city, region or country.

¹²For example the 2008 Beijing National Aquatics Centre, better known as the “Water Cube”, which has three pools below ground level is made up of a steel skeleton sheathed in a Teflon-like plastic that resembles bubbling water. This translucent shell allows in sunlight, providing heat and light and cutting energy use by up to 30%. *Source*: Bonadies, 2008.

3.1 Putting “periphery” destinations on the global map

Many cities have sought to change the somewhat “provincial image” (Whitson, 2004) they had historically, using international sports events to *reposition* themselves on the world stage. For example, before the 1992 Olympics, an industrial crisis affected the city of Barcelona not only from the economic point of view but also in social terms. There was lack of infrastructures and effective policies to increase competitiveness and social change. During the period 1987-1991, efforts were made to develop and improve the city, coinciding with the bidding to host the Olympics (Bontje, Pareja, 2007).

Slogan of the Summer Games was “Put Barcelona on the Map”, high lightening the will of the Spanish city to *present itself to the world* as an *internationally known modern urban centre*. Planning strategies of Barcelona to bid for the 1992 Olympics were may be also linked to its “capital city” aspirations (Monclús, 2000). The idea of hosting international events has been in some way a means of enhancing Catalan identity and challenging the ascendancy of Madrid. However, Barcelona’s main purpose was not to affirm its signs of identity as a political capital, in contrast to the traditional industrial character of the city, but rather to demonstrate that it could be an attractive “cultural capital” in the same way as an “economic capital” (Monclús, 2000).

The 1992 Olympic Games in Barcelona have primarily provided a catalyst and a context for a general *physical urban renewal* (§. 2.3) of the city. Opportunities were taken to promote several different *infrastructure rejuvenation* such as (Ferran, 2004):

- construction of many sports venues and facilities;
- building of new houses, offices and hotels;
- renovation of local roads and transport infrastructure;
- huge capital investments to restore the old harbour which lately become the most important centre for leisure and entertainment city life.

Barcelona’92 is one of the most successful¹³ example cited in the literature (Bontje, Pareja, 2007; Chalkey, Essex, 1999; Kurtzman, 2005) for its “extraordinary and sustained capacity to ride the Olympic wave” (Ferran, 2004). In fact, the Olympics were only a turning point in the urban and socio-economic growth of Barcelona, following the “event-related” path of city development. Many of the improvements achieved with the Olympics (i.e. enhanced infrastructures, worldwide media coverage, etc.) were lately used by the local government as a strategic axis for “branding the city” (Bontje, Pareja, 2007).

Since the conclusion of the Games, Barcelona - through an active partnership between the public and the private sector - has continued to heavily invest in numerous projects (culture, architecture, art exhibits, congresses, events, etc.¹⁴) aimed at promoting certain activities which are considered of high priority in the international competitive arena such as design, universities and information technologies¹⁵. This commitment have contributed to the *urban*

¹³ *Investment in infrastructure* was the *key element* of its *success*. The resources allocated to urban infrastructure led to temporary employment in the necessary construction work, followed by permanent employment in operation of this infrastructure. Both led to increased economic activity, although not all of it was concentrated in the city itself. The capital invested and the increased economic activity led to increased wealth, wellbeing, and social cohesion and made the city more attractive (Ferran, 2004).

¹⁴ For example, the Auditorium and the National Theatre of Catalonia; the Museums, art galleries and other spaces for cultural activities in the Old city; the Museum of Contemporary Art of Barcelona (MACBA), the Centre of Contemporary Culture of Barcelona (CCCB), etc. More museums in Montjuïc with the National Museum of Art of Catalonia (MNAC), Convention Centres and hotels.

¹⁵ According to the Metropolitan Strategic Plan of Barcelona, a platform of initiatives have been developed aimed at determining the competitiveness of the city in several fields. As examples, the Biomedical Research Park (PRBB) which works together with the University Pompeu Fabra and the nearby Hospital del Mar in order to promote innovation and high quality research; the Barcelona Design Centre, a private non-profit foundation,

and *image transformation* of Barcelona which today is placed on the map of international cities considered desirable places to live, to visit or to locate a business.

A more recent example of *city's reposition* is Valencia, which in 2007 hosted the "Louis Vuitton America's Cup". This is the most prestigious sailing competition in the world and involves investment of such extent that it can generate *substantial economic impact* on output, value added and employment (§. 2.1) for the designated host city (Ivie, 2007).

For years Valencia has been seen as a "poor cousin" to the capital Madrid and to Barcelona despite having a vibrant economy in industry, services and culture¹⁶. Hosting the 32nd America's Cup edition, Valencia has received an international exposure because of the regattas being broadcast by the media worldwide. The media coverage during the event has "sold the city globally" (Jones, 2005, p. 186), encouraging further visitation (§. 2.2) and perhaps inward investment in the longer term (§. 2.1).

The most noteworthy *impact* of the event was in terms of *physical urban infrastructures* (§. 2.3). Besides general improvements of the highway and railway network, the restoration of bridges and monuments, and the construction of gardens, parks and libraries, Valencia¹⁷ has invested more than €400 million on the *harbour's renewal* (Ivie, 2007), building new facilities complete with super-yacht quays and faster access to the sea¹⁸. The harbour's rejuvenation also attracted *private investment* to build luxury hotels and nightclubs and advance the seafront with restaurants, shops, and entertainment facilities.

In view of the 2007 America's Cup, Valencia invested a budget of €122 million for the extension of the city's airport at Manises. The project incorporated a Metro station which terminates at the airport and an increase in the number of car parking places.

The *economic benefits* (§. 2.1) of the event surpassed the costs incurred. It has been estimated that the race has generated an *added value* of about €2,7 billion and the increase in total demand associated with the America's Cup increased the employment by 73,800 jobs (Ivie, 2007). Furthermore, the event has contributed to *develop* the *local economy* with many of the small family companies placed around Valencia which have started working in high-tech sailing and marine sectors.

whose mission is the international diffusion and promotion of Barcelona as a design capital; the 22@ Barcelona Media Park, which is now under construction, is an attempt to create the environmental conditions for the cluster location of highly innovative and creative enterprises. *Source*: Bontje, Pareja (2007).

¹⁶The city maintains an important industrial base which is made up of small and mid-size companies. Some of the most important are printing and graphic arts, wood and furniture, metallic products and footwear and clothing. The economy of the city has enjoyed positive dynamic growth during recent years. The dynamism of the city as an economic centre is also reflected in the strength of institutions which are key for economic development, such as the *Valencia Trade Fair*, the *Autonomous Port*, the *Stock Exchange*, the *Palace of Congresses* or its *Universities*. Valencia also has a number of important cultural institutions that are becoming increasingly important in the development of the city: the *IVAM (Valencia Institute of Modern Art)*, the *Palace of Music* or the *City of Arts and Sciences* all contribute an undeniable added value to the city and to its metropolitan surroundings as a centre of culture and leisure. *Source*: Valencia Tourist Board.

¹⁷Investments with the objective of providing Valencia with the necessary infrastructure to host the event have been made by a pool of actors such as the Valencian Government (through the Action Plan for the America's Cup), the "Consortio Valencia 2007", the Central Government, and the Valencian City Hall. Other agents invested as a result of the sports event. *Source*: Ivie (2007), *Final Report on the Economic Impact of the 32nd America's Cup Valencia 2007*.

¹⁸The port includes, among other things, the opening of a canal that connects the inner dock with the sea allowing participating boats to be in place for the regatta in just 15 minutes. Furthermore there are bases for the participating teams, a guest centre, a communication centre, and a park for 8,000 spectators, restaurants, cafés, and stores. *Source*: Ivie, 2007, *Ibid*.

The *promotional effect* may be more relevant than the immediate impact in terms of visitors expenditures¹⁹ and added value for the local community. Before being designated host, Valencia had already started its own transformation process and met important requirements in terms of infrastructure, facilities, and services. Nonetheless, the *international projection* that the America's Cup brought along with the infrastructural investment into old harbour, has helped Valencia to *change its image* to become an *attractive urban pole* not only for the Spanish south coast but also for Europe.

3.2 Developing emerging markets' economies

One common thread for the emerging economies has become the view that sport events and sport facilities development have become a central feature in their promotional strategy to enhance *economic development* and retain *tourist appeal*. There are also some differences that exist among developing economies.

One example is in Asian economies, in particular *Middle East*, where sport is becoming a driving economic force aiding then in becoming *global business centres*. Although at different stages of development, in many Middle East countries governments actively push participation in such events. With the support of huge capital investment by private companies, banks, real estates, etc. the region is also developing infrastructure and hosting world-class sport events in order to attract financial income, elite tourists and foreign corporations to the region.

- *Abu Dhabi*, commercial capital city of Dubai (UAE)²⁰, is focusing on becoming one of the world's premier luxury tourist destinations²¹ by hosting *elite sports* - such as golf and motor sport –as well as other various *cultural activities*²². Central to reaching this target is the development of a range of international sporting events, designed both to *attract spectators* and *showcase the nation in the media*. One such project is the development of the "Ferrari World theme park"²³ which will be built near by the new 5.6 km motor racing circuit being constructed to host the Formula One Grand Prix from 2009.

Apart from the motor racing, Abu Dhabi has recently announced plans to host the *world's richest cycle race*²⁴ - the ten-day, three-stage "Race of Champions". The 204 km event will be held annually for the next five years.

Golf is highlighted too, with the "European PGA Abu Dhabi Golf Championship" entered its third year in 2008.

- *Bahrain* has heavily invested in *motor sport racing* with the construction of the Bahrain International Circuit (BIC). BIC is becoming a *catalyst* for *business developments* within the Kingdom of Bahrain. Not only at the circuit, but also across the country there are numerous financial and commercial companies that have benefited from the promotion of hosting the only round of the FIA Formula One World Championship in the Middle East. With a

¹⁹The expenditure we can call "tourist" made by the 1,740,000 people who visited Valencia's Port during the regattas held from April to July 2007, spent more than €106 million. *Source: Ivie (2007), Ibid.*

²⁰United Arabs Emirates (UAE).

²¹In 2006, about 8 million visitors came to the UAE. *Source: Euromonitor International, Travel and Tourism in the United Arabs Emirates, Report, 2008.*

²²Most of Abu Dhabi's tourism plan is centred around the redevelopment of Saadiyat Island, a 27 sq km island to the north of Abu Dhabi city, which will become the new Cultural District featuring the Guggenheim Abu Dhabi, the Louvre Abu Dhabi, the Biennale Park, and a Maritime Museum. *Source: Abu Dhabi Authority for Culture and Heritage, 2008.*

²³This leisure facility, being built on Yas Island just minutes away from the international airport, will feature simulator rides, roller coasters, race track, an interactive museum and a theatre.

²⁴Some of the world's top cyclists and teams are expected to compete for \$1 million in prize money.

worldwide media coverage of 540 million viewers (FIA, 2007), the race gives a global exposure to the country and the region.

- *Qatar* is host to several major sporting events, mainly world-class *athletic* competitions. By hosting events such as the Asian Games (2006), Qatar is trying to *elevate its position in the global arena* and adding to *international awareness* of its potential as a *sports events* and *tourist destination*.

The building of sport indoor facilities, motor sport circuits, a Ferrari theme park, and other leisure and entertainment venues should promote and enhance the image of United Arabs Emirates, Bahrain and Qatar and may be an interesting opportunity to *put these countries* on the *international tourist maps* also providing an important economic development.

China is another important emerging country on the global market place. Unlike Middle East, the economic situation is highly differentiated throughout the nation state. Although over the last years the country has experienced a sustained growth in Gross Domestic Product (GDP), a rising number of Chinese entrepreneurs, massive foreign investment and a more economic liberalization (Ashton, 2002), only for a small part of the population the disposable income has risen sharply²⁵ and most Chinese still live in rural areas, at social and educational conditions well below the level of Western countries.

The business of sport in China is absolutely fragmented too, and an economic, tourist, socio-cultural development generated by a sports event may be only accounted in some specific areas of this country.

For example, in the case of 2008 Beijing Olympics, the most relevant implications would be mainly for the host city. However, as for other Olympic games, staging this global event will contribute to enhance China's image worldwide.

Local politicians and organizers have dedicated *huge infrastructural projects* that are very much needed for the *general development of the city*. There are, for example, the new ring roads, subway lines, airport terminals, coal-burning power plants to reduce emissions, water treatment facilities, and the planting of millions of trees²⁶.

According to Preuss (2007), the 2008 Summer Olympics investments do not significantly foster direct economic advancement in Beijing, but the implications will be mainly indirect with a *local tourism increasing* and *social regeneration*.

The media coverage during the Games will spread throughout the world the message about sufficient infrastructure, better air, good living conditions, state-of-the-art telecommunications, modern tourist accommodations and hotels, etc., in essence a kind of *local marketing promotion* of *Beijing* as a *new tourist destinations*. The change of location factors in the city would also attract *additional foreign investment*, thus enhancing the productivity of this destination as a *central business district* (Wei, Yu, 2006).

Through the huge capital investment in sports venues and other physical facilities, Beijing organizers also contribute to develop *nation building* (§. 2.4) signalling to the local population *self-confidence* in their own strength with the intent to *reduce a feeling of inferiority to other nations* (Preuss, 2007).

Hosting an international event which will lead to Beijing million of visitors also means to "educate" the local population toward a more "civil behaviour" and foster interpersonal relationships of Chinese with other people²⁷.

²⁵In fact, consumer wealth is concentrated in the main cities or conurbations with the top six consumer markets being Beijing, Shanghai, Chengdu, Chongqing, Guangzhou and Wuhan. *Source*: Ashton, 2002.

²⁶This makes Beijing appear as the most expensive Games in Olympic history with an overall investment reported to be approximately US\$50 billion. *Source*: Preuss, 2007.

²⁷The "Beijing Speaks English Program," was introduced in 2001 aiming for 400,000 fluent English speakers by 2008. As part of the program, English classes start in first rather than third grade. Government and private employees were encouraged to learn with vacation and financial incentives. In recent months, the English

Furthermore, the 2008 Games should *improve natural environment* (§. 2.5). Despite concerns about local air pollution, under the Beijing Sustainable Development Plan the city launched many projects²⁸ to advance the quality of Beijing's environment, with an overall investment of \$12.2 billion (UNEP, 2007).

3.3 “*Mise en valeur*” of local assets

Environment is fundamental to prosperity of many places (Tribe, 2005). *Qualitative growth of a local context* can be enhanced by the “*mise en valeur*” of *local resources* (climate, scenery, coasts and countryside, mountains, etc.) by staging *sports events*.

For example, the professional *surfing world championship* “Quicksilver Pro France” is an international event held every year in the region of Aquitaine²⁹ (South-West France). The *event* is highly *complementary* with the *region's surfing identity* and its staging is aimed at the “*mise en valeur*” of the most important local natural asset, that is the ocean coast.

What is interesting to note here is that Aquitaine developed a *sport specialization* (Hautbois, Desbordes, 2008) in surfing, capitalizing on the vital importance of ocean for the local area. This sport specificity has *boosted* the region's *socio-economic development* (§. 2.1). In fact, Aquitaine's local context is characterised by an economic branch evolving around the surfing activity which comprises surfing schools, concept and design centres, textile R&D centres, etc. Furthermore, some of the world's most important companies within this sector based in the region³⁰ play an important role. They are not only main sponsor of the event, but also support research and development in the surfing sector with huge investment, thus contributing to the growth of the local productive system as one of the most innovative worldwide³¹.

Staging the Quicksilver world championship may also ensure an international promotion for Aquitaine. Giving the specificity of the event - which is mainly addressed to a niche market (surfers) - it can contribute to *foster the region's image primarily towards abroad surfers communities*.

3.4 Social urban regeneration³²

The transition from a manufacturing and goods-handling economy to the service economy of the 1980s has resulted in an urban economic decline especially in the traditional *industrial areas* of Europe. Some governance organizations modified the economic trajectory of their towns in a creative way, that is *repositioning the city from an industrial to a cultural one* (Cooke, 2005). Several European cities have (re)invented the significance of culture in its widest sense, including sports as instrument of urban regeneration.

Beside museums, festivals, exhibits, etc. *sport* is an important tool to develop the *cultural heritage of a city* (Cooke, 2005). Furthermore, sport can provide job positions, foster business

campaign has been joined by efforts to clean up “bad behaviours” such as spitting and littering, queuing and table manners, under the slogan “Prepare for the Olympics, Strive for Civility and Create New Habits!”. *Source*: <http://www.ir2008.org/olympics>.

²⁸For example, the city has established new wastewater treatment plants, solid-waste processing facilities, and green belts and built a fleet of clean buses for the games. Beijing replaced 47,000 old taxis and 7,000 diesel buses, and began requiring vehicles to meet EU emissions standards. In addition, natural gas (use of which is up tenfold), geothermal, and wind power are gradually replacing coal. *Source*: UNEP, October 2007.

²⁹Usually sites of the event are Seignosse, Hossegon, Capbreton, and St. Jean de Luz.

<http://www.poleglisse.com>.

³⁰For example Quicksilver and Rip Curl. *Source*: <http://www.poleglisse.com>.

³¹*Source*: <http://www.poleglisse.com>.

³²Regeneration is the term used to describe the process of economic redevelopment generally in an area that has suffered decline because of structural changes in the economy (Tribe, 2005). Here it is applied to urban contexts, but can be also referred to rural areas.

activity and enhance community development. It can also result in a new sense of belonging to the city (Weed, Bull, 2004).

Sport events have played an important part in *economic development* (§. 2.1) and *social urban regeneration* (§. 2.3, 2.4) strategies for cities such as Sheffield and Manchester in UK and Turin in Italy.

After having built its economic development on its steel and cutlery industries, during the 70s and 80s *Sheffield's* manufacturing base started to decline³³. In response to its industrial demise, the city³⁴ has pursued a *sport economy policy*, initiated by its staging of the 1991 World Student Games, aimed at *developing a long-term regeneration process for the city*, with a particular focus on the Don Valley, the area of the town that had suffered most from the city's de-industrialization (Weed, Bull, 2004; Smith, 2005). Staging the World Student Games has provided to the city the opportunity to *reorient its image* (Smith, 2005) from "City of Steel" to "City of Sport" which helped attract 250 major sporting events to Sheffield between 1990 and 1996, boosting the local economy and attracting *new business* connected to sports facilities (restaurants, pubs, shops, guest houses, etc.)

The decline of *Manchester's* traditional industries (textile, engineering, and steel) intensified during the 70s and early 80s. The city's response has been to use sport as a crucial part of a central marketing initiative that involved football teams (Manchester United and Manchester City), cricket, swimming, and athletics. When Manchester bid for both the Olympics (2000) and the Commonwealth Games³⁵ (2002), *regenerating the industrial urban landscape*³⁶ was a key motivating factor. Bidding and staging the Commonwealth Games have contributed to the development of world-class sports facilities within this area, the generation of thousand of new job as a consequence, the construction of a metro line which improve its connectivity to the city centre, Universities and international airport, and the building of new houses³⁷.

Sheffield and Manchester's *municipal government* partnered with the private sector agencies to attract major sports events. Once secured, such events have played a significant part in the *economic and social revitalization of decaying industrial urban areas* and in the built of "community identity" (§. 2.4).

At *economic level*, in both cities *sporting facilities* after the event have been used to *boost new local activities*. For example, in Manchester some sports building such as the football stadium Old Trafford became part of the leisure infrastructure of the city not only for tourists and visitors but also for local citizens. Besides to be the venue for events (sporting and non-sporting), stadiums and arena are also a focal point for much leisure-related investment. The city's multipurpose facilities (restaurants, museums, merchandising shops, etc.) are an "economic catalyst" (Lago, Baroncelli, Szymansky, 2004) for commercial and

³³The city lost 60.000 jobs between 1978 and 1988. Cfr. Dabinett G. (1990), *Local Economic Development Strategies in Sheffield on the 1980's*, CRESR Working Paper N. 10, Sheffield Polytechnic, Sheffield.

³⁴In 1986 the Sheffield Economic Regeneration Committee in the City Council's Department of Employment and Economic Development was established which brought together representatives of the City Council, the business community, trade unions, higher education institutions, central government agencies and local organizations. See Dulac C., Henry I. (2001), "Sport and social regulation in the city: the cases of Grenoble and Sheffield", *Society and Leisure*, Vol. 24, N. 1, Spring, pp. 47-78.

³⁵The Commonwealth Games are staged every four years in British Commonwealth destinations and involve athletes coming from 53 states, most of which are former British colonies.

³⁶At the end of the '90 the East Manchester district (where the old industrial factories were placed) was characterised by many of the socio-economic conditions and problems of many other inner city areas in Britain. In addition to the economic decline and population loss, the area had key problems such as a low skills base within the local working age population, high crime rates, high levels of unemployment, poor quality infrastructure.

³⁷Source: <http://www.gameslegacy.co.uk>.

entrepreneurial local business activities - such as restaurants, clubs, bars, etc. - placed near by the sport venue.

At *social level*, sport facilities which have hosted specific tournaments like tennis, ice hockey, swimming, and the like have been *reconverted* in *public venues* in order to attract promising athletes, nurturing local talents and building a more active local community with access to sporting opportunities.

Another interesting case is that in which a major *sports event* emerges as a *main driver* of "*reimagining a city*" (Smith, 2005). Turin, that staged the 2006 Winter Olympics is one such case.

Turin is known worldwide as Italy's car manufacturing capital, strongly connected with FIAT, which has given the city its well known image of a "one company town". Recently Turin has faced a period of *intense change of identity* due to a process of de-industrialization. This is shown by its *urban transformation* that has occurred in the attempt to diversify its local economy.

Besides the economic impact in terms of added income, new job creation and increase tourist expenditures (see §. 2.1), the Olympics have marked the *transition* of Turin *from industrial city* to *cultural urban centre*. The choice of tourism, sports, leisure services and culture as new "core business" of the city, has become strategic after the bid for the Games while early it was solely "interstitial".

3.5 Changing the unequal participation in the global economy and building positive tourism destination image

In some cases the potential of a sport event can be harnessed to *raise international profile* and *change the perceptions* of a country *as a tourist destination*. For example, the bid for the 2010 Football World Cup in South Africa represents an important occasion for a national "booster" that may reposition this developing country's interests in the global economy. In the case of South Africa, staging an international event has the potential to advance *economic development* in terms of creating *new jobs* and increasing *tourist expenditures* and *foreign business investments*. According to a consulting company (Grant Thornton, 2003), the hosting of the World Cup will account more than R21 billion to the country's Gross Domestic Product (GDP) and create an excess of 150 000 new jobs. Showcasing the region and its natural beauty should enhance South Africa's reputation as an attractive tourist destination. Brand new infrastructures needs could be highlighted in order to further promote investment in the country. More convenient and modern venues are likely to attract higher numbers of spectators and perhaps host upcoming similar major events (Bohlmann, Van Heerden, 2008). The *indirect benefits* of an improved image abroad could have an even greater impact on the economy by contributing to changes in the perceptions held by some foreign investors on Africa and South Africa in particular.

The impact of the World Cup will be very relevant even in terms of the both sporting and non sporting related *infrastructures development*. By the 2010, South Africa would have spent in the region R5 billion on building and renovating 10 World Cup stadiums, R5,2 billion on upgrading the airports, and R3,5 billion on improvements to the road and rail network (Grant Thornton, 2003).

From *social perspective*, the international football event can have a great potential on the community development and nation building in South Africa (Keim, 2006).

South Africa is an attractive tourist destination due to its natural and cultural resources, based on its many World Heritage sites, its rich fauna, and the many international fairs and exhibitions held in the country. However there are also some areas of weakness that have brought down the country's overall perception (World Economic Forum, 2008) such as the large poverty levels as a high percentage of population (43%) lives below R3000 per

annum³⁸. Safety and security is of serious concern, with the costs of crime and violence in particular. The country also has weaknesses in the area of health and hygiene. South Africa's life expectancy is low, at 48 years, related in large part to the very high rates of communicable diseases such as HIV/AIDS.

Even if sport event organization cannot represent a long lasting solution to South Africa's problems, it can prove an useful instrument in facilitating the economic and social development (Keim, 2006). Sport has global appeal because it teaches life skills such as communication, cooperation and leadership, promotes respect and fair play, encourages participation of marginalized groups, attracts interest from the media and it can bridge social, cultural and religious divides. If the South Africa's government will acknowledge this power, the football event might offers an unparalleled opportunity to raise awareness about the many significant contributions made by sports towards achieving relevant goals³⁹ - such as reducing poverty, increasing primary education, ensuring environmental sustainability, etc. - which in turn will make the country more appealing for foreign investors and thus increasing sustainable economic development.

4. Concluding remarks

To build a classificatory map of the tentative empirical evidence correlated to host economy qualitative development, an attempt is made to build an exhibit which sums up the different typologies identified in section 3 (see Exhibit 2). For each typology exhibit high lights the *extent* to which *indicators* and sub-elements discussed above (§.2) impact the qualitative development of the host economy⁴⁰. It has to be said that the exhibit contains a primary attempt of impact evaluation which has been drawn from the case studies evidence. The proposed evaluation is therefore not expected to be exhaustive and it does not mean a definitive assessment.

In this regard, *time* is a *variable* which can have a relevant *influence* on typologies' identification. It is possible that in the long-term some of the indicators and sub-elements not yet considered within a specific case study would have a much greater impact, thus modifying the whole development process of the host economy. Time is also important in this analysis since some events like Beijing 2008 (§. 3.2) and South Africa 2010 (§. 3.5) are going to be staged in the near future. Therefore effects evaluation can only be forecast. In the other cases the evaluation is ex-post and has been more meaningful, especially when major events occurred many years ago.

One example is Barcelona, the "oldest" event cited in this research (§. 3.1). For this city it is possible to make a much more articulated analysis of the Olympics impact since the effects of this event have emerged in the long term to such extent that it can be told of a "Barcelona model" in terms of urban, infrastructural and image transformation. Barcelona has been the first example of using the Olympics with the purpose to promote its image as a city of culture and in this process it suffered of global competition to a lesser extent than today. Nowadays the strategy to stage a major sports event for increasing the attractiveness of a place is well known. Cities that are candidates to host the Olympics or the football World Cup have to compete with several cities to be on the "global map". Within a global economy, culture or a

³⁸See United Nations, South Africa's Millennium Development Goals (MDG) Mid-Term Country Report, September, 2007.

³⁹See footnote 38.

⁴⁰Within each typology is made an evaluation concerning the specific case study analyzed. Each case study is marked with a capital letter (see the * in the box below the exhibit). The evaluation ranges from a minimum impact value (1 letter) to a maximum (3 letters). Some spaces in the exhibit have been deliberately left blank. It means that the impact of major sports events on that specific sub-element (i.e. social inclusion, FDI, etc.) is not relevant, even if to some extent it exists.

good looking scenery are not enough. Cities need to be in excellent positions in terms of high level tourism facilities, technology infrastructure and environmental sustainability if they want to gain a competitive advantage over their competitors.

Valencia (§. 3.1) appears very similar to Barcelona even if the America's Cup is just concluded one year ago so that it is not possible to make an exhaustive evaluation concerning some indicators such as future tourism increasing. Anyway it can be argued that Valencia with its purpose to become an attractive urban pole for the Spanish south coast and even for Europe, re-proposed the same strategic tools as Barcelona in 1992 (enhanced infrastructure, old part of the town's rejuvenation, harbour restoring, etc.) but within a role of *follower*.

In light of the research a consideration emerges that besides time, other variables have relevant effects on the different qualitative development of host economies.

Major sports events implications in the long term seem to be guided by a *path-dependance* development process. It means that the ability to strategically plan and manage the event are influenced by the set of *resources* (natural, historical, entrepreneurial, etc.) and *capabilities* deeply rooted in the local context. Concerning Barcelona it is significant that since the end of the 19th century the city has been started a process for promoting itself with an image of "Capital and cosmopolitan city" hosting *international cultural exhibitions* (i.e. the Universal Exhibition in 1888 and in 1929) and "monumentalising" some urban spaces and architecture (Monclús, 2000). Once again, after a hundred years, Barcelona tried to improve its prestige staging an international sports major event such as the Olympics. Culture, with sport activities as important part of cultural heritage of a city (Cooke, 2005), is the *file rouge* for Barcelona's global image promotion.

Exhibit 2 – A tentative typology of host economy qualitative development

	Putting “periphery” destinations on a global map	Driving economies of emerging markets	“Mise en valeur” of local assets	Social urban regeneration	Changing unequal participation on global economy
Economic impact					
- added value	BB; VV	CH	AA	S; M; T	SASA
- new jobs	B; VVV	CH	AA	SS; MM; TT	SASA
- FDI	BB; V	CHCHCH; MEME			SA
- tourists' spending during the event	B; VV	CH; ME	A	T; S; M	SA
- boosting local economy	B; VV	CH; ME	AAA	MM; SS	SA
Tourism					
- reposition of a place as a tourist centre	BBB; VVV	CHCH; MEMEME	A	SS	SASA
- enhance local economy in decline through tourism	B			SS; MM; T	
Urban renewal					
- new or renewed physical infrastructure (sporting/non sporting)	BBB; VVV	CHCHCH; MEMEME	A	SS; MM; TT	SASA
- housing	BB;	CHCH		S; M	SA
- leisure facilities	BB; VV	CH; MEMEME	A	SS; MM; TT	SA
- re-imaging a place	BBB; VV	CHCH		SSS; MMM; TTT;	SA
Socio-cultural impact					
- community development	B; V	CHCH	A	S; M	SASA
- social inclusion		CH		S; M	SA
- nation building		CHCH			SASASA
- employment opportunities				SS; MM	SA
Environmental impact					
- natural environment (pollution, recycling system, energy saving, etc.)	B; VV	CHCHCH; MEME	AA	S; M; TT	SA
- post-use facilities: • future staging of sports events	BB; VV	MEME		SS; MM; TT	
• facilities for local community	BBB; VV	CH	AA	SSS; MMM; TT	SA

* A=Aquitaine; B=Barcelona; CH=China; M=Manchester; ME=Middle East; S=Sheffield; SA=South Africa; T=Turin; V=Valencia

In the case of Aquitaine region, the socio-economic development evolved around the world surf championship through the “mise en valeur” of a *local natural asset* (the ocean) and the strategic supportive role of local surfing companies (§. 3.3).

From other examples emerges how *history, culture and tradition* of a host economy can impact some managerial aspects of major sports events. For example, from the exhibit 2 Sheffield and Manchester resemble to Turin in terms of economic, social and tourism impact (§. 3.4). Actually, UK cases and the Italian one are pretty much different, in particular regarding the provision of post-event sporting facilities to the local community. In post-industrial areas of UK, stadiums and arena become multipurpose and are places where people live a great part of their leisure time with their families, shopping, eating and drinking. In essence doing activities that are not directly linked to sport. Stadiums become a sort of *shopping mall* and that is a successful model here where there are any other local assets (natural, historical, artistic, etc.) to be exploited. In Turin, where the post-use of sport facilities for the local community has been relevant too, these venues have been perfectly integrated in the cultural, artistic and social attitude of the city. Some of the sports buildings located in the ex-FIAT’s industrial area (i.e. the Lingotto) have been embodied within the new image of the city as new locations for art exhibits, congress centres, Universities. The industrial history of Turin has been therefore embedded within the cultural heritage of the city.

The socio-economic development can be different also in terms of the *event scale*. Although this research only considered major sports events (§. 1), there are some particularities of the Olympics as regards to the others created not only by the complexity of organizing the Olympic games, but also by the global visibility which a host country can gain through their staging.

Hosting the Olympics requires a tremendous amount of resources (human, technological, financial, economic, etc.) and capabilities (safety and security management, logistic, organizational, etc.) that go into their implementation (Hiller, 1998). But what primarily differentiates the Olympics from any other major event is the strength of the bid which affected the political, economic, demographic, social and environmental situation of a candidate city (Theodoraki, 2007). The host destination has to start planning for the games as soon as is elected by the IOC⁴¹ and the Olympic organizing commitment should “pervade” every aspect of people daily life until the opening ceremony⁴² and later on the post-event period.

Furthermore, the Olympics can have huge implications not only on the image of a host city, but for a country as a whole. For example during the 2006 Winter Olympics not only Turin but Italy as a whole had to demonstrate that it was able to manage the games primarily in terms of safety and security against terrorism threat. The successful Games, not only from a sporting perspective but also security management had an important role in *revitalizing the image of Italy* on the international market place providing an added value that goes beyond the event and may influence the attractiveness both of Italian products and the country as a tourist destination (Zagnoli, Radicchi, 2008a).

Other major sports events such the America’s Cup, even to a lesser extent than the Olympics, however require a massive *financial, economic and infrastructural investment*. Certainly having constant wind conditions which could minimize the risk of cancelled races helped Valencia to win the bidding for the 2007 Louis Vuitton Cup. But most important, the city made a huge capital investment in nautical infrastructure (§. 3.1) and won the competition with the other candidates

⁴¹International Olympic Committee (IOC).

⁴²For example China since 2000 introduced a program which encouraged people to use public transport rather than private cars.

(i.e. Naples) by having facilities which allowed the most efficient sailing boat movement and a faster access to the sea.

As a whole the case studies proposed in this research seem to have positive outcomes from staging major sports events. However there can be negative aspects of hosting a sports event. Issues relating to the use of natural environment, the negative effects on local communities and visitors conflicts such as sports spectators disorder, and the like all need to be strategically addressed and planned by sporting and non sporting local governments and authorities if major sports events are to create a long-term value for the host economy.

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WINE CLUBS AS A MARKETING TOOL FOR SEGMENTING CUSTOMERS, BUILDING WINERY LOYALTY AND IMAGE: SOME EMPIRICAL EVIDENCE¹

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1. Introduction

“Huston, we got a problem”: that’s Italian wineries’ everyday exclamation. The typical problems related to the relatively maturity of the market are arising (Hambrick, 1982; Harrigan, 1990); as eminent scholars suggest (Levitt, 1965), that’s the right time of the business life cycle when companies should spend their efforts in enhancing customers’ loyalty.

Wine clubs can be a very effective tool under this perspective. In the very first section of the paper we will provide background research on Customer Loyalty and Rewards Programmes. We will, then analyse the main characteristics of wine clubs, and we will provide some secondary data we have collect in order to facilitating the understanding of the phenomenon and underlining similarities and analogies to reward programmes. We will then provide results of our empirical investigation on 30 respondents, after having introduced the case of the Fonterutoli wine club.

2. Wine Clubs

In this paragraph we provide data for understanding the phenomenon of wine clubs; we will, then, show a simple approach for classifying benefits and rewards in wine clubs, based on an empirical investigation carried on a limited number of wine clubs websites. Finally we will provide a classification of wine clubs according to the perceived image of the wineries they are referring to.

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² Cristina Santini has written par. 2.1, 2.2, 2.3, par 3, par 4.3, 4.4, par 5

³ Monica Faraoni has written, in particular, par.4.1

⁴ Vincenzo Zampi has written par.1, par 4.2.

2.1 The Phenomenon

We can define a wine club as “a group of customers organised by the winery that agree to receive selected benefits and preferential treatment” (Teaff *et al*, 2005, p. 34). The definition is clearly inspired by the more general one of customer clubs (Diller, 1997; Butscher, 1997; Butscher and Müller, 1999) defined as “communities of current customers that are initiated and organized by companies” (Stauss *et al.*, 2001; p.8).

Wine clubs were borne in US, where they proliferate: in 2004 there were 800 wine clubs (Emert, 2004), but the number is still growing. Wine clubs owe their popularity to their relative impact on sales: from a survey carried out by VinterActive among 230 American wineries in 35 states emerges that 2006 wine sales through direct channels soared 58% over 2005, whilst the revenues from tasting rooms and events decreased of 18%. The total revenues through direct to consumer channels (clubs, internet direct mail, and telephone), account for 10% of all the wine sold in 2006, for a value of \$2.4 billion and by 2010 it has been estimated that it will reach \$4 billion; the percentage of wine clubs revenues increased in 2006 from the previous year of 66%, reaching a value of \$598 Million, whilst in 2005 the average annual growth rate was 8.8% (VinterActive, 2007). Whilst at the beginning wine clubs were diffused mainly among small wineries, for avoiding the three tier distribution system (Coppla, 2000), now also big wineries have their own wine clubs (Figure 1) and sales depends on the size of the wine clubs (Figure 2)

As the popularity of wine clubs grew in US, wineries have begun thinking to wine clubs as a new marketing tool for controlling wineries' brand identification and getting a higher level of flexibility in pricing strategy (Teaff *et al*, 2005). Creating a system of benefits and rewards could help wineries in achieving customer's loyalty. The evolution of wine clubs led to a differentiation in the services offered: since the very first segmentation of wine clubs performed by previous scholars (Penn, 2003; Berglund, 2003) no further researches have carried out with the aim of performing a categorization of the services offered. Furthermore, wine clubs offer different benefits to members on the basis of the type of membership wine clubbers have chosen.

2.2 Different Benefits for different Programmes

Wine clubs differ for the benefits offered and for the reward scheme they provide to their members. We have analysed 12 Northern California wineries' wine clubs⁵, and we have then analyzed the benefits and the membership programmes, and we have filled a list of benefit offered according to the type of service provided and to the tangibility or intangibility of the reward, and if the benefit is perceived in the long or short run. Intangible rewards can be split into two main categories: risk reduction and social. Under this perspective, a wine club educates its member to wine, by releasing free information about wine (risk reduction); at the same time a wine club is a good opportunity for a customer to feel as part of a selective environment, and to communicate and socialise with other people during events (social rewards). Table 1 sums up the classification of rewards we have performed on the basis of websites evaluation. Some of the wineries we have analysed offer more than a single wine club: the differentiation of wine clubs can happen on the basis of (a) price, (b) wine or (c) wine & price. Wineries can run wine clubs offering different level of membership, based on a price differentiation: membership fees vary according to the number of bottles purchased, and to the benefits received (a). When a winery provides different wine clubs according to the wine offered (b), it can happen a generic distinction between red and white wine (the red wine club), or a further distinction based on varietals (the Zinfandel or the Cabernet club). When

⁵ The wine clubs analyzed are run by the following wineries: Bonny Doon Vineyard, Chateau Montelena Winery, Kendall-Jackson Wine Estates, Ridge Vineyards, Cakebread, Chappellet, Charles Krug Winery, Marryvale, Cliff Lede, Cline Cellars, Chalk hills, Grgich Hills.

wineries chose for (c) benefits differ on the basis of the programme: it is one of the cases we have selected (the Merryvale winery), that offers a Premium and a Prestige wine club, and a Red wine club. The various choices that wineries have in wine clubs are shown in Figure 3. Table 2 and Table 3 show the number of subclubs and the benefits offered in the wine clubs analysed. Also benefits can be classified into different stages:

- there are *basic* benefits, such as the door shipment;
- *ordinary* benefits, such as complementary or free wine tasting or special events;
- *frequent* benefits, are discounts on second purchase, free newsletter or free wine tour;
- *special* benefits can include limited wines access, free opening house event or en première sale;
- *exclusive* benefits, instead, include all those benefits that are not very common in wine clubs, such as Complementary Bonus free Bottle after a long time membership or the possibility of keeping a member's wine collection into a designated locked space into the winery cellar.

The benefits offered define wine clubs positioning and perception.

2.3 A classification of Wine Clubs

If combining winery's image to the level of sales expected through wine clubs, we can obtain four different types of wine clubs. Wineries' image can be classified in high and low: with high image we refer to those wineries that are oriented to the high end of the market and whose products are perceived as very exclusive due to the high prices. The scheme we have used for classifying wineries is shown in Figure 4. The first category is *2nd line Wine Club* and includes all the wine clubs that are run by wineries with a high image in order to reach high level of sales: when the strong image of the companies is associated to a high quality wine the high end of the market, the company often introduces a second line of wines, by the which gaining a high level of sales. A second category is the *Exclusive Wine Club* that combines a high image of the company and low growth in sales. Benefits offered by those wine clubs are special features and aim to develop a loyalty to the winery's brand and products by creating an involvement in an exclusive environment. A third category, the *best offer wine club*, is promoted by all those wineries that don't have a strong image that aim to improve their sales. An effective strategy for all those wineries is targeting all those consumers that are attracted by the price of wine. The last segment includes the *premium wine club*; through *premium wine clubs* wineries with a low image work for improving their image and modifying customer's perception.

3. Wine Clubs: a Strategic Tool?

“Building customer loyalty is a business strategy, not just a marketing program. All businesses should seek to boost loyalty and maximize share of customer. The pursuit of customer loyalty is a perpetual one. It is more of a journey than a destination. There are no clearly-defined guidelines to make loyalty marketing approaches easy in any given industry. But understanding the background and evolution of loyalty marketing can help make the strategy definition process a bit easier. Reviewing some real-world examples of loyalty marketing approaches can help reduce the amount of time required to develop a loyalty strategy and can help marketers avoid some classic mistakes”.

(Duffy, 1998, p. 3)

When a business is facing a phase of maturity, or a crisis, the first thing managers think about is how to retain existing customers, and how to maximize their loyalty, especially when competition is fierce; in other words means cashing your cow as long as you can, as we have all learned with the BCG maxtrix. Under this perspective we agree with Duffy (1998) when

he underlines the strategic impact that every program that aims to build loyalty has. On the other hand the concept of Customer Loyalty has been seen as fleeting and vanishing: Diller (2000) sarcastically entitled a chapter in a book “Customer Loyalty: Fata Morgana or Realistic goal?”. There’s been a wide and vivid debate on the issue of achieving customer loyalty in the last 20 years (Diller, 2000), and many perspectives can be adopted. A major alignment with our object of study can be achieved if adopting the behavioural perspective in studying the issue of customer retention: this means that that “the customer feels close and committed to the organization and is accordingly willing to behave loyally, e.g. by recommending the supplier and repurchasing his products and services” (Stauss et al., 2001: 11). More specifically we are assuming the perspective adopted by Stauss et al.(2001); Gremler & Brown, (1998); Oliver (1997; 1999).

The research questions we want to answer are:

RQ1: Can wine Clubs boost Costumer Loyalty?

RQ2: Under what condition wine clubs can be used as a strategic tool for creating customer loyalty?

RQ3: Which of the typical traits of loyalty programmes wine clubs have?

Through our pilot study we want to give some enlighten on the above research questions.

4. Our Empirical Investigation

4.1 The Fonterutoli Wine Club

Castello di Fonterutoli is a historical winery in the Chianti Classico area, in Tuscany (Italy). The winery shows those typical traits of family firms (Carney, 2005) that led it to become one of the major responsible for the development of the local wine industry: the winery has been established in 1432 and the family is now at the 14th generation.

The mission of the winery is “to offer the wine drinkers and wine lovers the world over one of the best examples of a Chianti Classico and of Italian wine making in general” (from company website). The winery has experimented a rapid growth in the last ten years and at the same time an important investment policy has been done for developing new facilities: a new cellar with a capacity of 3,500 barrels is up to be finished, whilst other investments oriented towards enhancing the direct relationship with final customer have been done over the last years. Products are sold both on the national and international markets (they are exporting in more than 40 countries), preferring the ho.re.ca. (*hotel, restaurant, catering*) channel, but for the next years they are taking into consideration a major presence in the final consumer market by planning several initiatives such as they have already done with the wine club.

“With the opening of the Enoteca di Fonterutoli, we intend to cultivate a direct and exclusive relationship with our fondest friends and clients, in order to share with them the many interesting aspects of our experience as winemakers. Hospitality and professionalism are the values we offer to those who wish to become members of the Enoteca di Fonterutoli Club”: those words, that can be founded on the company’s website, in the Wine Club Section, describe clearly the philosophy breathing in this project.

The wine club idea was born in 2004 as a part of a marketing plan that aims to increase brand awareness in final consumers. At the beginning, the Wine Club was conceived as complementary tools of the Enoteca (the wine shop) and of the Osteria (the restaurant) in order to gather information about final consumers and visitors or to increase their brand awareness. The wine club idea was to cultivate a direct and exclusive relationship with friends and clients by a set of innovative services. The membership fee (200 euros) gives the chance to have special advantages such as monthly newsletter on club events, guided tour of the wine cellar, wine tastings, participation in exclusive events, purchasing products at special

conditions, reservation of bottles en primeur, exclusive promotional offers, access to their accommodations at special terms, special treatment at the Osteria of Fonterutoli with the right of guaranteed reservation. After about 4 years of activity the results are exciting. It has become very soon a powerful tool for promotion and wine selling activities. It has today more than 1500 members, half of them is from all over the world, and their purchase 50% more wine if compared to non clubbers. The need of processing information collected from the analysis of the wine club activity pushed the marketing staff to perform a customer segmentation: three different groups have been individuated on the basis of the product purchased and the average annual expenditure. This sort of segmentation will help in underlining different needs and designing effective marketing strategies and reward programmes. Rewards preferences differ among groups: a group can be attracted by economic advantages whilst others prefer exclusive services or special products or events, etc... Today the club is articulated in more than one level: there are regular members and “cavalieri” (knights), chosen on the basis of repeated purchase. Those can benefit of further advantages, such as the availability of special tasting in the new cellar where they can also storage their most precious and favourite bottles in a special area. Fonterutoli wine club was the very first to be introduced in Italy, and can be classified as an *exclusive wine club*, according to our previous segmentation: the company has a very strong image and did not launched any second label for improving sales. The mission of the company is developing customer loyalty and motivates the purchasing by sharing company’s philosophy and selling a strong brand that is part of the local tradition. By creating a deep awareness and improving customer’s knowledge, the company wants to outstand in the multitude of Chianti Classico brands.

4.2 The survey

In early 2008 we have submitted a survey to the 1.500 Fonterutoli wine clubbers. The aim of this research was understanding wine clubbers preferences. The winery needed to acquire some information about clubbers’ expectations and profile and the marketing office, together with the general management, thought that carrying a research in collaboration with the University of Florence on their wine club could be an effective solution. Two visit to the winery helped us in setting survey’s goals and the main research questions. Further information about the wine club and its role within the company’s strategy have been collected through two interviews, one with Francesco Mazzei, owner and general manager of the Fonterutoli winery; the other person interviewed was Leonardo Cappelli, the wine shop and wine club manager.

Once we have tested the survey, we set a plan for survey submission with the Marketing Office under the supervision of the wine club manager. The survey has been mailed to the clubbers, and today a first recall has been done, in order to collect 30 surveys that could be used for this specific paper. With the data collected we could perform a pilot study, that has provided us some hypothesis that hopefully should be tasted in further researches.

4.3 The profile of Fonterutoli wine Clubber: a description

The majority of the respondents have an age between 45 and 54 (Table 4), are male (96.6%), are married or live with a partner (83.3%), have a high level of education (63.3% got a University degree or a further specialization, as you can see in Table 5) and are mainly professionals or entrepreneurs (Table 6). The average expenditure is higher for those that have a higher degree of education (Table 7), are professionals or entrepreneurs, and have a higher knowledge about wine (Table 8, Table 9); 60% of the people interviewed spend each year more than 1,000 euros for purchasing wine; we can’t say, anyway, that there is a correlation between age and average expenditure (Pearson’ index is .163 and p-value is .389). The

clubbers interviewed buy wine mainly for home consumption, for dinner with friends, and in some cases for collecting: only in a few cases clubbers do buy wine as a gift.

We have asked respondents to rank their interest in the activities that characterise the Fonterutoli wine clubs; we have used a 4 point likert scale.

What emerges is that clubbers are very interested in getting discounts (56.7%), having access to cellar tours and wine tasting (44.8%), taking parts to events (33.3%), having the chance of getting exclusive products (32.1%), and being involved in en primeur sales (27.6%), whilst only the 3.4% is very interested in receiving the newsletter. 3.4 % of respondents are not interested at all in en primeur sales, and the 21.4% is very few interested in getting exclusive products, whilst the 3.3% says to be very few interested in getting discounts (see. Figure 6, Figure 7, Figure 8, Figure 9, Figure 10, Figure 11).

We can say that the clubbers of this exclusive wine clubs are baby boomers characterised by a very high profile and a clear attitude towards investing money in wine purchasing, but they keep an eye on the price of wines, and appreciate discounts; their knowledge about wine is pretty high, although a very few of them have ever attended wine tasting classes.

4.4 Before – After club: what has changed?

We have investigated to what extent clubbers' behaviour has changed since they have joined the wine club. We have focused on the following issues:

1. Change in consumption patterns after joining the club: do you drink more Chianti Classico? Do you purchase more Fonterutoli wine? Have you changed your purchasing behaviour (in terms of where you buy the wine)?
2. Improvement in knowledge: your degree of wine knowledge has improved?
3. Improvement in the involvement with the surrounding area (Chianti Classico): do you visit the Chianti Classico more often?

We can, under this perspective, understand the degree of indirect benefits received by customers, and how much belonging to a wine club can influence brand loyalty (measured in terms of repurchasing and retention).

The data collected have shown a positive impact of membership on wine knowledge and consumption and on the frequency people visit the Chianti Classico.

More in detail, for the 6.7% of respondents the degree of wine knowledge they have has increased significantly, whilst has just increased for the 53.3%; 40% of the cases examined says that the overall knowledge has not changed; we should take in account the high percentage of respondents that have declared to be wine experts.

For what concerns the consumption of Fonterutoli wines, 20% of respondents have not changed their wine preferences, but we can say that there has been a positive effect on consumption patterns, as for 69% of clubbers the consumption of Fonterutoli wines has increased, whilst the 10.3% has seen a remarkable growth in Fonterutoli wines consumption. The effects on other Chianti Classico brands cannot be estimated clearly as for the 48% no changes has been registered, whilst for the 52% the willingness to buy a Chianti Classico wine has increased. The majority of the people interviewed were "Chianti Lovers", and they did not increased the journey frequency in the Area: the 6.9% has increased the number of visit, and the 27.6% has registered a remarkable growth in the number of times they visit the Chianti Area. The results are shown, more in details, in Table 10,

Table 11, Table 12 and Table 13.

We have then performed the Wilcoxon Test on those variables that indicate the channels clubbers use for purchasing wine (specialised shops, retailers, cellars, wine clubs). From the analysis of the positive/negative values and the relative test (Table 14 and Table 15), it appears that the percentage of wine acquired through specialised shops has decreased for 11 respondents and did not change for 15. The clubbers did not acquire wine through retailers and confirmed this orientation also after becoming members: 5 of them decreased the percentage of wine they used to buy at supermarkets. The percentage of wine acquired through wine clubs, has increased over the time, as it was reasonable to expect.

5. Findings and Discussion

After having examined the data collected, we can outline some aspects that emerge. We must underline some of the limits of this research: as a pilot study, this research is based on a small sample, and we need to improve the width of the sample examined in order to generalise the findings; furthermore, the limited number of responses did not help in performing an effective quantitative analysis.

Some interesting issues emerge from the analysis referring to the research questions listed in par 3.

The first Research question aimed to investigate whether (luxury) wine clubs can improve customers loyalty. We can say that: Luxury Wine Clubs can boost Customer Loyalty by providing indirect benefits. Furthermore, Luxury Wine Clubs can boost Customer Loyalty by increasing purchasing and reinforcing those behaviour already existing and that characterize the clubber profile

We have seen how consumption patterns and consumer behaviour have evolved after joining the wine club. The linkage between clubs and loyalty has been exploited by many scholars: according to Stauss et al. (2001), clubs by offering benefits provide a superior added value service and achieve customer satisfaction and loyalty. Through clubs companies keep themselves in touch with customers for a considerable long time (Diller, 2000). Retention has a positive impact on company performance (Reichheld and Sasser, 1990). The mechanisms that lead to customer retention have been described by Stauss et al. (2001) and are shown in Figure 5: interacting with the customer can carry to a direct and an indirect retention, according to the benefit and the knowledge accessible to the members. For the Fonterutoli Wine Clubbers joining the club has meant reinforcing their brand awareness by feeling more involved in the company activity and philosophy: the indirect reward system performed by the winery seems to be appreciated by clubbers that definitely want to be part of a selected group and being involved in winery's activities.

The data collected showed the dynamics that reinforce the linkage with the winery through wine club: this consideration indirectly leads us to RQ2, that aimed to understand under which conditions a wine club can be considered as strategic tool for reinforcing consumers loyalty.

The Fonterutoli wine club owed its success to an already existing strong brand image: members already knew the winery and its products, but the membership gave them the chance of getting more involved with the area and fulfilling the higher steps of their needs scale, such as the belonging need. We can say that a luxury wine club should rely on the related winery image, and can only succeed if the perceived image is strong enough. It clearly emerges how the strategy followed by Fonterutoli in promoting the wine club differs from *second line* or *best offer* wine clubs. We can say that wine clubs should be designed on customers' profile to succeed as a strategic tool for achieving customer retention and loyalty. Anyway, a winery that wants to run its own wine club should consider the degree of wine experience (or knowledge) potential customers have. In this specific case, the high profile of clubbers, could

suggest that they are willing to pay a premium price for being part of a certain community and receive intangible rewards. Data, instead, showed that respondents are interested in getting discounts, and this is because they know quite well other substitute products, and they have understood that price is not the only signal for quality, as some theoretical study have showed (Lockshin, 2003).

We conclude saying that, referring to RQ3, this case has underlined that for a luxury wine club some of the general principle of clubs showed by Stauss et al. (2001) can be considered as valid.

Further researches should be hopefully carried out, in order to generalise main findings.

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Figures

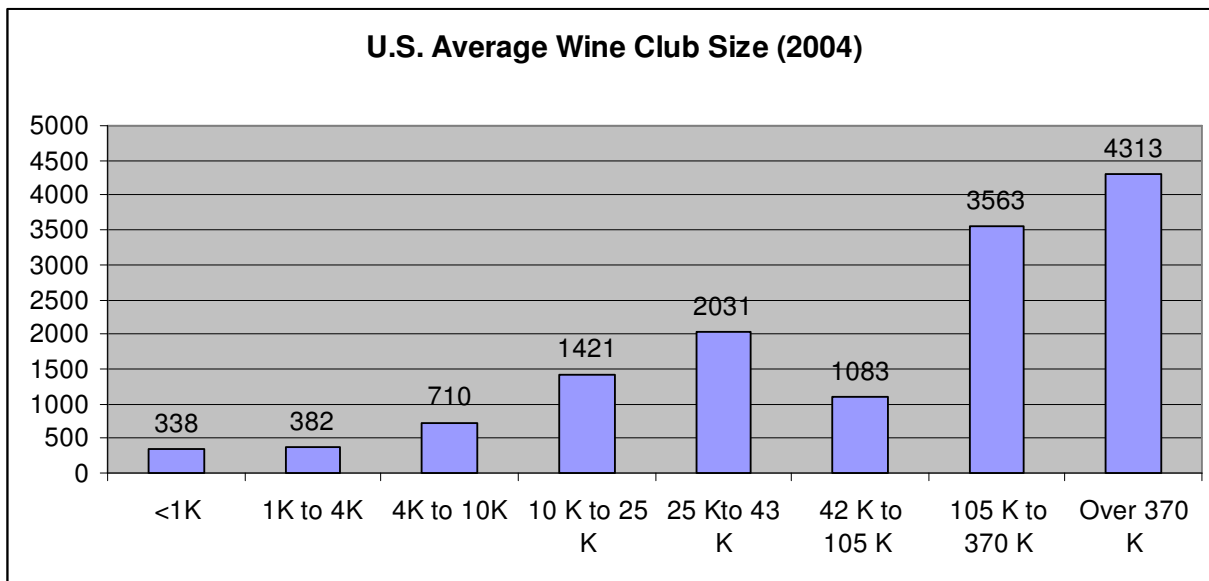


Figure 1, U.S. Average Wine Clubs, member per winery size (cases produced), source: VinterActive

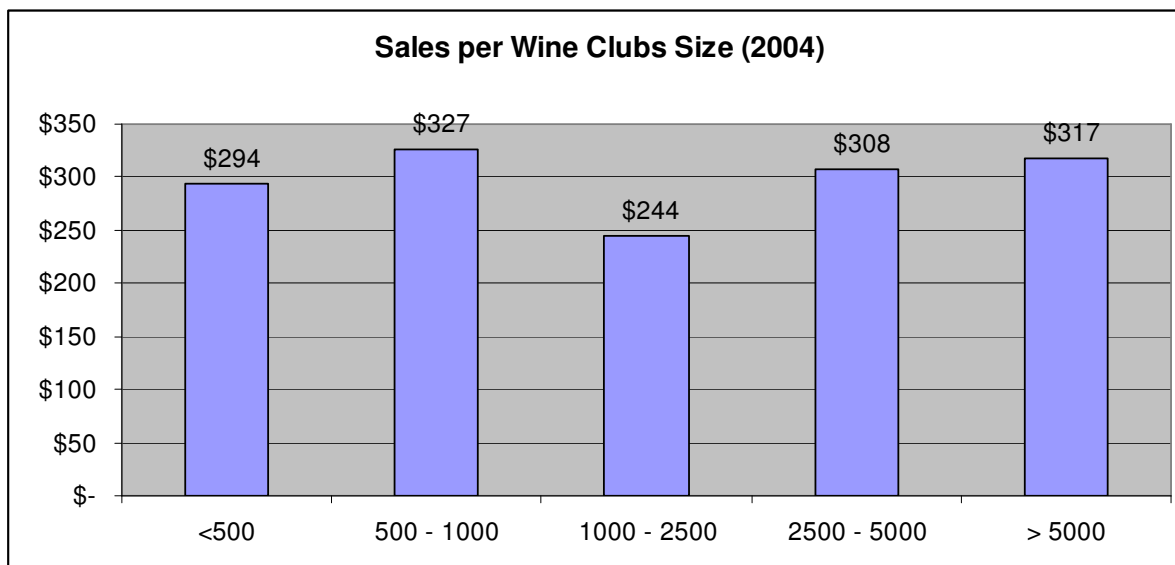


Figure 2, Sales (000 \$) per Wine Clubs Size (number of members), in 2004, source: VinterActive



Figure 3, A scheme for wineries

		Sales	
		High	Low
Image	High	<i>2nd line</i>	<i>Exclusive</i>
	Low	<i>Best Offer</i>	<i>Premium</i>

Figure 4, A Classification for Wine Clubs

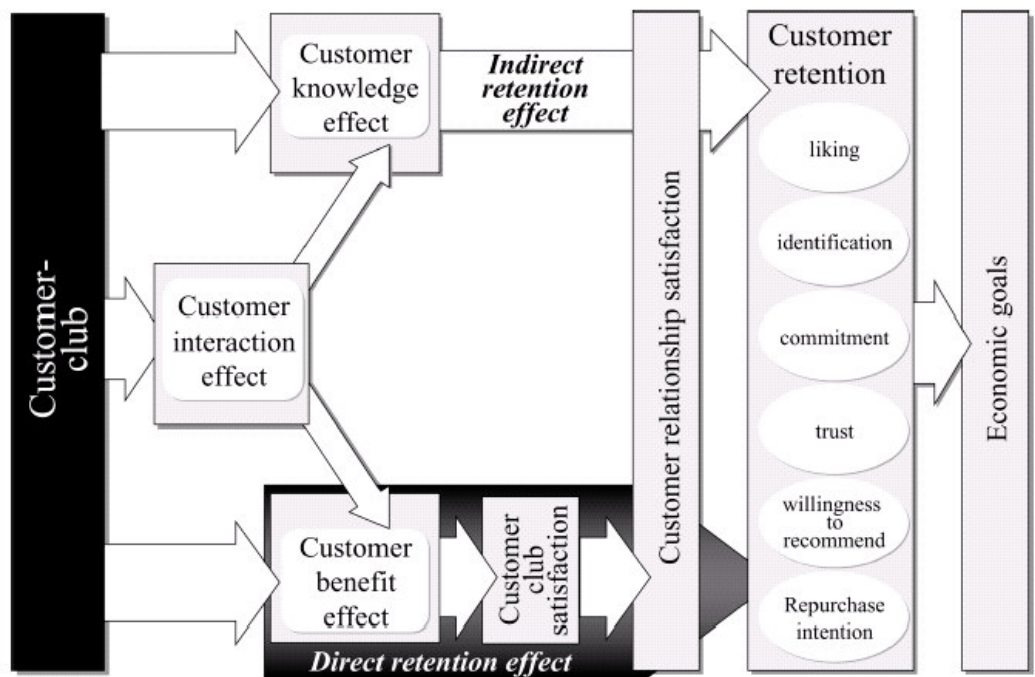


Figure 5, Customer Club Retention Chain (From Stauss et al., 2001: p.10)

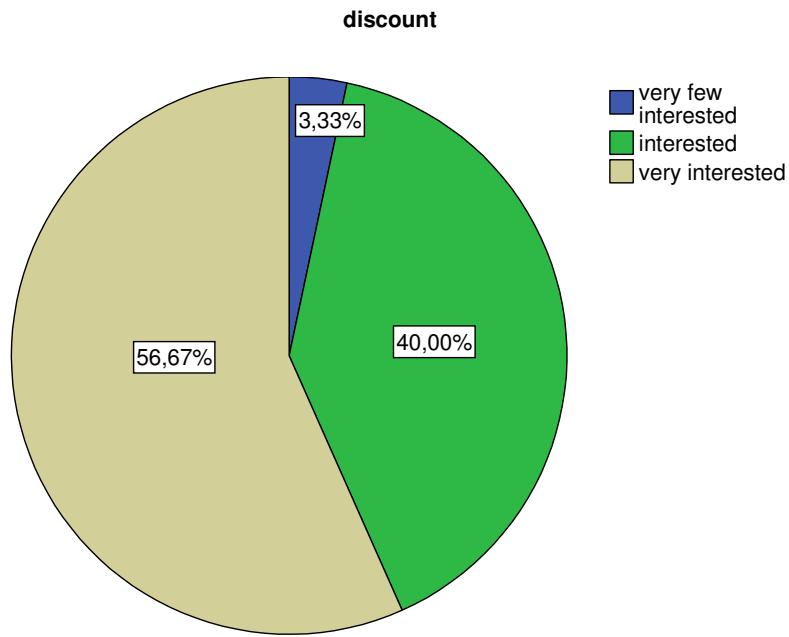


Figure 6, Discount interest

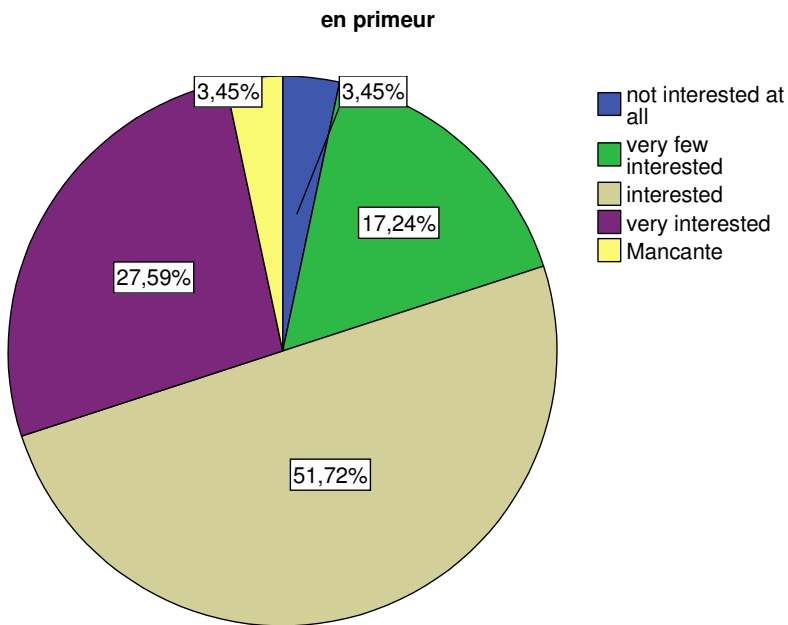


Figure 7, En Primeur interest

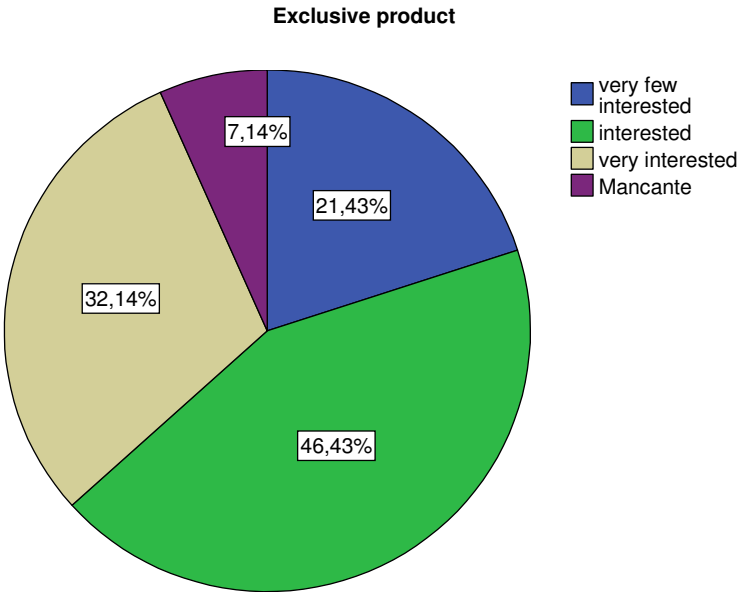


Figure 8, Exclusive Product interest

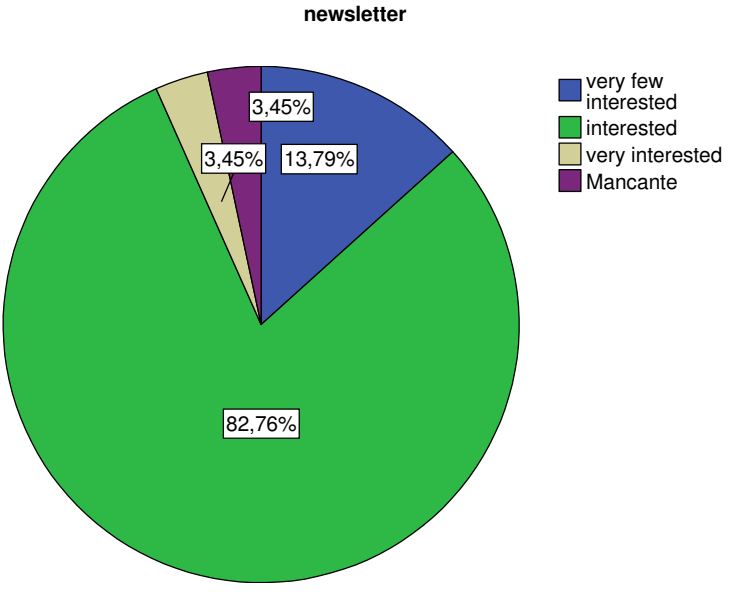


Figure 9, Newsletter interest

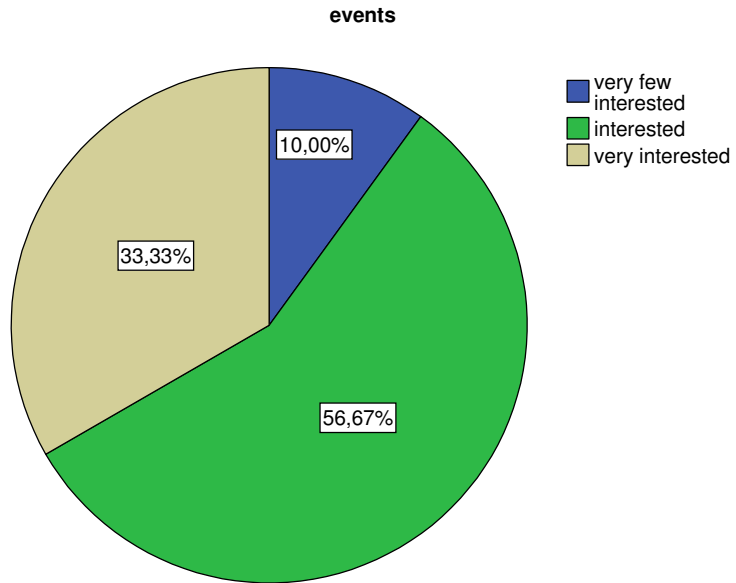


Figure 10, Events interest

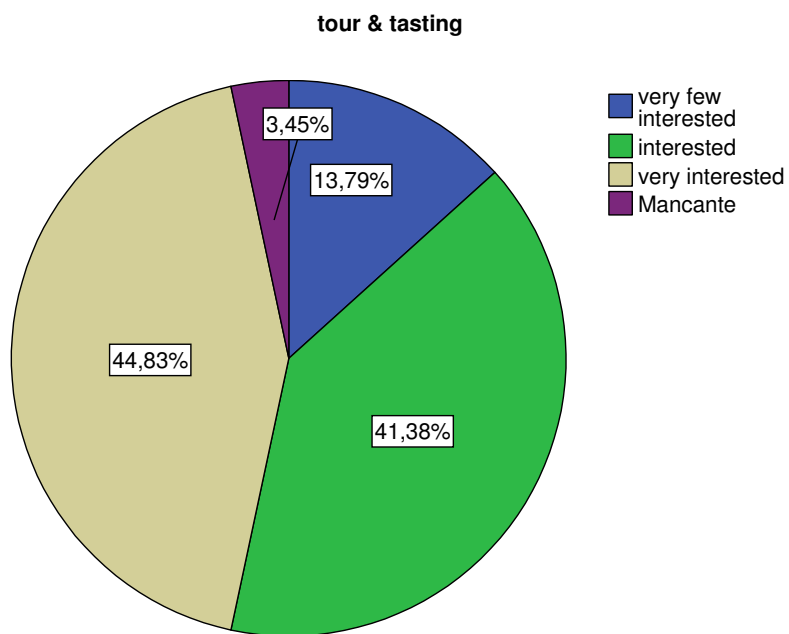


Figure 11, Tour & Tasting interest

Tables

Tangible	Save Money on purchase	S
	We ship at your door	S
	Wine tasting for free	S
	Access to limited released wines	S
	Discounted admission to our events	S
	Wine tour for free	S
	En primeur sale	S
	Save money when you buy our gadgets	S
	Receive our free newsletter	S
	Free membership	S
	Come to our opening house	S
	Intangible	Increase your knowledge about wine	S/L
Come and meet other people		S/L
Become part of our family		S/L

(S = short run; L = long run; S/L = short & long run)

Table 1, Rewards from wine clubs

2 subclubs	4
3 subclubs	3
4 subclubs	1
5 subclubs	0
6 subclubs	1
No subclubs	3

Table 2, Subclubs in the wine clubs website analysed

	Y	% Y	% N
Door Shipment	12	100%	0%
Complementary Wine Tasting/Free Wine Tasting	9	75%	25%
Events discounted/only members	9	75%	25%
Discounts on second purchase	7	58%	42%
Free Newsletter	7	58%	42%
Free Wine Tour	5	42%	58%
Limited wine Access	3	25%	75%
Free Opening House event	2	17%	83%
Free entrance for your friends	2	17%	83%
En première sale	2	17%	83%
Complementary Bonus free Bottle after a long time membership	1	8%	92%
Discounts Gadget	1	8%	92%
Occasional Gift	1	8%	92%

keep your selection in our cellar	1	8%	92%
Occasional Special Offer	1	8%	92%
Food & Wine tasting notes	1	8%	92%
Program award points	1	8%	92%

Table 3, The services offered by the wine clubs of the sample

	Freq	%	% cumulative
25 - 34	1	3,3	3,3
35 - 44	9	30,0	33,3
45 - 54	11	36,7	70,0
55 +	9	30,0	100,0
Total	30	100,0	

Table 4, Age of the sample

	Freq	%	% cumulative
Middle	1	3,3	3,3
High	10	33,3	36,7
University degree or +	19	63,3	100,0
Total	30	100,0	

Table 5, Education of the sample

	Freq	%	% cumulative
Professional	11	37,9	37,9
Worker (practical)	1	3,4	41,4
Manager	4	13,8	55,2
Clerk	4	13,8	69,0
Entrepreneur	6	20,7	89,7
other	3	10,3	100,0
Totale	29	100,0	

Table 6, Type of Job

Education	Average expenditure					Total
	100 - 200	200 - 300	400 - 500	500 - 1000	1000 +	
<i>Middle</i>	,0%	,0%	,0%	3,3%	,0%	3,3%
<i>High</i>	,0%	3,3%	,0%	6,7%	23,3%	33,3%
<i>university degree or ></i>	3,3%	3,3%	3,3%	16,7%	36,7%	63,3%
Total	3,3%	6,7%	3,3%	26,7%	60,0%	100,0%

Table 7, Education * Average expenditure

	Average expenditure					Total
	100 - 200	200 - 300	400 - 500	500 - 1000	1000 +	
<i>Professional</i>	3,4%	3,4%	3,4%	13,8%	13,8%	37,9%
<i>Worker</i> <i>(practical)</i>	,0%	,0%	,0%	3,4%	,0%	3,4%
<i>Manager</i>	,0%	,0%	,0%	,0%	13,8%	13,8%
<i>Clerk</i>	,0%	3,4%	,0%	,0%	10,3%	13,8%
<i>Entrepreneur</i>	,0%	,0%	,0%	3,4%	17,2%	20,7%
<i>other</i>	,0%	,0%	,0%	6,9%	3,4%	10,3%
Total	3,4%	6,9%	3,4%	27,6%	58,6%	100,0%

Table 8, Job * Average Expenditure

	Average expenditure					Totale
	100 - 200	200 - 300	400 - 500	500 - 1000	1000 +	
<i>low</i>	,0%	,0%	,0%	,0%	3,3%	3,3%
<i>medium</i>	,0%	3,3%	3,3%	13,3%	13,3%	33,3%
<i>high</i>	3,3%	3,3%	,0%	13,3%	43,3%	63,3%
Total	3,3%	6,7%	3,3%	26,7%	60,0%	100,0%

Table 9, Wine Knowledge * Average Expenditure

	%
unchanged	48,3
increased	51,7
Total	100,0

Table 10, Change in Chianti Consumption

	%
unchanged	65,5
increased	27,6
much increased	6,9
Total	100,0

Table 11, Change in the frequency Clubbers visit Chianti

	%
unchanged	40,0
increased	53,3
much increased	6,7
Total	100,0

Table 12, Change in the overall wine knowledge

	%
unchanged	20,7
increased	69,0
much increased	10,3
Total	100,0

Table 13, Change in the Fonterutoli wine consumption

		#
specialised after - specialised before	<0 (a,b,c,d)	11
	> 0 (e,f,g,h)	0
	= (i,j,k,l)	15
	Total	26
retailers after - retailers before	<0 (a,b,c,d)	5
	> 0 (e,f,g,h)	0
	= (i,j,k,l)	21
	Total	26
producers after - producers before	<0 (a,b,c,d)	10
	>0 (e,f,g,h)	0
	= (i,j,k,l)	16
	Total	26
wine clubs after - wine clubs before	<0 (a,b,c,d)	0
	>0 (e,f,g,h)	18
	= (i,j,k,l)	8
	Total	26

a specialised after < specialised before

b retailers after < retailers before

c producers after < producers before

d wine clubs after < wine clubs before

e specialised after > specialised before

f retailers after > retailers before

g producers after > producers before

h wine clubs after > wine clubs before

i specialised after = specialised before

j retailers after = retailers before

k producers after = producers before

l wine clubs after = wine clubs before

Table 14, Frequency, Test positive/negative values

	specialised after - specialised before	retailers after - retailers before	producers after - producers before	wine clubs after - wine clubs before
2 tales	,001(a)	,063(a)	,002(a)	,000(a)

a binomial distribution has been used.

b Test positive/negative values

Table 15, Wilcoxon Test Results

THE MUSEUM SYSTEM AND LOCAL GOVERNMENT FOR THE DEVELOPMENT OF THE AREA. STRATEGIC – MANAGERIAL PROFILES AND JURIDICAL REGULATION*

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1. INTRODUCTION

Although globalisation has created, on one side, positive effects on international markets, on the other hand, it has excessively arisen environment complexity levels where organizations work. The increase of mobility of goods and individuals has started competition mechanisms not only among enterprises, but also among areas that have claimed the need for finding competitive advantages in order to create value for reference *stakeholders*.

Even though late, also the Italian legislative system has addressed its regulation action toward a legislative simplification in which administrative procedures slowed down adjustment processes to new orientation. Those changes, which in the last years have repeated in limited times, particularly influence the demand of goods and services. At this rate, areas global competition has featured itself as a government action which is able to guarantee technological and importance services able to fully satisfy the global user.

From time immemorial, Italian territory boasts an important culture and an outstanding cultural endowment that is not always appraised, in other words it is not emphasized to the point that it can be seen as a competitive advantage for reference areas. 2007 records highlight a remarkable affluence of cultural tourism in Italy from overseas, which is specifically distributed in this way

Table 1 – Cultural tourism in Italy

DESTINATION	VISITORS	TAKINGS (€)
Colosseum	4.441.453	29.730.959
Pompeii Ruins	2.545.232	20.468.198
Uffizi Museum - Florence	1.615.986	8.058.488
Florence Academy	1.286.798	6.642.398
Florence Museums and Boboli Gardens	776.373	2.405.662
The Royal Palace at Caserta	657.375	1.390.889
Villa d'Este at Tivoli	554.320	2.161.749
Egyptian Museum - Turin	501.568	1.267.098
Museum and Borghese Gallery - Rome	485.548	2.173.373

Source: *Our elaboration on 2007 tourism and finance statistical data*

Table's data highlight how Italy attracts foreign countries; this happens because of the cultural endowments which our country boasts of. In the face of this proof, however, it comes up a negative data regarding the Italian museum customer/user's satisfaction. Many academic, field, daily chronicle researches detect this data². This problem, therefore, does not show so

* Although this paper comes from common observations, it is to ascribe to Dr. Mirko Perano for paragraphs 2, 4, 5, and Dr. Federica Pennafina for paragraph 3.

² Among the most important contribution see, RONCACCIOLI A. (1996), *L'azienda come museo*, Cedam, Padova; PRONTI S., BOCCENTI L. (1996), *Il museo tra istituzioni e azienda*, Il sole 24 ore, Milano; BAGDADLI S., (1997), *Il museo come azienda*, Etas, Milano; ANTINUCCI F., (2004), *Comunicare nel museo*, La terza, Roma

much from the lack of cultural resources which, indeed, resulted to be numerous and diversified, but rather from the inadequacy of services offered compared to such an endowment which is highly requested from the global tourist. In fact, what comes up is a museum system which is not able to fill up the existent asymmetry between requested quality of service and user's demand (although it is characterized by a high degree of variability). The slowness to adjustment to this parameter makes our museums "ancient" structure where user visit the culture without, however, finding satisfaction from the services offered. The opportunity of increasing, however, turns out to be evident to the point to consider this dissatisfaction a cost opportunity that weights, moreover slow down local area development and consequently the national one.

Government area policies could have an important role in this evolutionary dynamic, and perhaps they put the same area, to be more precise subjects that are in charge of its administration, in a responsibility position toward the community.

2. HISTORICAL ASPECTS OF THE DEVELOPMENT OF THE MUSEUM SYSTEM

The museum system in its most general meaning, shows a swinging historical trend the origin of which date back to the end of the 19th century, when in the city of London the first successful event of the modern age was organized: the Great Universal Exhibition in 1851. The crowd which flooded into the nearby fields, was attracted not only by the plenty of goods displayed in the Crystal Palace³, not only by its artistic production linked to the industrial establishments existing at the time, but also by the innovative and galvanizing services which that structure could offer: a restaurant and toilets. From then on "the art had started moving"⁴ bringing to light innovations and extravagancies which up to then had been concealed.

Some years later this trend spread all over Italy, arousing curiosity and interest which soon caused Parliament to impose, between 1874 and 1876, after the increasing success of the museum events at the time, an entrance fee to museums. That did not discouraged the so curious Italian people, but even more the Minister for the Cultural Heritage of the time, Mr. Ruggiero Bonghi, could realize that from the introduction of the entrance fee, the number of visits to the museums had increased. So the so called famous *tourniquets*, that is devices for facilitating the count of visits and takings, were set up.

Museums become more and more important as time goes by; they are defined as "*the place of forms, it represents their localization, it determines their range, it shows their size, their life and duration, their propagation [...]*", it is "*an instrument which can be only directed by the historical competence, with the help of an hermerneutic guide. After having satisfied that absolute and imperative necessity which only the silly butlers of a nonchalant or consumer society can neglect, the management of museums also emerges: from the social and economic management of the virtual relationship with town and the civilized society, to the deliberate "presence" of the old and however very modern instrument which everyday imposes itself, still today, as one of the biggest enterprises of the social community*"⁵.

The interconnections between politics and museum have over time danced a frantic dance of love and hate, among privatizations sometimes criticised because of the existing peculiar

³The Crystal Palace was strongly wished by the prince Albert of Saxony – a famous British prince– just for this event. One of the characteristics of this structure, which have recently inspired a lot of post-modern constructions, besides that of being built from iron and glass, is that over the years after its inauguration in 1851, it was disassembled in the area of South Kensington (Hyde Park), and then it was wholly reconstructed again in another area (Levisham) in 1854.

⁴ EMILIANI A., (1996), "Presentazione", in PRONTI S., *Il museo tra istituzione e azienda*, il sole 24 ore, Milano.

⁵ EMILIANI A., (1996), *above quoted*, page IV.

management systems, for example, borderline between the sector of cultural services (which could have never had any income) and that of the manufacturing industry (naturally oriented to make profits). Those years showed the fallaciousness of museum privatizations which mostly ended with the loss of the specific culture of a territory.

The modern Italian museums show an endless variety of problems linked to the rigidity of their administration method which limits the decision making power of the director of the museum, then practically limiting the involvement of the personnel in the business strategy. The financial aspects also limit the Italian museum to a marketing research on the expectations of the customer/user of the museum services and the personnel, often feeling himself engaged in a monotonous *routine*, is very often devalued and loses any affection for his work.

Guidance sessions on the museum culture and activities arousing the old enthusiasm could certainly revive that curiosity which now seems to concern museums only for the appeal represented by those historical-cultural values which specially the Italian territory can boast.

3. IN FORCE RULES AND GOVERNMENT FORMS OF MUSEUM

Regard the juridical regulations which pertains organization and procedure of the museum functions, it is needed to premise that a museum is different from other cultural realities (theatrical, musical and/or prose ones), provide that it does not show peculiarities of a field organization (for instance we might think about the same organizations which are in charge of the activities previously mentioned); In addition, at the same time, it has a particular regulation which governs functions of which the organization is featured of, as it happens, for example, for natural parks.

Although old regulating conjectures of reference were essentially featured for the static regulation of the museum system, particularly regarding activities for acquisition, cataloguing, loan, exposition and properties safety kept in museums, only recently there has been the ratification of regulations which highlight a greater attention to managerial profiles of museum structures and the quality of service concerning to it.

Because of the numerous and heterogeneous nature of these legislative regulations, it is useful a classification of them (on the basis of the object and goal) in three fundamentals categories:

I) a first group of norms allow the creation of integrative and coordination forms among museums which belong to different ownership, in particular, local and national museums, likewise the inspiring principle which deals with the coincidence between “legal ownership” and “management” of the subsidiary principle, according to the management of national museum has been moved to Regions, Provinces, and Municipal Districts. In this particular case, the Department of Cultural Properties can decide to run the great national museum network, such as elements which characterize the cultural history of a country, and give to local institution the management of service of remaining museums⁶.

In this perspective further dispositions and execution normative extended the possibility to entrust to private subjects, in particular “cultural and banking foundations, society, consortium constituted for this purpose”, the management of museum public services and, moreover, they allowed the peripheral organization of the Department of Cultural Properties to entrust to a public subject the management of properties and the connected museum services.

⁶ On this point the article 150 of the act nr. 112/98 foresees the constitution a joint committee, composed by five representatives of the Department of Cultural and Environmental Properties and five representatives of territorial organizations with the task of finding museums and other national cultural properties which management is given to the State and to those which the management has been transferred for, according to the principle of subsidiarity to Regions, Provinces and Municipal Districts.

II) A second group of norms is addressed to endorse sponsorships as well as to facilitate the promotion (for instance tax breaks) and the supply of privatistic financing to museums and other cultural foundations.

A particular interest for museum is given by the regulations of non-lucrative social useful organization (ONLUS), which subjective requirements are:

- a) not to have a lucrative aim
- b) to carry out an activity which has an effective social praiseworthy deed
- c) to have an associative structure with a democratic core

It appears evident that the cultural and museum activity is fully entitled to be part of those that legitimate the institution of a non-lucrative social useful organization (for instance a foundation), which – according to the law 534/96 – could use significant national contributions and fiscal benefits that are provided for cultural institution, due that among fields where the mentioned organizations can operate there are tutelage, promotion, evaluation of historical and artistic interest things, as well as the promotion of art and culture (art. 10 l. n. 460/97).

III) A third group of norms connect with the process - which define the most recent legislation – of deep decentralization of administrative competences (from State and from Regions in favour of Municipal Districts and Provinces).

The transfer of function from centre to periphery is addressed to give to Regions - which keep, essentially, addressing, regulation and financing tasks, as well as qualitative standard decision - and to local organization all administrative functions which pertaining the cure of targeted areas interests, except those clearly assigned to the State⁷.

Management, valorisation, and promotion activity is articulated in the same way of normative dispositions of March the 31th 1998 nr. 112 act which “Bestow of State functions and administrative tasks to regions and local organizations because of the execution of paragraph I of March the 15th 1997 law, nr. 59”, in this distribution of competences:

- activity of promotion due to Provinces;
- activity of valorisation and management due to Municipal Districts

The latter normative has foreseen the possibility to give to local institutions the management of some national interests museums and forms of coordination among different institutional levels in order to safeguard and use cultural properties (*see art.154 and 155 quoted act*).

All services whose management is carried out by Municipal Districts and Provinces are defined publics under national regulations on “*Local Autonomy Ordinance*” - law nr. 142 of June the 8th 1990 - provided that they have as purpose properties and activities and, coevally, employ the aim to promote an economical and civil development of local communities, and realize a social aims. At this rate, we could mention public services and the majority of activities and services supplied by local territorial organization⁸.

It comes up clearly the importance of the choice aimed to establish whether to organize a museum as “proper activity of a local organization”, to be more precise under the form

⁷ It is needed to point out that the “museum subject” and “cultural properties” has not been object of decentralization, essentially because the regulation of cultural properties has been among national competence subjects (nr. 59/97 law), and also because local organization systems and regions have already received regarding competence in occasion of previous functions.

⁸ As service we mean “single performance or set of performances carried out in order to favour who asks for them and executed by subjects who have enough ability to satisfy received requests”. As it is stated by ANSEMI L. (1997), “I servizi pubblici di interesse nazionale in un contesto competitivo”, in *Azienda pubblica*, n. 3-4, p. 287. Cfr. inoltre, NORMANN (1985), *La gestione strategica dei servizi*, Etas libri, Milano, p. 53. Affiancando la parola “pubblico” a tale concetto si identificano “servizi che presentano l’attributo dell’elevata indispensabilità per gli utenti e rivestono interesse pubblico in quanto soddisfano bisogni largamente sentiti dalla comunità degli individui considerati sia singolarmente, sia nelle organizzazioni economiche”. PIVATO G. (1985), *Le gestioni industriali produttrici dei servizi*, Utet, Torino, pag. 2

“public local service”, with the different springing consequences under the profiles of the effects and juridical reference opportunities⁹. As a matter of fact, in case we choose the organization of a museum as form of “public local service”, the local organization has to carry out only an addressing, surveillance, programming, and controlling activity, because it has to give service management to a proper autonomous structure, whereof generally possesses the strategic control¹⁰.

In particular, the service contract has to indicate service fulfilment way and length, qualitative targets, fare determination way and, therefore, all economical aspects of the relationship and rights of users, as well as checking power of the local organization. It should also perform a determining function of connecting local organization cultural policy to managerial targets of in charge subjects – inside a system – to assure field government and management¹¹.

By qualifying the management of a museum as “public local service” there is the possibility to adopt particular organizational solutions, of a privatistic nature, from which come a larger managerial agility. In particular it is possible to create:

- a) A foundation that – in the specific case of the museum (for instance cultural foundation)¹² allows the mixed participation of publics and privates subjects, allowing a privatistic action both of organizations which own museums and works exhibited and preserved in them (Provinces, Municipal Districts, Department of Cultural Properties, Religious Institutions) and in organizations and society statutely responsible to step in, even financially, in cultural and cultural properties field (credit companies, banking foundations, commercial society, international cultural foundation)¹³, Because of their nature and composition which does not allow them to rely on their proceeds, it should be given to foundations activities related to preserving museum networks that need a relevant and constant funding.
- b) an institution, as instrumental organization of the local organization, provided with a distinguished juridical personality in regard to it and essentially addressed to social content services management¹⁴.
- c) a joint-stock company, which has to have necessarily a mixed character in the sense that local organizations has to be put side by side with private and extra-local public

⁹ It detects that, despite fundamental services, it is difficult to identify strict modality of classification of public service, which at this rate can set up as “opened system” which expands or contracts, in space and time regard State orientation, and in regard interests and need of the administered community.

¹⁰ Legislator’s aim is to have a different programming and addressing activity from the management one, and to avoid that this separation could get museum management out of channel of public cultural functions. It is foreseen that the fosterage of the service could take place on the basis of an appropriate service contract, in which local organization set conditions concerning the correct function and aimed to pursue legislator’s found general targets.

¹¹ See, GOLINELLI G.M., (2005), *L’approccio sistemico al governo dell’impresa. L’impresa sistema vitale*, Vol. I-II-III, Cedam, Padova; BACCARANI C., “Qualità e governo dell’impresa”, *Quaderni di Sinergie*, n. 7, 1991.

¹² Recently, many public organizations operating in the field of culture have changed into cultural foundations. It is possible to remember, for instance: Venice Biennial Exhibition; organizations which operate in the musical field (nr. 367/96 act), the National School of Cinema (nr. 426/97 act), the National Institute for Ancient Drama (nr. 20/98 act) etc.

¹³ It detects that, additionally, the foundation, operating in sectors provided by 460/97 act which contains the “Rearrangement of non-commercials local organization tributary regulation and non-lucrative social useful organizations” can use the consistent fiscal benefits. See, RIVETTI G. (2004), *Onlus Autonomia e controlli*, Giuffrè, Milano, pag. 3 ss., 77 ss..

¹⁴ In front of the clear separation of institution role from that of the organization, it may be possible to find a managerial responsibility, which is exclusively of competence of the institution, and a political responsibility, which directly pertain to the local organization. Additionally, it detects that for institution is foreseen an expressed territorial limit since they can run public services only in the territorial field of the organization which is the holder of the service and in the associative structure of local organization which they belong to.

associates (in other words public organization of national and regional character), or rather pertaining to territorial wards different from that where local organizations prevalence associates insist¹⁵.

4. MUSEUM SYSTEM AND LOCAL GOVERNMENT IN THE AREA DEVELOPMENT

The museum system may be considered, together with other systems that produce in particular area a socio-economical value, as an unlimited source of competitive advantage and may represent a flywheel for the economical development of the same area, from a touristic perspective point of view, and as a resource attraction (human, financial, economical-productive etc...). Thanks to this particular configuration, it detects different successfully territorial realities both national and foreign which highlight a set of common features among them: a right combination of public and private participation, a high technology services offer, prominently cultural endowment of museum systems and an area government that favour territorial cultural development through specific strategic actions. On the whole, this last point turns out to be of great importance in so far as object of numerous interdisciplinary studies which, actually, result to characterize this work as well.

In virtue of the efficiency, subsidiarity principle (which we talked about above) particular competence connected to economical development policies are delegated to local organizations competence. The subsidiarity principle, in fact, is finalized to give efficient responses to the community, even in regard to public or mixed managed museum systems (respectively horizontal and vertical subsidiarity). In this sense it might be possible to consider useful that local organizations should consider without doubt museums as local services through an administration careful to adjust less bureaucratic (in virtue of the subsidiary principle), customers/users demand of museum services. Everything considering that, although the museum may not be completely compared to the enterprise system (because of its more articulated structure), it is at least appropriate that its government (or its modus operandi in action) adjust itself to general efficiency, efficacy, cheapness criteria (always similar to a wider concept of quality) to adopt in all administrations which supply, directly or indirectly, services to the citizens¹⁶. Although this principle of subsidiarity turns out to favour mainly those more virtuous administrations and careful of taking care of local evolutionary dynamics (in the sense of improving and favour the offer of service already existing), in the present reality it does not produce the expected effects.

Nowadays in Italy, the service-producing sector, with a particular reference to the cultural one, appears a system that makes understand a significant improvement possibility. The set-up picture, that in first place could highlight a point of weakness of our system, is rather to be intended as an opportunity on which is possible to create that added value which far back constitutes a cost opportunity¹⁷ onerous for the community and reference areas. In the place where this cost is quantified and evaluated through targeted local government policies, it is easy to assume a background where are highlighted considerable opportunity of development which derives from competitive advantages founded on *country specific* levels able to create a new value for the area.

¹⁵ The intrinsic reason to make appeal to this managerial form comes from the precise purpose of realizing a participation of more subjects and capitals (private and public) in the management of public services where the specification of associates is based on the ensured subsistence of common intents and interests (see art. 2247 c.c. art) with every resulting advantage connected to the use of this corporate model.

¹⁶ See BAGDADLI S., (1996), *quoted work*.

¹⁷ The missed takings, although on the basis of hypothesis, constitute a cost, defined by literature as cost opportunity which is not only to be considered in reference to the particular museum structure poor of services, but also on the development which the area has failed to reach because of a less developed cultural tourism.

In virtue of the rich presence on the Italian territory of unique and inimitable distinctive characters as history and cultural resources, target of entities in charge of the area administration should be that of improving at its best those points of strength through the constitution of a governed network¹⁸ of relationship that interconnects, inside a strategic dynamic¹⁹, the moment of definition of the aimed targets as well as the realization of the same ones, in order to actively involve all area territory actors both public and private, with the intention of drawing a virtuous local evolutionary path.²⁰

In order to favour this dynamic, it could be useful to detect a satisfactory balance between museum system quality and cultural/economical local resources valorisation²¹. In the matter of this latter point, it is needed to duly consider that high value of existing heritage in museums tends to attribute to local resources a cultural valence larger than the reference territorial dimension, to the point to ask wider breathing strategies. At this rate, however, it could be counterproductive to consider that a similar relevance determines a not fully use of local resources both from a managerial and organizational point of view.

When you think about it, in order to attribute functionality to the museum system intended in its complex it is needed, on one hand, to specify the role to recognize to organs in charge of area government (as source of expression of place general interests), and on the other hand to define the managerial model which is contextually more appropriate (in a picture of the offered normative option of the in force legislation) to configure and assign dynamism and efficacy to the entrepreneurial web in the pursue of targets²².

Part of the doctrine considers the “quality of service” through the attribution of an advantage and/or of a particular attention to the customer²³; others, indeed, think “total quality” as vision of a system according to every individual feels in charge of the mission of being supplier of a

¹⁸ PELLICANO M., (2004), *Il Governo Strategico dell'Impresa*, Giappichelli, Torino, pp. 32.

¹⁹ The strategic dynamic may be structured in logical stages, temporarily separated and set according to a rational and sequential logic of input-output: conception, definition, accomplishment and strategic surveillance. PELLICANO M., (2004), *quoted work* p. 196. This approach follows a synergic type of logic between the theoretical aspect of the Strategic Dynamic and the reticulate undertaking of a vital system. This undertaking foresees that a network is endowed with a border on which insist an operative periphery (module and connexion) and a centre. This latter may carry out a double function: pure coordination (sistemistic) or addressing and driving function (evolutionary dynamic supervisor). It is in this specific case that the centre, in reality Government Organs, profitable contributes to “change relational dynamics to generative processes of value”, it is this case specifically that the network (because endowed of a government – GOs) may be considered a vital system. GOLINELLI G. M., (2000-2005-2008), *L'approccio sistemico al governo dell'impresa*, Cedam, Padova.

²⁰ This organization reality could be favoured by the creation of a relationship model which is not based on the hierarchical principle, indeed on a participative one – a reticulate type one - where every actor, holding its own autonomy, creates a social network whose strength is given by the will of reaching the final goal (in fact, the constitution of relationships is directed to the expressed target), which is supported by an high communicative intensity which constitutes the needed profile for the realization – in a positive sense – of “being in the network”. See MENEGUZZO M., RICCABONI A., SICCA L. M., “Assetti istituzionali ed organizzativi”, in AA.VV., *La gestione e la valorizzazione dei beni artistici e culturali nella prospettiva aziendale*, AIDEA, CLUEB, 1999, pag. 89, and following. See also FREY B.S., POMMERHNE W.W. (1989), *Muses and Markets. Explorations in the Economics of the Arts*, Basil Blackwell, Oxford.

²¹ BACCARANI C., “Suggerimenti sulla via della qualità”, paper presented with BRUNETTI F. e CANOVA G. al Convegno AICQ *Qualità: cultura per il 2000*, Bologna, 15 maggio 2000; BACCARANI C., “Il cammino della qualità”, paper to the conference *L'approccio alla qualità nell'Università. Il contributo della carta dei servizi*, Verona, 28-29 maggio 1998.

²² Cfr. SOLIMA L., (1998), *La gestione imprenditoriale dei musei. Percorsi strategici e competitivi nel settore dei beni culturali*, Cedam, Padova.

²³ VALDANI E., CARU' A., (1997), “Customer satisfaction: un punto di avvio per la reingegnerizzazione dei processi di erogazione dei servizi pubblici”, in *Azienda Pubblica* n. 3-4.

service to the customer and to have the firm will to satisfy it²⁴. Catching sentences, *slogans*, have all along characterized approaches to quality. In this matter, managerial literature gives a varied number of models endowed with a descriptive character which highlight generalization that are not always supported by suitable empirical proofs²⁵. In other cases, on the contrary, they show a normative and prescriptive tone both when they give guide or manuals for the application of ISO norms and when they propose the *Total Quality*.

In step with the evolutionary system of the most known organizational theories – for instance the concept of *one best way*²⁶ whose development may be found in the more modern *Contingency Theory*²⁷ – even the concept of quality may be considered no longer as a unit and global paradigm rather as an aggregate of numerous units which tend to achieve significant levels of usable quality, putting emphasis before on procedural and instrumental perspectives, then on those ones related to an entrepreneurial culture and behaviours modification.

It still lacks a final consideration about relationship between the theme of quality (in its different aspects) and managerial theories which offer to system territorial government techniques and instruments able to interpret the role of quality in an intersystemic or relational level among business enterprises. Perhaps, the reality is that as far as the concept of museum services quality is concerned, considered from a socio-economical regulation point of view, there is still a lot of work to do both on the *on field* aspect (improve the culture and govern orientation of museum system to quality) and on the *on desk* one (implement and improve existing instruments and techniques).

The arguments so far discussed, unfortunately, are the proof of an unequivocal data which emerges from researches carried out on the field: consumers/users (national and global) of museum services are unsatisfied with the quality of services offered by Italian museums.

We cannot get out of observing that the inability to evaluate resource deflations our cultural heritage in regard to its real value; this slow down the development of single areas (and not the entire Italian system) and it negatively weighs on the Italian museums system international comparison. Similar problems could be acceptable, because they are easier to administer, if they limit themselves to create a depauperation of local cultural resources with the reference to a limited area (local or regional relapse maximum), but unfortunately this is not possible because of the generalization on a national scale. Moreover, there is to consider the ease with which the customer/user of the museum service is able to put on a comparison, in short times, similar structures (for instance museum and archaeological structures) even if in different parts of the world; globalisation's implications, therefore, by favouring the mobility of people determine, in fact, a comparison to the detriment of those systems less organized that offer services with a less qualitative content.

5. CONCLUSIONS

The picture emerging from this work is clear. Our researches show either the huge cultural heritage that the Italian museum system can boast compared with abroad, or a management and an organizational approach of the museum system which does not help enhancing, but

²⁴ The term “quality” is, perhaps, one of the larger used in the entrepreneurial and managers language, but it is also the more ambiguous and less defined. According to somebody it is simply a “well done job” while for others is the “certification”, in other words the conformity to norms and, therefore, a guarantee form of respect of a certain numbers of procedures.

²⁵ The majority of surveys have predominantly a descriptive nature, often centred on one or few cases of success (of Total Quality or of Certification) more celebrated than inserted in a coherent theoretical picture.

²⁶ TAYLOR W. F., (1911), *Principles Of Scientific Management*, Harper & Brother Publisher, New York; TAYLOR F. W., (1947), *Scientific Management*, Harper & Brother Publisher, New York.

²⁷ LAWRENCE P.R., LORSCH J.W., (1967), *Organization and Environment. Managing Differentiation and integration* - Harvard Graduate School of Business Administration, Cambridge.

rather devalues such cultural endowment. This decrease in value is also helped by the direct management by the local body which distinguishes itself for not being specialized in performing this function and that is detrimental to the services provided. A museum system is normally meant for guaranteeing high quality *standards*, as it is expected by the public (*front office*); therefore it should also guarantee an adequate quality level of the operations carried out inside it (*back office*). Then, how such approach could be possible without a suitable training of the individuals appointed for managing a museum with such purposes?

A direct consequence of this is a dangerous spiral which mines the Italian tourist cultural development; and that because legislative measures hardly ever regulate the management of the museum systems in a univocal, standardized way, and sometimes they are interwoven with autonomies, subsidiarities and ministerial restrictions which aim at identifying more than one subject for the management of a museum. Being the condition of the Italian museum system as that we have above explained, that is mostly characterized by museums subject to ministerial restrictions and then to a little or absolutely non flexible and non proactive management, we feel the need for definitive regulations fostering the growth of the Italian museum system and then the development of territories. Within such a scenario which imposes restrictions and rules, we should probably reinterpret the conception of network (if existing) among the actors of territories, and get it readier to accept the information coming from the market (*bottom-up*), more positive and proactive, according to the acquired information, towards the regulating bodies, in order to push them to issue such restricting measures and rules according to environmental changes. The following “shower” effect (*top-down*) would be the base for a systemic regulation producing growth opportunities for the single units inhabiting the territory and for considering, not merely the privatization of museums, even if with a controlled intervention, but the need for a managerial management of museums, appealing to the strong points and reducing the weak points.

Therefore such actors should probably consider a more managerial management of the cultural system, since that now it seems to be inadequate and is a bar for the citizens in the way of the development of their territory. As above said, the intervention of private subjects helping to change, even if with due caution, the approach method to the management of museums could be positive for measuring the satisfaction of the public about the services enjoyed.

The risks deriving from such management are caused for example by a condition in which the cultural resources concentrated essentially on museums, represent a strong and strategic factor for a territory, and for that the bodies appointed to manage them could lose their control on the resources themselves in favour of solely entrepreneurial and economic interests, then upsetting the nature of the cultural resources available²⁸. On the other hand, the opportunity of fostering the launching of economic enterprises and the inflow of private capitals could cause a substantial abdication from their institutional tasks by the representative bodies of the communities to which museums belong.

It is also necessary to consider the fundamental contribution which the entrepreneurial and managerial culture could offer to the system as regards the financial, managerial,

²⁸ The announcement of the institution of a general direction for museums and the will of appointing, after an international competition, a manager having the task of coordinating a project of global relaunch of the Italian museum system has been recently published (source: *Il Sole 24 Ore*, July 16th 2008, nr. 195). In this regard, the Ministry for the Cultural heritage and activities (Sandro Bondi) has underlined how the autonomous managements represented by Town Councils, Provincial and Regional administrations working in *partnership* with private subjects, will be protected, because they represent “the right instrument” for helping the Italian cultural heritage overcome its crisis and solve the problem of lack of financial resources. The reformation of the Title V of the Constitution has given the Regional Administrations a legislative power as regards the enhancement of the cultural heritage and has made it possible to gradually regulate this sector at a local level.

communication/promotional and relational aspects, with repercussions on the international markets too.

A balanced relationship between public and private bodies, an alliance and not hierarchical relationship between them should be fostered, even if the differences of purposes cannot be excluded. In such a government, therefore, a differentiation of roles should be provided, for guaranteeing a contextual coexistence of synergic integration of purposes oriented towards a common goal. Through this network system, provided with a central management point directing and guiding the development steps, a shared mentality of proactive guidance²⁹, anticipating the changes caused by global phenomena, could emerge.

This approach aims at enhancing such competitive advantages as: the size and variety of the historical-cultural heritage of a territory, as well as the need for a higher flexibility and care for the customer's needs, in order to reach higher quality *standards* of the services provided and guarantee a greater production of social-economic value fostering the development of the territories themselves.

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INTERIOR DESIGN AND LISTENING TO CUSTOMERS. THE EXPERIENCE OF THE COOPERATIVE CREDIT BANKS IN THE VENETO REGION

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Contents

1. Listening to customers and services in banks
2. In services “everything speaks”: the communicative role of the bank’s structures
3. The Cooperative Credit Banks in the Veneto Region and customer care centers

1. Listening to customers and services in banks

The changes that banks as service companies are undergoing require their top managers to rethink company strategies in terms of service quality¹, so as to satisfy customers more effectively and efficiently.

In order to succeed against aggressive competitors, it is no longer sufficient to offer a service that meets the customer’s expectations. Banks, constantly aiming at *attractive quality*², try more and more to differentiate themselves, ensuring the level of implicit quality and rising above expected quality, tending towards a quality that is unexpected, if not even dreamed of, by customers³.

It is certainly not easy to pursue such a strategy, since customer satisfaction is relative and inconstant: it depends on the company’s capability to solve customers’ problems and fulfill their demands, needs and wishes. This is further complicated by the fact that customers are not homogeneous and constant over time⁴.

It is therefore crucial to know one’s customers, that is, to gather information about their needs and preferences, motivations and buying habits, ways of thinking and behaviors. This can be

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¹ Service quality is:

- *subjective*: it depends on the individual and on his expectations and perceptions, it cannot be generalized (what is quality for an individual is not necessarily quality for another;
- *relative*: it is what is experienced by the customer at a determined moment, under certain personal and environmental conditions;
- *multidimensional*: it depends on several factors which determine expectations (for example, word-of-mouth, past experiences or others’ experiences, direct knowledge, personal needs, alternatives considered) and the customers’ perceptions (for example: *technical factors*, such as professionalism of the personnel, organizational skills of the company, physical environment; *relational factors*, linked to the relationship between customers and front office; *factors related to waiting time and communication issues* revealed by the company), from which quality evaluation derives.

For a deeper insight into expected and perceived quality, see Zeithaml et al. (1990).

² See Kano et al. (1984).

³ On the other hand, it is also necessary to avoid creating expectations that are too high and incompatible with the company’s possibilities.

⁴ Moreover, the customer’s participation to the service production, both as producer and consumer (*prosumer*), influences, often unwittingly, the result of the service delivery itself, so that it is the customers who causes the quality (or non-quality) of the service. The concept of *prosumer* is usually traced back to Toffler (1980).

done by undertaking market researches⁵, by encouraging customers to express their complaints⁶, or, if possible, by developing personal and direct relationships with them.

The Cooperative Credit Banks - local banks that follow the principles of cooperation, mutuality and solidarity - pursue precisely this second strategy. The territorial links allow them to get to know customers' names and histories, and to develop with them a relation based on reciprocal trust that, reinforced by informal relationships, grows day after day in terms of reliability and trustworthiness. The fact of being banks of proximity, both physically and relationally, allows them to know the customers' problems and to offer personalized services.

However, it is important to think about the fact that "there can be no knowledge without listening"⁷.

It is usually the front office personnel who has the opportunity to find out what the customer requires, by assessing the customer's problems⁸. The personnel should be able to understand both strong and weak signals sent by customers through verbal or non verbal communication. In addition to the professional skills related to the understanding of contents and to the technical solution of the problem, it is also necessary to develop empathy, a personal skill that allows the personnel to experience the customers' perspectives and situations.

Listening is thus both an intellectual and an emotional act, much different from the physical act of hearing⁹, which does not require a common commitment nor reciprocal understanding in order to be elaborated¹⁰. While it is possible to hear automatically, because hearing is physiological, listening can be a matter of method, based on techniques and rules¹¹, which should be promoted and implemented by the top management in service companies, by requiring such skills to the front office personnel.

It could be said that listening goes through different actions, which can be attributed to the following skills:

- the ability to assess the customer's problem through listening, observation¹², intellectual or imaginative intuition¹³ and emotional perception,

⁵ For instance, it is possible to administer questionnaires by phone, mail or face to face.

⁶ For an analysis of the reasons why customers prefer not to complain, see Bateson and Hoffman (1999). It is often useful to ask questions, as this creates a form of cooperation with customers aiming at solving their problems. See Romiti et al. (1992, pp. 47ff).

⁷ See Crozier (1989).

⁸ In this sense, listening is a voluntary, intentional, free and deliberate act. See Passerini and Tomatis (2003, p. 68).

⁹ See Passerini and Tomatis, (2003, p. 47).

¹⁰ See, among others, Amason (1996).

¹¹ See Bone (1988) to think about and work on the ability to be careful and reduce inattention, which implies high costs; Jaoui (1990) to listen to the problem and understand the naivety of perception; Gbézo (2000) and Sclavi (2000) for some rules on the art of listening.

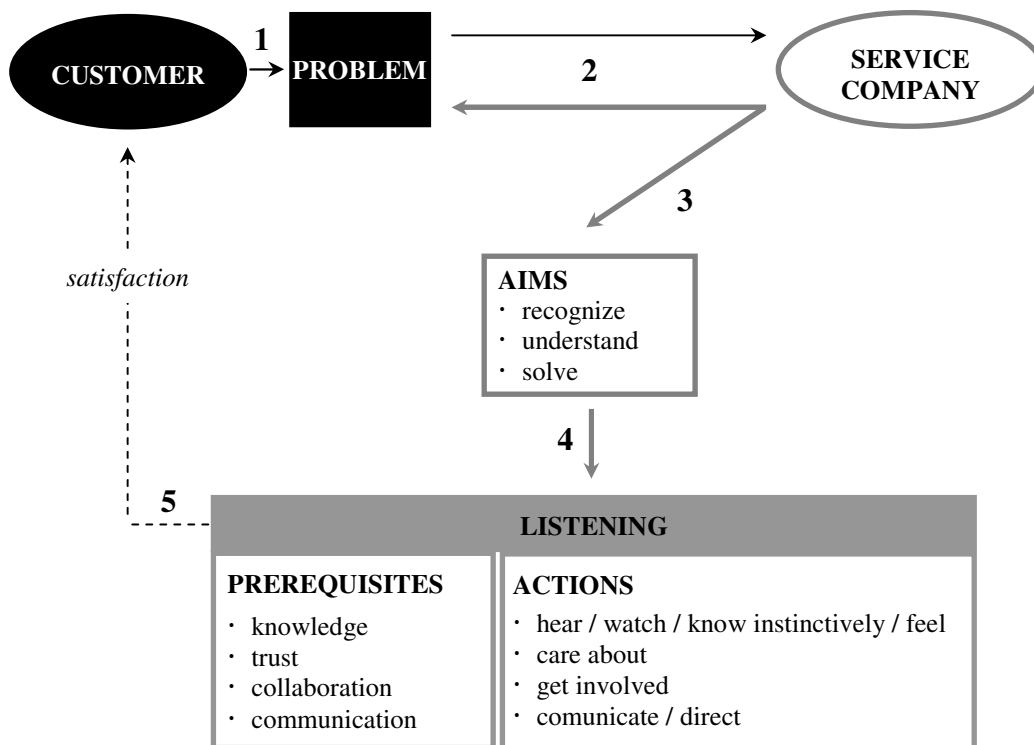
¹² According to Starobinski (1975), listening starts with the look, that is, with the attempt to establish a relation with the other. It does not start through watching, which allows instead to gather images and thus information. Others claim that "they are nothing but different moments of the same process through which sociability is defined" (Bosi and Campanini, 1997).

¹³ "It is only by grasping the nature of what happens that, intuitively, I can readily understand and evaluate a fact, based on open mental schemes and without reflection. Similarly, it is only by observing a change that we can increase our ability to feel, that is, to become aware of a given situation" (Baccarani, 2005, p. 27).

- the aptitude to care about the customer, paying attention to his requests in order to understand his problem,
- the will to get involved in the search for a solution, identifying with him and being aware of the relevant services and of their advantages,
- the capacity to communicate to the customer the best possible solution, or to direct him to someone in the bank who could help him find the solution.

In order for this process (schematized in Figure 1) to take place effectively, it is necessary that both parties, producer and consumer, adopt a cooperative attitude¹⁴, alternating conversation with active silence¹⁵.

Figure 1: *Listening and customer satisfaction*



Source: Our elaborations

Since listening allows to get on the same wavelength as clients in order to solve their problems, any service company, including banks, has a chance to improve in terms of:

- analysis and evaluation of problems,
- efficiency, flexibility and internal management,
- communication,
- development of trust relations,
- better knowledge of clients.

¹⁴ The term used in managerial literature is “active listening”.

¹⁵ Dinouart (1995) proposes some principles for being silent and different kinds of silence.

Within the organization, the role of listener, or “sentry”¹⁶, is assumed by the front office personnel, whose skills should be developed especially in terms of communication and interaction¹⁷.

Still before making contact with the personnel’s politeness and helpfulness, the customer evaluates the service quality by getting in contact with the physical setting of the bank¹⁸. As it is known, in services “everything speaks”¹⁹: furniture and equipment, cleanliness and communication signals, quality of the air and temperature, sounds and smells, influence the quality perception of the customer.

Without getting deeper in these issues, which have already been examined in environmental psychology studies²⁰, this work aims to show the usefulness and the difficulty for banks’ top managers of taking care of interior design in the perspective of improving the listening to customers.

Then, taking into account the situation of the Cooperative Credit Banks of the Veneto Region, the present work proposes some typologies of banking windows - created thanks to the listening to customers - which are innovative as far as interior design and physical layout are concerned.

2. In services “everything speaks”: the communicative role of the bank’s structures

When a customer enters the bank, he directly and constantly interacts with the services on offer, evaluating the service quality through the contact with the personnel, the structure, the equipment, the layout, the design and the environment²¹. He is satisfied if the company was able to:

- offer to him products or solutions adequate for his needs and expectations,
- keep to the conditions (of payment, for instance) agreed,
- supply the service with professionalism, politeness and organizational competence,
- manage waiting times adequately,
- ensure safety, reliability and privacy,
- show him care and attention as far as interaction, communication and information are concerned.

The bank should not only consider the utility content offered to the customers, but also the whole process of service usage. Moreover, with reference to the physical environment, the different needs of the front office personnel and of the customers should be taken into account.

¹⁶ See Bacarani (2007).

¹⁷ For a review of the main professional and personal skills of the front (and back) office personnel, see Barbarino, Leonardi (1997, p. 82). Albrecht (1992) examines the relational mistakes that should be avoided in the relations with customers.

¹⁸ Perceptions and expectations can arise even before entering the bank, since the client can start his evaluation based on advertisement, location, accessibility, signs, building, parking space, as well as on word-of-mouth, which spreads the image and the reputation of the bank.

¹⁹ See Eiglier and Langeard (1987).

²⁰ One of the first works on this subject is Mehrabian and Russell (1974), which illustrates the impact of the physical environment on the individual in terms of approaching or avoiding a company. Later on, a famous re-elaboration of the model has been proposed by Bitner (1992), who describes the impact of the physical characteristics of the environment (*servicescape*) both on customers and on front-office personnel.

²¹ Normann (1984) introduced the concept of “moments of truth”. In particular, Karl Albrecht considers moments of truth as “each episode whereby the customer comes into contact with any aspect of the organisation and gathers an impression of the quality of the service” (Albrecht, 1992, p. 20).

Bank workers require a satisfactory working place, where they can express their professionalism at best and where the stress caused by inadequate structures is reduced to a minimum.

Bank customers require the quick and discreet fulfillment of the routine operations and/or a personalized consultancy, possibly fast, in a quiet and discreet environment, with a pleasant and stimulating atmosphere. In fact, customers are more and more interested in the non-material aspects of banks, and design is a relevant part of these aspects.

Since the physical equipment can facilitate bank workers speaking with (and listening to) the customer, the top management should plan the physical dimension of the environment with reference to the social dimension.

Planning the interior design of a bank means not only a technical renovation, but also a new integration between form and function²². It is not only an aesthetic and cultural change of the physical environment, but also an increase in the added value, which the customer can perceive at a sensorial, cognitive, emotional, relational and value level. It implies a valorization of the interior design and of the layout, that is, the setting of the equipment, furniture and routes, in order to satisfy the customer and improve the efficiency of the service offered²³.

Being known that in order to assist the customer effectively and efficiently it is necessary to eliminate all possible obstacles (physical, visual and auditory) that hinder communication, many banks have developed interior design projects, restructured or modernized the old offices, creating open space structures where banking windows have almost totally disappeared to leave space to counters without bulletproof glass, to facilitate a more direct contact with the customer.

In spite of the fact that contemporary tendencies in interior design tend towards minimalism, furniture and settings are more functional, accessible, comfortable and convivial, characterized by an increased attention to colors, lighting, audio and video information and signs. The aim is to create a modern, attractive and stimulating environment for the customer. Moreover, there is an attempt to increase the quality and quantity of spaces in order to adequately support the activities of intermediation, service delivery, selling of financial products and personalized assistance. On a general level, the areas dedicated to cash transactions and information are separated from the consultancy offices. Low added value services are usually automated through machines located inside or outside of the bank, often near the entrance. Paying attention to these aspects may seem elementary, but they are actually of fundamental importance in the relationships with customers.

An efficient interior design generates considerable advantages for the customer²⁴: in particular, it can reduce the time required to carry out operations, allow to get indications about the quality of the customers' experience and increase their trust in the bank.

The bank personnel can also gain something: in particular, their vital space can be improved, they can get more satisfaction from their job and become more productive, increasing their sense of belonging to the company and their motivation.

²² See Verganti (2003).

²³ In this sense, Fitzsimmons and Fitzsimmons (1994) distinguish the *service/product layout*, typical of those services with a fixed series of operations which the client has to carry out in a sequential order, from the *process layout*, which includes all the activities carried out in different locations and offices, around which the customer can move freely. When realizing the first kind of layout, a service company aiming at effectiveness can create a flowchart in order to analyze the critical issues (Pellicelli, 1997).

²⁴ It is useful to underline that the atmosphere thereby created cannot have the same effects on all customers. The planning should start from an analysis of the customers' behaviors and preferences. Therefore, it is important for the bank to consider its target. In this sense, Kotler (1974, p. 48) proposes some questions useful when developing a project for restyling the physical environment.

Interior design has always had a strategic function for every bank, which can thereby differentiate itself from the competitors, transmit a new image, sometimes creating and spreading a corporate image, and increase customer loyalty through barriers at the exit²⁵. However, despite the potential advantages, it is not easy to develop an interior design project for a bank oriented towards dialogue and listening to customers. The main obstacles are:

- *economic*, particularly related to the necessity of big investments in order to sustain the high costs of restyling, modernizing and innovating the layout²⁶,
- *technical*, linked to the limited availability of space, that has to be distributed between working space and places open to the public, to the search for flexibility and to the necessity of meeting the safety requirements and the particular construction standards imposed by architects and designers,
- *intangible*, related to the nature of the service itself, which is by definition immaterial,
- *relational*, linked to the different typologies of actors that are present in the bank, everyone with different needs and personalities,
- *cultural*, due to the lack of motivation of managers and bank workers towards restructuring that goes in this direction.

The obstacles are more difficult to overcome when the bank is characterized by a non-innovative management, skeptical towards the structural innovations that require going beyond the ordinary. In this case, it is useful to start a cultural program joining art and intelligence in order to offer a service aiming at excellence.

Among the Italian banks that started a restructuring project of the physical environment, the CCBs of the Veneto Region have developed projects for many of their branches.

3. The Cooperative Credit Banks in the Veneto Region and customer care centers

In the last years, many Cooperative Credit Banks have renewed their image, renovating the interior design of many of their branches in the Veneto Region area.

The most significant innovations are related to the creation of banking windows with a more innovative design both from a structural point of view (external and internal architecture and layout) and from an environmental point of view (in particular, visual, auditory and tactile stimuli through dimensions, shapes, colors, lights and temperature).

The aims that the bank top management pursues through this renovation are:

- to guarantee customers more privacy, thanks to the ad hoc glass screens that can be closed after the customer has entered the open space where the front office personnel works,
- to ensure front office personnel a more functional working space, allowing them to carry out not only cash operations but also consultancy services in privacy and safety. In this sense, it is interesting to notice how the profession of the front office personnel has changed: the role of the cashier requires more and more competences.

In particular, the glass screens are transparent, with some satin lines, so that they allow customers to see from the outside if the consultant is present and available.

In spite of the glass screens, the access to the cash area is spacious in order to allow elderly people, mothers with prams and people with disabilities to enter easily.

Between the customer and the bank personnel there can be a counter or a desk, big enough to offer a support for documents and other useful material or promotional/informative leaflets and brochures.

²⁵ In Italy, such architectural valorization of banks has only started in the last years, regardless of the banks dimensions. For a European perspective on bank marketing, see Scott (1995, in particular part two).

²⁶ “A bank should not give the impression to have invested too much in furniture”, because customers feel that they have contributed to it with their savings (Baker et al., 1988, pp. 33-42).

There are also high leather stools with a soft *séance*, joining comfort and quickness: the customer can decide whether to sit down depending on how much time he needs for cash operations or consultancies, and stand up easily once he has finished. The comfort is thus guaranteed during the session.

This layout creates a relation on equal terms between customer and personnel: they are sitting in front of each other, at the same level and with the possibility to communicate *vis à vis*.

The room's dimensions can be defined as "customer-tailored" (as well as "personnel-tailored"), because they allow everyone to move freely around them.

The shapes used are different in order to create a harmonic environment: the room is rectangular to make the most of the space available, while furniture has rounded shapes to offer higher comfort.

As far as colors are concerned, wood-like colors are used both inside the room and in the rest of the building, since the bank wants to transmit a homely feeling and at the same time an idea of credibility and professional trustworthiness, further enhanced by a warm, pleasant lighting.

Particularly relevant for its innovative design is the Polesine Cooperative Credit Bank, situated inside a shopping center²⁷, a place characterized by a high concentration of services and located in a non-central but easily accessible area.

In this branch, the top management has implemented the banking-window model illustrated above, but it has also gone further in trying to propose an image of a bank close to the needs of people. In fact, the shopping center is a relational space, a place of socialization and communication, characterized by a multiplicity of people²⁸.

The bank is strategically positioned: in a corner between the two corridors leading to the supermarket entrance.

Starting from the outside, everyone is attracted by the structure: not only for its big horizontal neon sign that identifies the bank by its name, but also because of its unusual entrance. It is entirely open on two sides, front and left, without physical and architectural barriers at the entrance (the so-called secure portal), and without bulletproof glass, banking windows and metal-detectors²⁹, while the right side is closed by a satin glass with the CCB symbols printed in transparency.

The design of this bank is oriented towards allowing the customer to freely get in, conveying a sense of continuity with the surrounding environment of the shopping center. It is attractive and it invites customers to get in, so much that he might not even notice he has entered.

It is possible to get in with shopping trolleys (not only in the bank, but also in the banking room) and with kids, who can watch TV sitting on multicolored chairs especially designed for them, while their parents are in the banking room or in the director's office.

The waiting time is organized also for adults, who can sit on comfortable leather sofas in front of the cash boxes, read newspapers, get information about the bank thanks to the video-walls on the bank's side walls³⁰.

²⁷ The bank is in Giacciano con Baruchella, inside the shopping center "Il Faro", and it was opened on the 2nd of June 2007. We thank Dott. Remo Previatello, General Manager of the Polesine CCB, for his helpfulness and for the time he dedicated to us during the meeting, as well as for the precious information he gave us.

²⁸ See AA.VV. (2008). The services offered are mainly directed to the average shopping center customer, that is, to families. The consultants do not only deal with bank accounts, payments and other ordinary operations, but also offer savings and simple investments products through personalized consultancies.

²⁹ The top management nonetheless guarantees safety thanks to the presence of hidden close-circuit television cameras.

³⁰ About the management of the customers' time, see Fessard (1995). With particular reference to the management of waiting times, see Maister (1984).

The shapes are mainly rounded and harmonious, the spaces limited and well organized, the colors warm (red and yellow), matching with the shopping center's ones but just a little darker, probably to communicate more sobriety and reliability. Since the structure is open, the music and sounds of the shopping center get into the bank, but they do not interfere with the communication between customer and personnel, who are isolated from the rest of the environment thanks to the glass screens.

With reference to the low added value services³¹, customers can carry out routine operations, such as cash withdrawal and deposit, through ATMs located at the entrance. Thereby, waiting times are reduced and the personnel can dedicate more time to consultancies.

As this bank is oriented towards listening to customer, there was great appreciation for the decision to keep it open on Saturdays, the day traditionally dedicated to shopping. The day of closure is Monday. Such differentiation from other bank branches and competitors is a significant element of competitive advantage, as well as a way of getting closer to the customers' needs.

The top management also decided to offer a series of services to the shopping center's shopkeepers, who can get specific consultancy and use ATMs, cash machines and money exchange services even when the bank is closed³².

Not only getting in, but also getting out of the bank is easy, since there are no fixed routes to follow.

Table 1 summarizes the main design elements realized by the Polesine branch of the CCB and the aims pursued in providing services to the customer.

³¹ The external and internal signs of the bank are well-located and allow clients to discover and find quickly the various services.

³² During closure times, the access to the three banking rooms and to the automatic cash box is blocked through roller shutters, while it is always possible to access the ATM area, the safe-deposit boxes, the money-changer and the cash machine. Thereby, the client can dispose of the bank services at any time, thus increasing the sense of proximity.

Table 1: *Structural and environmental design elements of the Polesine CCB*

<i>Design</i>	<i>Physical and sensory elements</i>	<i>Services offered to the customer</i>
<i>Structural design</i>	Central and angular position	Visibility and geographical proximity.
	<i>Open space</i> structure (no barriers at the entrance) e free access with shopping trolleys and kids	Freedom of movement inside the bank and easy access to it.
	Magazine racks and vide-walls to entertain adults and children	A shorter and pleasant waiting time, during which customers can amuse and inform themselves.
	Comfortable sofas and chairs	A comfortable waiting time.
	Cash boxes with automated glass screens, spacious hall	Discretion and privacy, easy entrance and exit.
	Spacious counters or desks in the banking room	A support for documents and other useful materials.
	ATMs, cash machines and money exchange at the entrance	Less bureaucracy, shorter lines at the counters, more time for consultancies, routine cash operations available 24/7.
<i>Environmental design</i>	Glass screens with satin lines between the banking room and the waiting room	Possibility to check presence and availability of the consultant.
	High leather stools with soft séance in the cash box	Comfort during the session.
	Structure's dimensions	Possibility to move around easily.
	Different shapes	To communicate harmony and safety.
	Warm colors	To transmit a homely feeling, credibility and professional trustworthiness.
	Warm lighting	To suggest a warm welcome and a pleasant feeling.
	Sounds	Possibility to listen to music and information during the waiting time, but quietness during the consultancy.

Source: Our elaborations

This bank, characterized by a modern and open environment, can be considered as an innovative approach to the “attractive bank”: customers are invited to get in even just to visit it. Many aspects create a dialogue with the customer during which it is more important to listen than to speak.

As far as customer satisfaction is concerned, the feedbacks obtained by the front office personnel and by the management have been more than positive: customers have expressed very positive judgments, mainly through informal chats, appreciating the new design and the efficiency of the service after the renovation.

The examples illustrated above show how CCBs are able to put the customer at the center, find quality in the details, improve constantly and acknowledge the value of quality even in the small things of everyday life.

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“BEYOND RETENTION” IN BANKING SERVICES

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This article discusses the findings that have emerged from the studies developed until now, in order to identify a new approach that goes beyond retention, driving us towards the so-called hyper-retention¹, through the “additional” logic that calls banks to analyse what they may/have to add to and/or integrate into their performance to grow in customer retention.

Here described is both an improvement of the empirical model identified in year 2000² (now modified in components and numbers) and an evolution of itself (with some new variables and approaches), whose realisation is based on three main lines:

- the model’s basic theoretical notions
- its test through the comparison with the existing literature
- its validation through empiric applications

Doing so, we reach another stage of the retention process, and push ourself towards an extra step to capitalize the marketing efforts due to win and mantain active customers.

It has to be said, also, that this model takes inspiration from what is written about the four steps (purchase, re-purchase, retention and beyond retention) and some of the key variables, including *involvement* and *relation*.

In fact, the strain stated since now is that of realizing a model sustained by available literature but, at the same time by real and pragmatic managerial applications.

The components described in this article:

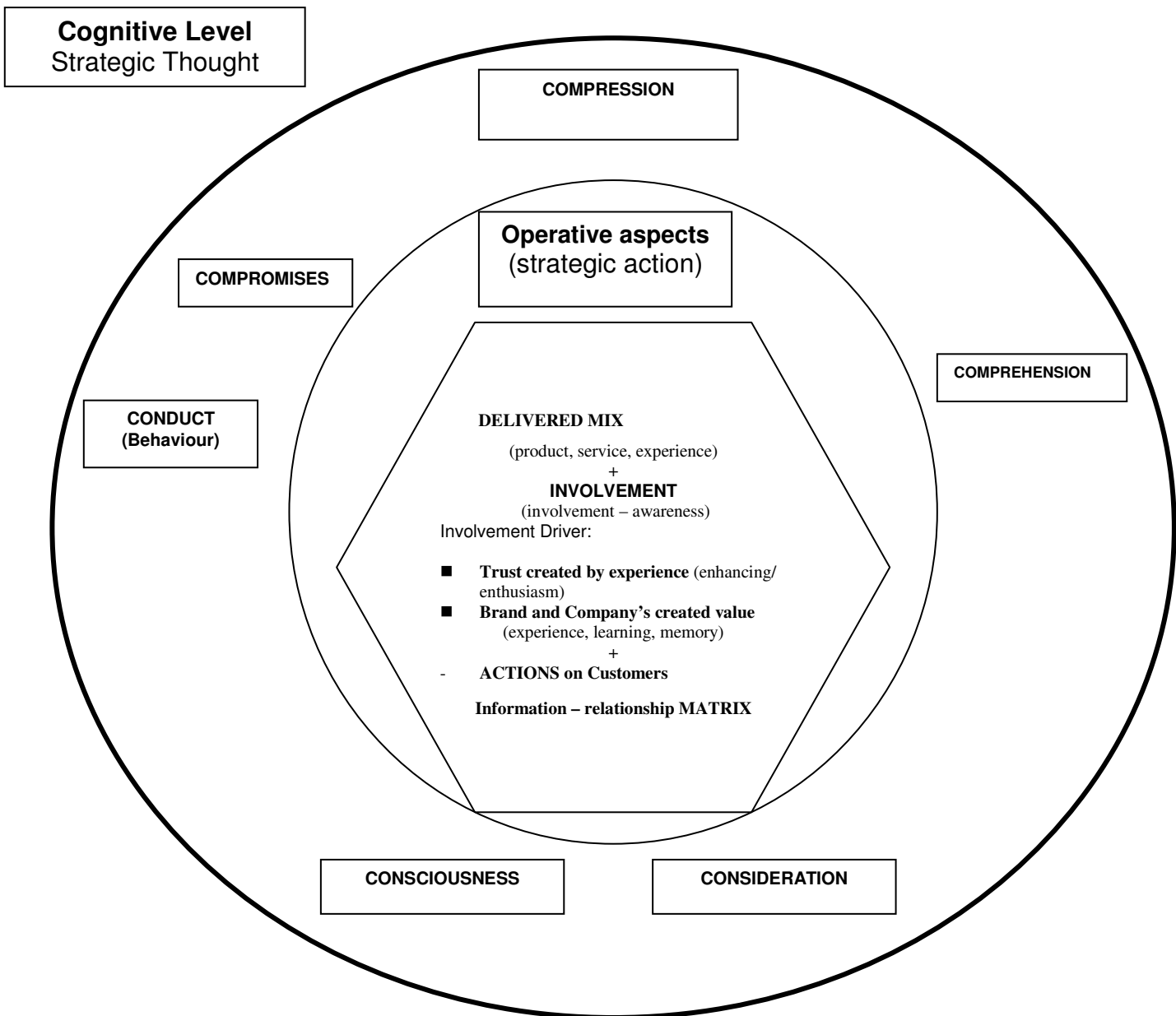
1. “C-Beyond” model (in italian Oltre)
2. Performance’s bi-directional disaggregation
3. The “information-relationship” matrix

1. “C – Beyond” model

Here is the effective description of the model that gives its name to the chapter and this is the visual explanation (figure 1).

¹ M.Cavallone (2000), p. 71

² M. Cavallone, “Oltre la fidelizzazione: il marketing nell’era della complessità”, F.Angeli, 2000



(Figure 1 "C-Beyond" model)

As seen in the picture, it is possible to shift the model in two components, both preliminary and complementary, that identify, first of all, the cognitive aspects with the basic philosophy, i.e. aspects concerning the strategic idea that include the logic of the model structure. In the second place, the part of the "operative model" where the steps to take in order to materialize the theoretical assumptions previously explained are described.

2. “C-Beyond” model: cognitive aspects – strategic thought

The first part of our analysis takes into consideration the cognitive aspects concerning with the strategic idea of the company: a kind of common denominator on which basis the company philosophy with which to go beyond retention; inside the model are the aspects that are linked to the accomplishment of the operativity part of this model.

The first level is described by means of 6 terms whose initial letter is “C”, giving the name to the “C-beyond” model; the terms are the following:

- Compression
- Consideration
- Comprehension
- Compromises
- Conduct (behaviour)
- Consciousness

1) COMPRESSION:

the term comes from the latin verb *comprimere*, and means the shrinking of an object under the action of forces applied on its surface (from Zingarelli dictionary). In “C-Beyond” model we mean compression as, first of all, the pressures coming from time shortening: “people have no time to wait, no time to come back to the retail store, no time to explain twice what they need..” (Cavallone, 2000, p. 93).

Companies today front new competition, based on time and an ever faster changing context (Arbore and Busacca, 2007). This compression is, also, the result of the increasing diffusion of new technologies, that allowed the consistent reduction of space-time barriers (Kotler and Armstrong, 2006). All this enabled time to become incredibly important for customers: according to Pruyn and Smidts (1993), the production increase in our economy generated the new need of having more time for products “consumption”, due exactly to their contemporary abundance. From this point, companies’ imperative is to manage correctly “customer service time” (Fessard, 1995), avoiding delays or managing them with specific strategies when they happen (East, 2003): production, demand and perception management.

In conclusion, compression puts the company in front of the necessity of being quick in answering customer’s needs, because he will give extra value to the time at his disposal, making only one delay harm the whole service and consumption experience (East, 2003).

2) COMPREHENSION

The term comes from latin *comprehendere* and means the ability to understand; it also means to include, contain and hold (Zingarelli dictionary). For a company, this means “knowing exactly and clearly who the customer is, his needs, his expectations, what is he giving attention to (key factors in the purchasing process) and what can be offered to be distinctive among the competitors and to win his preferences. (Cavallone, 2000)

Worldwide, businesses spend approximatively 20 billion dollars every year to understand their market (Ceccarelli, 2006): this is also a result of the compression explained before, as it forces them to take the right decisions in a short amount of time.

Specifically, we need to comprehend which elements cooperate with customer satisfaction and with creating positive experiences. (Eiglier et al., 2006): on a basic level this can be

obtained applying the SERVQUAL methodology³ (from Parasuraman et al., 1985); in addition to this there are some other techniques such as the critical incident technique, useful to go more deeply into the matter (Eiglier et al., 2006).

3) CONSIDERATION

The term refers to an accurate exam, a careful and sustained observation based on thoughtful reflections, reading, etc (Zingarelli dictionary).

Consideration is represented here as the real and objective acknowledgement of the importance given by the company to the client, seen not only as a contributor to sales, but also as a source of valuable information as they are the basis on which to create a specific product for him and for other customers. It is a sort of co-production of value that happens, for instance, through the involvement of some so called “lead users” when designing the product.

4) CONSCIOUSNESS

The term assumes the meaning of being informed and conscious, of being aware of a fact or a situation (Zingarelli dictionary). In “C-Beyond” model, it signifies the consumer’s discretionary power, as he is ever more aware of his rights and of his value for the company and is carefully and sophisticatedly conscious about it. The two key words that describe consciousness are: advanced consumerism and prosumerism (Cavallone, 2000).

In services marketing, and widely in an experiences sphere, the consumer represents the main junction between time of production and time of consumption, having a share in defining output quality (Cavallone, 2000, Lugli, 2005). This active collaboration given by customers goes towards an advanced prosumerism, like what happened with home banking, where the individual creates his own customized bank services by himself.

Consumerism and prosumerism are the key concepts when talking about customers aware of their rights and value, characters pro-active in their consumption experiences and not just simple receiver of products and services. However particular attention has to be given to the evolution of the market structure because, as Ricotta (2005) states, on one hand the growth of criticality of the consumption system can be seen as positive, on the other hand this could also mean an excessive “on behalf of the customer” approach.

5) CONDUCT (Behaviour)

Conduct is the set of observable actions in an organism (Zingarelli dictionary). Today a company, seen as a living structure (Golinelli, 2000), being more and more subjected to compressions and aware consumers, has to put new attitudes in action in order to satisfy expectations.

6) COMPROMISES

The term, in latin *comprimissu*, means a mutual promise, the agreement between two or more people, theses, etc. that are in conflict, where both parts renounce some of their claims (Zingarelli dictionary). In “C-Beyond” model this may indicate that the consumer

³ SERVQUAL measures both consumer’s expectations on what the company should offer and their perceptions of the effective performances of the supplier in terms of: tangible aspects, reliability, trust, empathy and ability in answering.

has to be aware of the fact that paying an extra price means also receiving an extra quality product/service/experience.

When arranging its proposal to the client, the company could be unable to serve perfectly the customer: in this case it must be reached a compromise, that gives maximum satisfaction to clients without affecting economic return (Finch, 1999).

If they don't come to this compromise, the company may encounter the "never ending retention story", which is "offering incremental added value performance, but with reduced return" (Cavallone, 2000). This leads to a vicious circle that compromises the company's permanence into the market, because it subtracts profit contribution from the business.

3. Bidirectional performance disaggregation

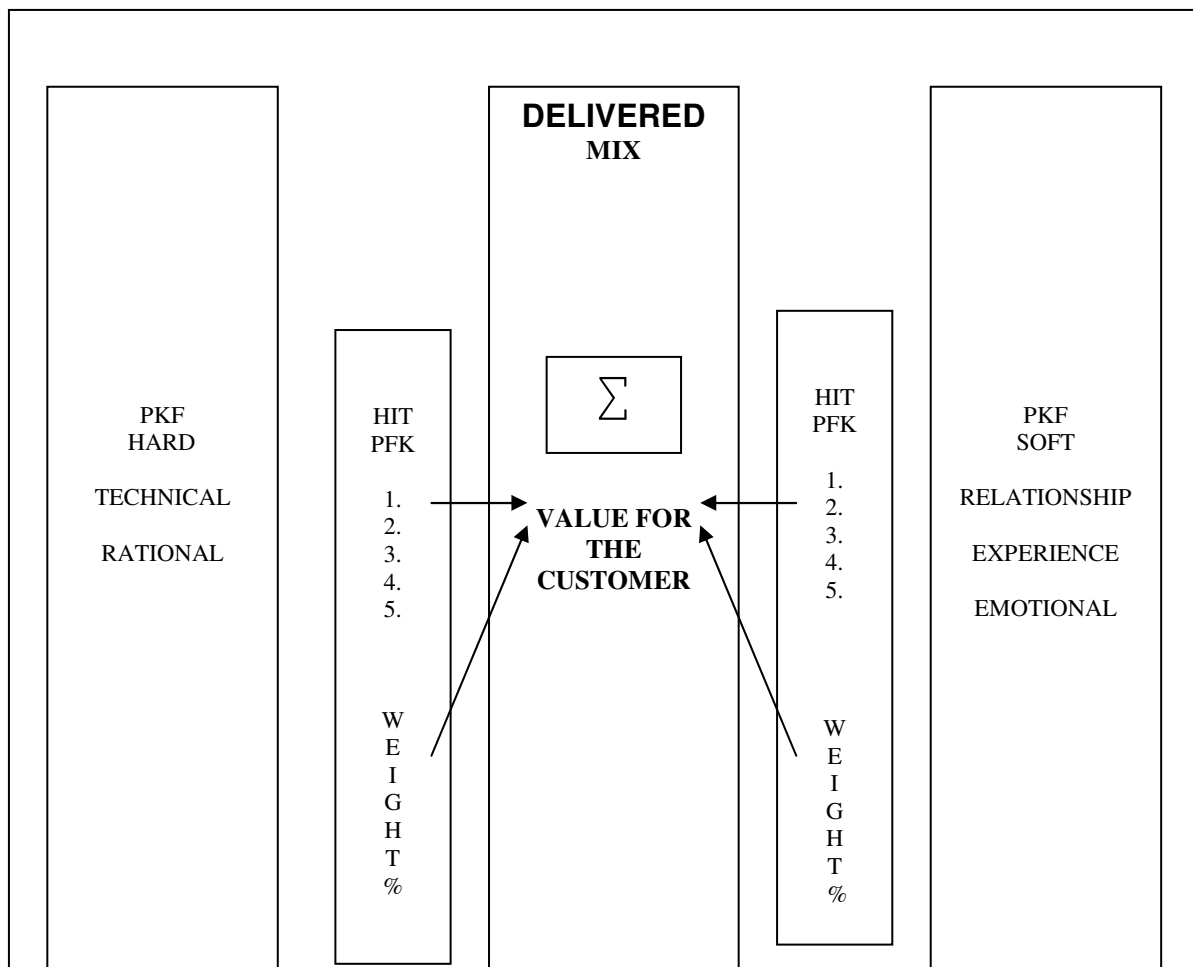
3.1 Performance "on customer" analysis

With the term "performance on customer" we mention the detection of the matters that lead the customer to prefer one product or service instead of the competitors'. The word "on" here refers to the whole of skills shown by the company in creating a more appealing offer in terms of getting next to the customer's desires, in other words its performance ability towards (on) the client. It is a matter of highlighting through a deep analysis the Purchase Key Factors: these were described by Olson and Reynolds, 1993 as "attributes" that determined the choice of the customer; references in literature referring to "purchasing" and "creating value for the customer" can be seen as propedeutical in that phase, but up-to-date at this point.

To define the constitutive elements that lead to the purchasing choice first of all we need to distinguish two macro-categories of Purchasing Key Factors⁴: the **technical** (or performance) ones referring to the hard/rational part of the decision, connected with the performance ability of the product/service, and those that are **relational**, linked to the soft components related to relational, emotional and experience aspects (figure 2 "performance "on" customer: constitutive scheme").

⁴ Olson and Reynolds suggest the difference between concrete attributes, mostly one dimensional, directly measurable and connected to the product characteristics, and the abstract attributes, mostly multidimensional, not objectively measurable and not connected to the physical characteristics of the product.

(Figure 2 “Performance “on” customer: constitutive scheme”)



The “specific” weight of the two groups of factors varies in composition and duration; it also depends on the commodity sector involved, as also the type of customers and the current offers. In particular, in the retention phase and even more in the processes that go beyond retention, suitable performances and the technical aspects are taken for granted, while relational, experience and emotional factors are viewed with growing attention, being more related to the very moment of purchase. Through these last ones the company is able to create real involvement⁵ into the customer’s mind and obtain his loyalty.

Every company, basing on the specificity and the phase of retention, determines from the very start through market research (direct interviews or focus groups) the first group of technical and relational PKF, on which to frame their basic offer. In second place, before the action of delivery, they personalize and update that group of factors by customization. This can happen, for instance, through multivoting⁶ practices that lead to the creation of two restricted lists, containing the fundamental PKF that are subsequently mixed, with different specific weights, in the Delivered Mix submitted to the customer. In alternative, to measure the importance of those factors, conjoint analysis (Molteni and Troilo, 2003, p. 363) can be very useful.

⁵ See “involvement” in the previous chapter.

⁶ Based on the approach of the author, multivoting process enables to reach a good level in significancy as well as a simple way of implementation. In literature, the popular four methodologies to define the criteria in choosing attributes or purchase key factors are: the subjunctive, disjunctive, lexiconographic processes and those suggested by Fishbein that can be used as an alternative to the multivoting.

The two lists here reproduced, contain some examples of PKF in the bank sector belonging to the two “technical-rational” and “relational-emotional-experience” families seen before:

TECHNICAL-RATIONAL PURCHASE KEY FACTORS in bank sector

Agreements
 Answering/delivering speed
 Answers accuracy
 Conditions flexibility
 Economic advantage
 Extra services
 Fulfilled promises
 General organization
 Instalments
 Interlocutor know-how
 Location
 Merchandising
 Offer clearness
 Offer innovation
 Opening times
 Parking
 Performance continuity
 Price
 Product choice
 Quality certification
 Rooms hygiene and cleanliness
 Service quality*
 Special offers
 Specialization
 Structures
 Technical information

**When measured through surveys (es. SERV/QUAL).*

RELATIONAL-EMOTIONAL-EXPERIENCE PURCHASE KEY FACTORS in bank sector

After-sales service
 Collaboration with customers
 Company/product image
 Courtesy
 Customer listening
 Customization
 Emotions
 Friendliness
 Internal climate
 Kindness
 Needs sensitivity
 Niceness
 Obtained consideration
 Perceptions
 Sensoriality
 Service quality*
 Social involvement

Trademark popularity

Trust

Willingness

**Here seen as a perception of the relation between expected and effectively received.*

After submitting these factors to multivoting (or following the suggested approach from conjoint analysis) the company strengthens the determinant elements focusing on the dynamic competitive advantages⁷ related to them, creating differentiation with competitors, is the only way to survive, develop and be successful in the present and future.

3.2 Performance “of” customer analysis

As described before, the analysis of the performance on customer helps the company to focus on the reasons, the elements and the attributes of the customer’s choice. This first step of internal analysis is fundamental to understand the lived experience in client’s choice between different commercial proposals; the research on gaps emphasizes possible differences between what has been planned and what has been delivered, always with a reciprocal look.

At this point verifying the second component linked to bi-directional performance disaggregation becomes very important. Actually, together with the performance “on customer” analysis, and in particular the PKF on which competitive advantage is based, the company, following the “beyond” model, performs this second disaggregation of performance of customer, in other words how much the client “hands-over” (the customer contribution to the company) .It’s a sort of balance that allows the evaluation of every client’s contribution, studying his personal contribution towards the company through some indexes that compare the different performances of the whole of customers. These are estimated for their single contribution in both technical and rational elements, beyond synthetic index such as Customer Lifetime Value (CLV). The analysis process in performance of customer can be outlined through the retention matrix, as seen in figure 3:

⁷ We here refer to the concept of “rolling competitive advantage” (Cavallone, 1990) as the ability in creating differential and dynamical-continuative competitive advantages by the company in order to detain a real leading separation from the competitors, especially in high technology sectors.

TECHNICAL FACTORS						PERSONAL FACTORS						TOTAL	
Initial customers ranking (A)	Turnover €	Potentiality	Profit Margin	Competition	Sector	Technical Subtotal	Customer assistance	Personal Relationship	Verlocity	Personal Subtotal	(addiction of TS e PS)	Real Final Ranking (B)	
1. Bleetech	10	6	3	4	6	29	5	4	2	11	40	1. J.F.W.	
2. K & G	10	8	6	8	4	36	5	6	2	13	49	2. West Corp	
3. West Corp	9	6	6	10	8	43	6	3	6	15	58	3. Maxi Press	
4. Toomy's	8	4	4	6	7	29	10	2	4	16	45	4. Roding	
5. J.F.W.	8	10	8	7	8	41	7	5	7	19	60	5. T.R.Trade	
6. Roding	8	9	8	0	3	28	6	7	10	23	51	6. New BC	
7. Pro-Diesel	7	7	6	2	5	27	5	5	7	17	44	7. K & G	
8. T.R.Trade	7	6	8	6	6	33	5	7	5	17	50	8. Toomy's	
9. Maxi Press	7	8	10	4	2	31	7	10	8	25	56	9. Pro-Diesel	
10. New BC	6	8	10	6	4	34	3	5	7	15	49	10. Bleetech	

Figure 3 "Retention matrix"

The creation of the retention matrix takes off from the identification of the main customers for the bank, in order of importance. This ranking method seems restrictive because it often considers a one variable classification, usually the turnover, and does not take into consideration many other technical and personal relevant factors, forcing into having a short-sighted vision of performance and customers.

The Retention matrix has the purpose of giving an holistic approach to this analysis, taking into consideration technical and relational characteristics, for example those shown in figure 4:

TECHNICAL FACTORS:	PERSONAL FACTORS:
Competition Cross selling Dimension Turnover Margins Polithics Potentiality Specific sector Solvency Strategies	Assistance Difficulties in managing Speed asked Personal relationships Active reference

Figure 4 “List of technical and personal factors”, personal elaboration

The number of technical and personal factors here listed, and their own importance, depend on the company’s specific sensitivity, on the examination level, on the type of competitors and so on, and in any case, the factors choice, their number, weight and order highlights the estimation strategy or in other words the expectations in performance. For both categories a restricted number of main factors are selected, as the expression of the company ‘s strategic choices; the sum of these factors can be considered as a synthesis of the company’s estimation strategy.

For each of the factors found, we have to evaluate the performance of the single customer, giving a score from 1 to 10. The final evaluation derives from the addition of the performances of the single factors: we get a new customer classification in order of “importance”, usually resulting differently from the rank obtained only with the turnover analysis.

Choosing this way of classification really represents added value for the bank, meaning real consciousness about their customers group.

An advantage given by the use of this matrix is that it allows us to know the real and concrete added value delivered by each client; there’s also the possibility of customized strategies for the customer based on a well-considered mix of elements and not only on the volume and the revenue developed.

This matrix can be read even adding what comes out from both technical and personal factors and creating one classification based on the priorities and the strategy of the company.

4. “Information-relationship” matrix

We now proceed in examining the “information-relationship” matrix that materialize the last “C” of this model, at the voice Actions on Customers.

The “information-relationship” matrix is a syntetic instrument that include both the four main types of customers active on the market and the behaviours needed with every kind of client. It helps in defining the contact attitudes that lead to the fourth and most important step, that of partnership (Cavallone, 2000) with customers.

Figure 5 is created on two basic ideas, information and relationship, together with high or low quantity; mixed they identify the matrix.

RELATIONSHIP	high	Relationship orientation 2	Partnership orientation 4
	low	Transaction orientation 1	Information orientation 3
		low	high
INFORMATION			

Figure 5 “Information-relationship matrix”

From the combination of these two elements and the high and low orientation we identify 4 main categories of customers that can be orientated to: transaction, relationship, information, partnership.

The first customer typology indicates a low orientation both to relationship and information, it is located in the first square and can be identified as “transactional”; in this case customers are very careful of the economic transaction itself and they expect from the company’s performance only what is usual in the synallagmatic relationship. The information required is limited to the functional aspects (instructions and how to use the product) or to aspects related to the guarantee and the spare parts; in their relationship with the company everything is cut to the minimum in terms of personal contact.

The main incentive of this cluster is the economic aspect, being careful about bargain prices, special offers and low prices in general. Transaction’s priority is to obtain that particular object at the best economic conditions possible.

It’s easy to see that this type of customer is at the same time difficult to retain and of small interest for the company to retain too. Looking at the retention matrix seen before, we can expect, for example, that in terms of redditivity-margin the transactional customer will get low grades for his low propension to personal envolvment, spontaneous or inducted; on the contrary, operating in a switcher mode he’ll probably move from bank to bank depending on the best conditions offered to satisfy his needs. In this category, for example, can be included those customers that prefer a bargain offer, rather than being faithful to a specific bank, or the kind of customer that dedicate a lot of time to shopping, searching for the financial service (a loan, a checking account, etc) they need at the lower price.

Every customer is free to use their money and time as they prefer; from the bank’s point of view this customer may not be interesting in the short (unless they need higher volumes) and long term for a retention process; the customer will be unlikely grow in interest for information or relationship, as it has no immediate economic return.

Moving to the second square, we find the type of customer that is more interested in relationship rather than information. In this case customers appreciate the efforts made to establish some personal contact; we can see here some of the relationship marketing defined before⁸. It seems appropriate to suggest a theoretical extension of the concepts related to communication identified by Nikolasos Papavassiliou and Vlasia Stathakopoulou (1997). In

⁸ Grönroos C., “Service Management and Marketing. Managing the Moments of Truth in Service Competition, Free Press / Lexington Books, Lexington, MA, 2000 and Grönroos C., “From Marketing Mix to Relationship Marketing: Towards a Paradigm Shift in Marketing”, *Management Decision*, Vol. 32, N. 2, 2004, pp. 4-20.

their work, the authors introduce the concept of “continuum”⁹ and state that the communication in the international marketing process happens through continuous ways that are connected to continuous processes of standardization and adaptation. At the same time, they are convinced that the relationship with the customer is created with a “cross-eyed” logic, both in quantitative and in qualitative terms. For the first one, with a continuative relationship built “ab origo”, in other words without the use of some “spot forms”, usually aimed at other commercial proposals (last minute, clean up, ante face lifting products) or at forced relationship (recall from the company to substitute some faulty pieces); on the qualitative side, customized to the customer attending to his specific needs and expectations (“unicuique suum”).

Post-sale interviews, satisfaction response form, contacts to give further information on the product or the guarantee, are some examples of those behaviours that can be seen as “cuddles” (as George refers to in his work¹⁰). It is obvious that at the same moment that the company gets in touch with the customer, it also gives information (as much as they are asked for) but the main aspect is that they create a bond between each other, with the interest in knowing opinions and in letting the customer know that the company will be there and care about him. To make this action become real it is important to have outgoing and propositive staff to follow customer management.

Customers in the third square care more about information and not so much about relationship; this type prefers having a contact with the bank with the only aim of obtaining information on how to create value from himself as a person, the service or its management. For information we mean all data that appeals as a value creator and can range from continuative to occasional, from really complete to superficial.

An example can be the financial sector, as some customers once they’ve chosen their investment, would like to receive specific information (not occasional or standard) found in specific printed reviews or sources, because they prefer to stay in touch personally. For some other customers rapidity in getting information means all, as they perceive as value added service this time reduction in giving information. Not necessarily information has to be referred to products or services supplied by the company, but can also involve the personal sphere of the customer (hobbies, interests or passions), collected in an anamnesis relational phase as “primary data” managed through a marketing database, they become real drivers of value-attribution.

It is clear that the attention given to this relationship and those for the distribution of information are retention tools.

The last square is the most longed for by the bank, as in these customers there is high interest in both relationship and information. When the client receives-perceives (and gives value too) that both his expectations in information and relationship have been completely satisfied, the concept of specific involvement¹¹ materializes and the retention steps up to the next level: partnership with the bank¹².

⁹ Papavassiliou N. Stathakopoulos (1997) “international advertising decisions concerning the creative advertising strategy and tactics can be viewed as a continuum which stretches between two polar ends, one being that of standardization the other of adaptation”.

¹⁰ R.George, “Delight Me”

¹¹ In this way involvement is materialized, examined while examining the delivered mix in the operative level of the “C-Beyond” model: the customer feels the company is present in an active and relational way and enriched through specific and valuable information, at the same time.

¹² More about this in the previous chapter.

5. Conclusions

“C-Beyond” model needs, to be complete, some other elements, especially on the operative side, for instance customers involvement, which have not been described in this work as more importance has been given to the “retention matrix” and the “information-relationship matrix” as basic steps to help us go beyond retention in bank services.

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IMPACT OF INTERRELATIONSHIPS BETWEEN KEY STAKEHOLDERS OF ORGANIC FARMING ON GROWTH AND DEVELOPMENT OF ORGANIC FOOD MARKET - CASE STUDY OF ENGLAND

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Introduction

Organic farming is popularly associated with a back-to-nature movement, which often rejects modern agricultural methods out of hand (Haines, 1982). However, in its less rigorous form, low-input farming is a serious and growing effort to reduce dependence on inorganic fertilizer and chemical controls without drastically reducing the industry's capacity to feed the world's growing population. Organic farming is an approach to agriculture that emphasises environmental protection, animal welfare, sustainable resource use, and social justice objectives, utilising the market to help support those objectives and compensate for the internalisation of externalities. Organic farming relies on crop rotation, crop residues, animal manure, legumes, green manure, off-farm organic wastes, and biological pest control. These maintain soil productivity, supply nutrients controlling pests. It is defined by a principal ideological background of the farm as an organism of soil, plant, and animals interacting to maintain a stable whole (Lampkin *et al.*, 1999). The development of organic farming is determined by diversity of players, including producers, consumers, retail chains, governments, environment *etc.* (Pedersen, 2003). Producers, consumers, retailers, and alternative market outlets are considered here as key stakeholders of organic farming system. Organic producers apparently base their approach on the environment, food production, farming, and society (Hermansen, 2003). They seem to see economic advantages in organic production, alongside environmental reasons and motivations (Hanson, 2003; Dabbert, 2003). Technical issues such as weed and pest control, lack of confidence in the market and access to information are considered major obstacles for most organic producers (Midmore *et al.*, 2001). Consumers appear concerned about environmental aspects, health concerns, taste, and ethical and animal welfare issues (Gruner and Hull, 1995). However, the higher price of organic food is a major constraint on consumption (Soil Association, 2000). In the UK Supermarkets are the main channels for the public to purchase organic food. Profitability is their main motive as it must be with all their operations, but this may conflict with aspects of organic food production (Smith and Marsden, 2004). The main problem identified as affecting the UK market is the limited supply of organic produce (Mintel, 2000). Retailers try to meet the increased demand through overseas imports (The Organic Target Bill Campaign, 2001). However, this strategy may limit the real growth of the UK farms and consequently affect the growth and development of organic farming systems. It is suggested that organic food supply-chains within the UK home market consist of two major channels: 1) Local supply-chains where organic production is sold directly to consumers through farm shops, farmers' markets, organic shops and organic co-operatives and 2) External supply-chains where organic products imported from outside including from overseas (Soil Association, 2005). Research to date regarding organic food production has focused primarily on motivations towards conversion, consumption, the benefits of the organic farming system, and its impact on public health and environment comparing with conventional farming systems (Kerselaers *et al.*, 2007; Harker, 2004; Pederson, 2003; Hallam, 2003; Makatouni, 2001; Midmore *et al.*, 2001).

However, producers and consumers are attracted to organic approaches because of different motivations (taste, quality, environmental safety, animal welfare, ethics, profits *etc.*); some are controversial (Harker, 2004; Brandt and Molgaard, 2001; Lawrence, 2005).

Development of hypothesis

In theory, the building of positive interrelationships between these stakeholders may significantly affect the growth and development of organic farming systems in the UK. Both producers and consumers can generate links between each other through for example direct sales (farmers' markets, farm shops and organic shops) where consumers have a chance of buying fresh and healthy organic products at reasonable prices (Planck, 1999; Meikle, 1999; Soil Association 1999; Trobe, 2001). Such interrelationships between producers and consumers make consumers more confident about the product because they know where and how it was produced. It is also an important kind of support to local producers since consumers are more likely to buy if the product from the UK (Hermansen, 2003; Soil Association, 2003). It is suggested that supermarkets need to encourage and support organic producers by paying them fair prices, which reflects the true cost of production. This kind of support which currently does not exist (Soil Association, 2001a) would give producers confidence in the rate of market development (Midmore *et al.*, 2001). Additionally, organic producers find it difficult to achieve the supermarkets' grades and specifications (Steele, 1996). According to literature, the supply of organic food in the UK is still less than the potential demand and supermarkets try to meet increased demand by overseas imports (Mintel, 2000). Organic producers have failed to meet supermarkets' grades and specifications. This makes imports an essential strategy for supermarkets to meet the increased demand. However, supermarkets need to provide support to organic produce for example, by minimise their specifications in order to provide them good opportunities to access the market. Additionally, the large amounts of imports may negatively affect the environment as well as on the local market. There are demands for this to be minimised and the priority given to British suppliers (DEFRA, 2004). A key strategy may need to be reconsidered to give more support to local producers and encourage conventional farmers to convert. Alternative market outlets can provide producers with chance to sell their products at good price, which at present it is suggested supermarkets cannot provide (DEFRA, 2004). High price is a key barrier for consumers to buy organic foods and this has been considered as the main obstacles for further growth of the market (Makatouni, 2002; European Action Plan 2004).

Consumers need to be more educated about the value of organic foods, the reasons behind high prices and the impact of organic food production on health and environment. There is a significant lack of this kind of information and many consumers do not buy organic food because of lack of such information (Harper and Henson 2001; M.O.R.I 1999). Supermarkets can build an interrelationship with their consumers to provide them with such information and encourage them to buy organic products because educate consumers has the potential to win the support of more new consumers (T.N.S, 2003). In addition, building relationship between consumers and the alternative market outlets will also give consumers another alternative shopping and will have a positive impact on local economy (Lobley *et al.*, 2005). The contribution of both supermarkets and the alternative market outlets in the home market is very important. For example, in 2005 retail sales of organic products in the UK has increased by an annual increase of 30% and retail sales through alternative market outlets increased by 11% (Soil Association, 2006). Cooperation amongst these two players will have significant effect on the development of organic market.

Interrelationships or cooperation between the key players of organic farming systems may significantly affect the organic food market in the UK and consequently the growth and development of organic farming systems as whole. Organic farming has developed at different speeds at different times because of a combination of factors including consumer demand, policy intervention and the influence of the major multiple retailers (Lobley *et al.*, 2005). It is hypothesised that the development of organic farming sector is strongly affected by the new consumer desires and trends in consumption and by the institutional settings in which the different actors of the organic movements operate (Miele, 1999). Additionally, Dabbert *et al* (2002) argued that food scares and subsequent reaction of policy makers and consumers have had an even stronger effect on organic farming development. Organic farming development can be defined as the increase in organic food consumption, local products and fewer imports, new producers convert their farms to organic, more land in conversion, expand of organic market and more understanding of the philosophy and benefits of organic food products. In the UK organic farming development means, sourcing organic produce from a very low input, reduction of food miles, eating seasonal, low CO₂ emission, minimum distance, no packing involved, social benefits and keep the money local (Soil Association, pers. comm.). In conclusion, it could be said that:

"Growth and development of organic farming depends on the interrelationships between its key players"

Developing of research framework

The research conceptual framework and models are derived from the reviewed literature and help provide a critical structure for the research. The model for this research was developed based on the interrelationships among selected key stakeholders. This helps how these conceptualise interrelationships affect organic farming growth and development. Figure (1) illustrates how these factors interact with each other and how this may affect several aspects of organic farming development. The research approach is by use of an appropriate 'conceptual framework' and the application of multi-methods to facilitate and lead the study. The key research questions in the present work will help address some of the identified gaps.

The purpose of this research is to critically evaluate the organic food production in the UK by considering the interrelationships/interactions between range of motivations, barriers and source of information of producers, consumers, retailers and small organic processors towards organic. The impacts or influences of such interrelationships on organic farming growth and development in the UK will be assessed. The organic literature says that in order to develop organic production in the UK, there is a need for an increase in communication, cooperation and understanding between key stakeholders of the system. The current literature suggests that barriers to the development of organic agriculture in the UK can be traced to the disconnection between stakeholders. This project considers these issues by firstly developing a 'conceptual framework' and then interrogating the interrelationships through a multi-methods approach. This facilitated the research process to achieve the following objectives:

1. To undertake a critical review of key literature and the available information sources.
2. Assess the importance of interrelationships among key stakeholders on organic farming development.

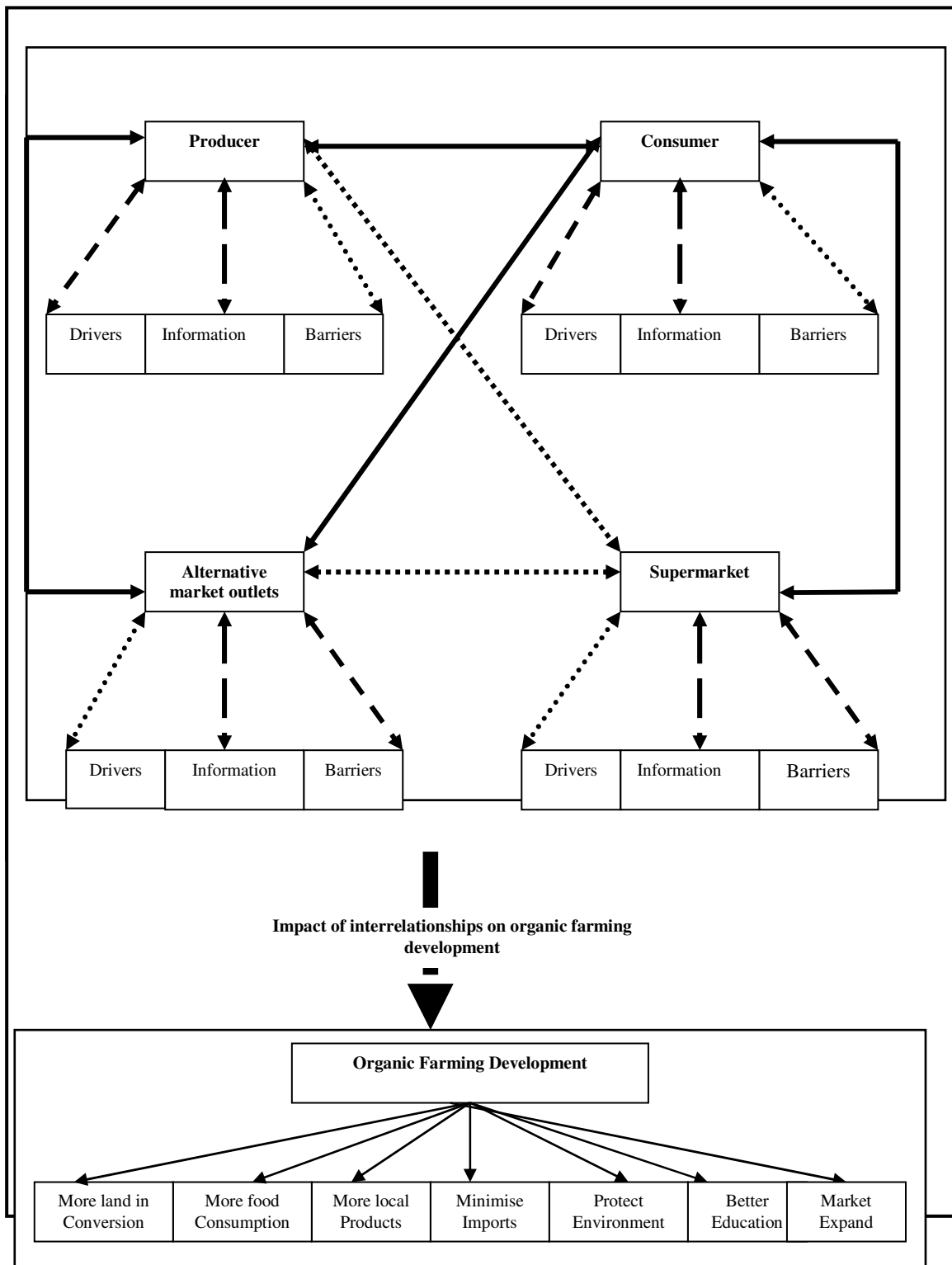


Figure (1). A subjective assessment based on the literature review of the interrelationships among the main variables of the organic farming system and its impact on the organic farming development.

- Cooperative relationship
- Disconnected relationship
- Similar drivers or barriers
- Different drivers or barriers
- Lack of information
- Aspects of organic farming development

Methodology

Quantitative and qualitative approaches were applied in order to achieve the above objectives. This involved an in-depth postal questionnaire survey (637 organic farmers) in different regions of England with selective follow-up telephone interviews. A series of detailed personal interviews with representatives from major supermarket chains were conducted. Face-to-face interviews were also conducted with the managers of five different types of alternative market outlets in South Yorkshire. All information on consumer perspectives and issues was collected and interrogated from the extensive available literature. Mixed methods were used to gather pertinent information, and where appropriate this was tested statistically using the Statistical Package for Social Sciences (SPSS) software. The qualitative information was analysed and interpreted. Qualitative findings of (10 interviews) were transcribed, critically analysed, triangulated, and interpreted.

For the purpose of this paper, only the perspectives of all stakeholders about the effects of interrelationships / cooperation on organic farming growth and development will be presented and discussed.

Farmers were asked their opinions about the effects of interrelationships / cooperation on organic farming growth and development. Secondly, telephone interviews were conducting with selected farmers (who had already agreed to be contacted) for more clarification about how such interrelationships affect specific aspects of organic farming development. For example, the farmers' opinions were requested regarding the impact of the interrelationships on organic food consumption, the amount of land in conversion, and on the amount of organic local products. Seven big supermarkets (TESCO, ASDA, Sainsbury's, Waitrose, Morrison, Marks and Spencer, and Somerfield) were chosen and contacted to gather detailed information about their motivations, the barriers and strategies for the distribution and sale of organic foods. The information desks of all the above supermarkets were contacted to arrange face-to-face interviews with their experts in this field. The questionnaires for the interviews were prepared and classified with data collected from the supermarkets into four main sections: Consumers and producers, organic food supply-chains, supermarkets and interrelationships. Structured and semi-structured interviews were chosen as appropriate methods to gather the information needed for this project.

With regard to the total amount of organic and in-conversion land across all regions of England, Yorkshire and Humberside was the region with smallest area managed as organic which accounts for 1% of total agricultural area in the county (DEFRA, 2006). This may have negative impacts on local organic food production in the region and consequently on the organic food market. In order to investigate this point, the alternative market outlets that are registered with the Soil Association (The biggest certification body in the UK) in this region were selected as a case study. The interrelationships between these outlets and consumers, producers, and supermarkets were assessed.

Documents can be treated as a source of data in their own right - in effect an alternative to questionnaires, interviews or observation (Denscombe, 1998). In-depth literature survey was conducted to underline the current knowledge and information about organic consumers. Through this, the interrelationships between consumers, producers, and retailers, and aspects of the information flow were quantified. In addition, the current surveys conducted on organic consumers were reviewed. All the gathered information was organized and coded for analysis and interpretation. It is also important to note that there were several questions addressed to

all respondents in supermarkets and alternative markets outlets. These were about consumers' motivations, obstacles, and barriers to buying organic foods. In addition, qualitative data were gathered about organic consumers during the interviews with key representatives from supermarkets, alternative market outlets, and the Soil Association. This information was coded, analysed, and interpreted. Some other data were collected by reviewing other documents such as literature, reports and journals.

All data received from organic farmers (farmers' responses) were analysed using Statistical Package for Social Sciences (SPSS) software. The data gathered from all the interviews were also coded, transcribed, and prepared for manual analysis and interpretation.

Results

Interrelationships amongst organic stakeholders

Farmers' opinions about how Organic Farming Development (OFD) was affected by the cooperation between the stakeholders were tested; the findings are presented here. Organic farmers believed that cooperation among the stakeholders is an important issue in the growth and development of organic farming systems. About 187 (81%) farmers out of 230 agreed that such relationship is important (Figure 2).

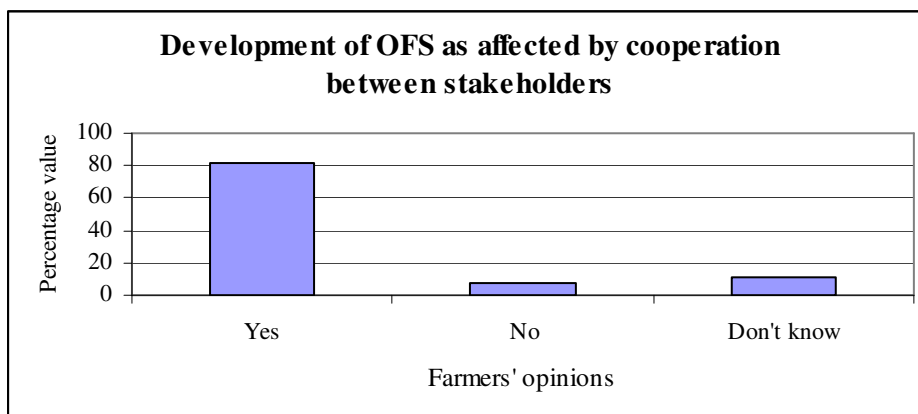


Figure (2) Farmers' opinion regarding the cooperation among the organic stakeholders.

For more clarification, some farmers were selected (those who agreed to follow-up contact) and interviewed over the telephone. They were asked about how the interrelationships affect different aspects of organic farming development and what found from this as indicated below in Figure 3 About 87% (163) of organic farmers out of 188 agreed that the interrelationships between the key stakeholders have positive and significant effects on all major aspects of organic farming development.

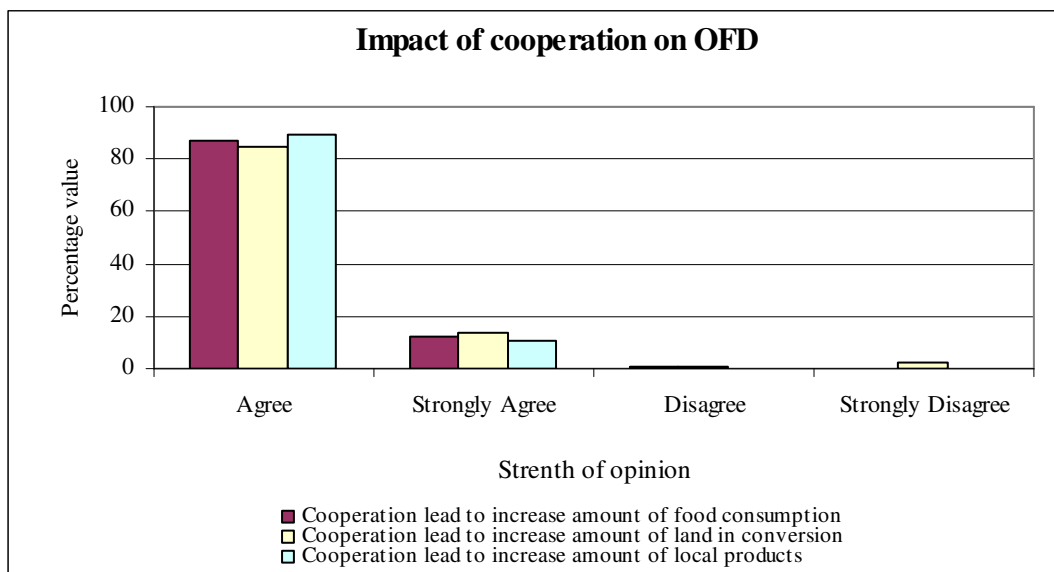


Figure (3) Farmers' opinion regarding the impact of the cooperation among the organic stakeholders on specific aspects of organic farming growth and development.

Organic farmers were also asked whether in their opinion, the import strategies adopted by the main food supermarkets were considered a major barrier to organic farming development. About 164 (87%) farmers believed that importing is a major obstacle to the growth and development of organic farming system in the UK (Figure 4).

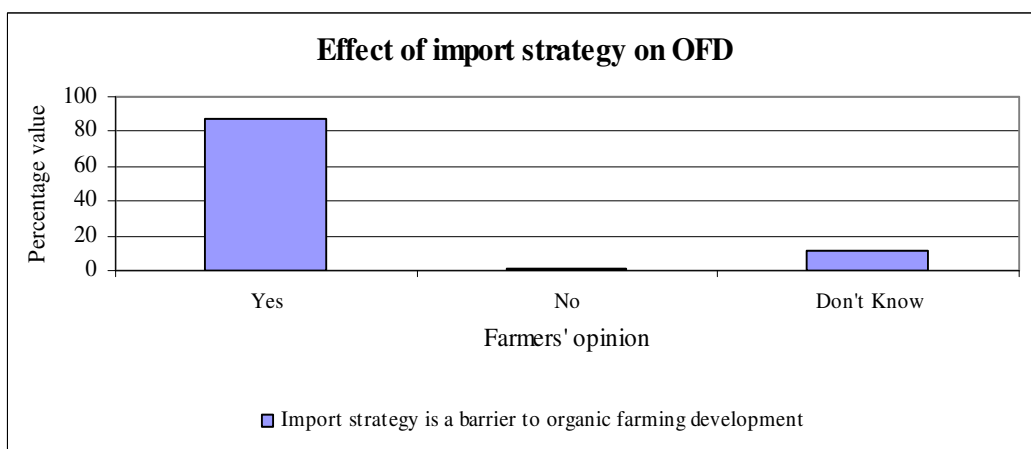


Figure (4) Farmers' opinion regarding the impact of import strategy on organic farming development.

In addition, consumers' surveys highlighted some other important issues related to organic consumers such as where the consumers would buy organic food, information about the product it self, packaging *etc.* Consumers will support organic farmers by buying organic products. Consumers prefer to see detailed information about the product to be on the packaging. Education of consumers about organic is suggested to be a key factor in winning more new consumers. Organic consumers in Wales and the Midlands prefer to buy organic food from multiple retailers. These in South England and Northern Ireland prefer to buy organic from farmers' market. In South Yorkshire, box schemes are popular.

Organic shoppers were asked whether they would prefer to buy a locally grown non-organic or an imported organic product. A clear majority of respondents would prefer to buy local

non-organic option. The reason given was a desire to support local producers and reducing 'food miles.'

In terms of the interrelationships between organic producers, consumers, and supermarkets and its impact on organic farming growth and development, Supermarket One emphasised the importance of such interrelationships as leading to sustainability. This supermarket considered that communication with consumers is a key factor. In this respect, they try to influence consumers to understand the reasons for the relatively high prices of organic food. Representative of supermarket One indicated that "... Cooperation or good interrelationships between organic producers, consumers, and retailers are very important." They suggested that there is lack of understanding amongst consumers of what organic food is and so they need to be educated: "... Consumers need to be educated about organic." Supermarket Two indicated that they try to convince consumers to buy organic by using different kinds of media.

Interrelationships between organic producers, consumers, and supermarkets are very important and may lead to increased land in conversion. Conducting regular conferences with producers and working closely with suppliers to deliver what they need and provide unparalleled services to consumers are the important objectives for supermarket Three. Taste, fat content, shelf life, good eating, and appearance are required: "... We have long tradition of working closely with our suppliers to build mutually beneficial relationships." Developing long-term supplier relationships is a major strategy because it may leads to sustainable land conversion programmes for future supply. The representative said interrelationships are essential and must be strong and based on trust. This definitely has a positive impact on organic farming through maintaining organic food consumption, bringing in more converted land, and expanding local production. Representative of supermarket Four indicated that the interrelationships between producers, consumers, and retailers are a key issue in building trust between all partners. They considered that the current interrelationships are not so good but that will get better. It will have positive effect on the organic food market.

Similarly, all alternative market outlets emphasized the importance of interrelationships amongst all stockholders as it may leads to more understanding of the concept of organic food and that is will leads to the improvement of the home market.

Discussions

Interrelationships and triangulation

The interrelationships and cooperation between key stakeholders of organic farming are suggested as important issues in the growth and development of the UK organic sector. Here the opinions of organic farmers, supermarkets and alternative market outlets about the importance of interrelationships in organic farming development are assessed. All findings were set within the Conceptual Framework (Figure 1) to evaluate and describe these interrelationships, and to what extent they affect organic farming development.

As indicated in the results (see Figure 2), about 81% of organic farmers stated that these interrelationships are important in the growth and development of organic farming. Similar results were found by other studies (Pederson, 2003; Smith and Marsden, 2004; Infood, 1997; Soil Association, 1999). The opinions of organic farmers were also assessed in terms of the impacts of interrelationships on certain aspects of organic may lead to increased land in

conversion farming development (see Figure 3). A large proportion of organic farmers agreed about the positive impacts of such interrelationships on the aspects of organic farming development. Based on farmers' opinions, it seems that the development of organic farming may be strongly influenced by these interrelationships. Representatives of all the supermarkets also emphasised the importance of the interrelationships between stakeholders. They indicated that these interrelationships between producers, supermarkets, and consumers are essential and lead to expansion of converted land and sustainability. Supermarkets also indicated that delivering what they view as unparalleled services to their consumers could not happen without developing long-term supplier relationships. This is seems consistent with Wier and Calverley (2002) (AMS, 2006).

All representatives of alternative market outlets indicated that there are many advantages of interrelationships between the stakeholders of organic farming. According to their opinions, it leads to building relationships of trust between key stakeholders and positively affects the organic food market. The building of trust relationships based between consumers and producers through direct sale and flow of information between consumers and supermarkets are the best examples. Additionally, the Soil Association as well as the Department for the Environment, Food and Rural Affairs (DEFRA) are encouraging both consumers and producers to engage in direct sales. This may help to build long term and trust relationships between consumers and producers (Soil Association, 2006a; DEFRA, 2006).

In summary, all stakeholders have the same conclusion that the interrelationships are a key issue in organic farming growth and development. They also indicated that the interrelationships must be strong and based on trust. Nevertheless, farmers seem dissatisfied in their relationships with supermarkets. Therefore, it is concluded that the relationship between the farmers and supermarkets is not strong enough and it may classified as 'confrontational' relationship (Figure 5). This is consistent with Tate (1991) and Soil Association (2001a). The confrontational relationship between farmers and supermarkets may affect organic farming development in several ways, having negative impacts on amount of land in conversion and the amount of local products. The relationship between producers and consumers appears much better than that between producers and supermarkets.

This research concluded that producers are focusing on direct sales to consumers, and consumers are becoming more interested in seeking suppliers at farmers' markets and farm shops. These findings agreed with Hormones (2003), Makatouni (2001) and Mintel (2000). By buying locally grown produce, organic consumers felt they are providing support to local producers. However, about 70% of the British public have no idea what food the farmers in their area produce (NFU, 2000). It seems there is a gap between consumers and producers in terms of information about organic food production. Lawrence (2005) argued that supermarkets are contributing to the growing gap of knowledge in food supply by offer little to no scope for face-to-face contact or knowledge transfer between producers and consumers. This research revealed that the flow of information between consumers and producers still limited. In contrast, the Soil Association encourage producers to go to direct sales and consumers to stop eating products out of season. This strategy of the Soil Association may lead to improve the cooperative relationships between consumers and producers. Consequently, this may encourage increased organic food consumption, more local production, and better education for both consumers and producers.

According to the opinions of the managers of alternative market outlets, there are several issues related to the interrelationships between organic farmers and alternative outlets. These are:

- 1) Farmers and farmers' cooperatives are the main suppliers for alternative market outlets;
- 2) Organic farmers and alternative outlets seem to share similar motivations toward organic;
- 3) Organic producers appears less controlled by bureaucracy with few specifications when deal with the alternative outlets;
- 4) There was a direct contact and flow of information between the outlets and organic farmers.

These issues appear to be key factors in building 'collaborative relationships' between these two stakeholders (Figure 5). This may have positive impacts on expanding the local market, protecting the environment, and increasing organic food consumption. However, alternative market outlets sometimes had trouble in sourcing some organic products.

Supermarkets rely on their consumers and consider them as the main drivers of the organic food market. According to this, supermarkets tried to offer them broad choices of organic food with quality at fair prices. Results indicated that many consumers across the UK still prefer to buy organic food from supermarkets. That is possibly because of the high quality and better display of organic products at supermarkets, which make shopping more convenient for consumers (Soil Association, 2006). In addition, supermarkets try to educate consumers about organic food through conducting listening conferences and by providing consumers with information about products and markets. This kind of link (collaborative relationship) between consumers and supermarkets may lead to better education, more food consumption and expand the market. As discussed earlier, direct sales through alternative outlets offer consumers alternative shopping to supermarkets by provide them with local, fresh, and healthy food at reasonable prices with a minimum distance. This may leads to increase local co-operation, minimise food miles distance (protect environment) and building consumer confidence. These findings are in consistence with other studies (Trope, 2001; Ross, 2000; Soil Association 1999). It could be concluded that the relationship/cooperation between consumers and alternative outlets is 'improved' and may leads to increase local organic production, amount of food consumption (Figure 5). The managers of alternative market outlets indicated that supermarkets are using their power to control market and supply chains. Similar result was found by other study (Soil Association, 2001a). They also added that supermarkets rely on imports to do good business. The managers of alternative market outlets try to provide their consumers with alternative shopping to supermarkets by offering those products that are not available in supermarkets. It seems that supermarkets are the main challenge for these outlets. FARMA (2006) argue that the alternative market outlets need to create new systems of provision bypass the supermarkets supply chain, and organise in such a way to wield sufficient power in the marketplace. It appears that the relationship between alternative market outlets and supermarkets was based on competition and may be classified as a 'disconnected relationship' or may not exist at all (Figure 5). Disconnection between these two stakeholders may negatively affect local organic production, and increase imports and environmental degradation. In contrast, several studies (Banks and Marsden, 2001; Burt and Sparks, 1997) concluded that the dominance of supermarkets resulted in the UK having the fastest growing organic market in Europe. These studies noted that organic market expansion creates more land under organic and attracts more consumers. They feel that this cannot be achieving without engaging with supermarkets who acts as a key gateway to the mass market. ith reference to, the Research Framework (Figure 1) and the findings of this research, the

classification of the interrelationships among the key stakeholders and its impacts on several aspects of organic farming development are illustrated in Figure 5.

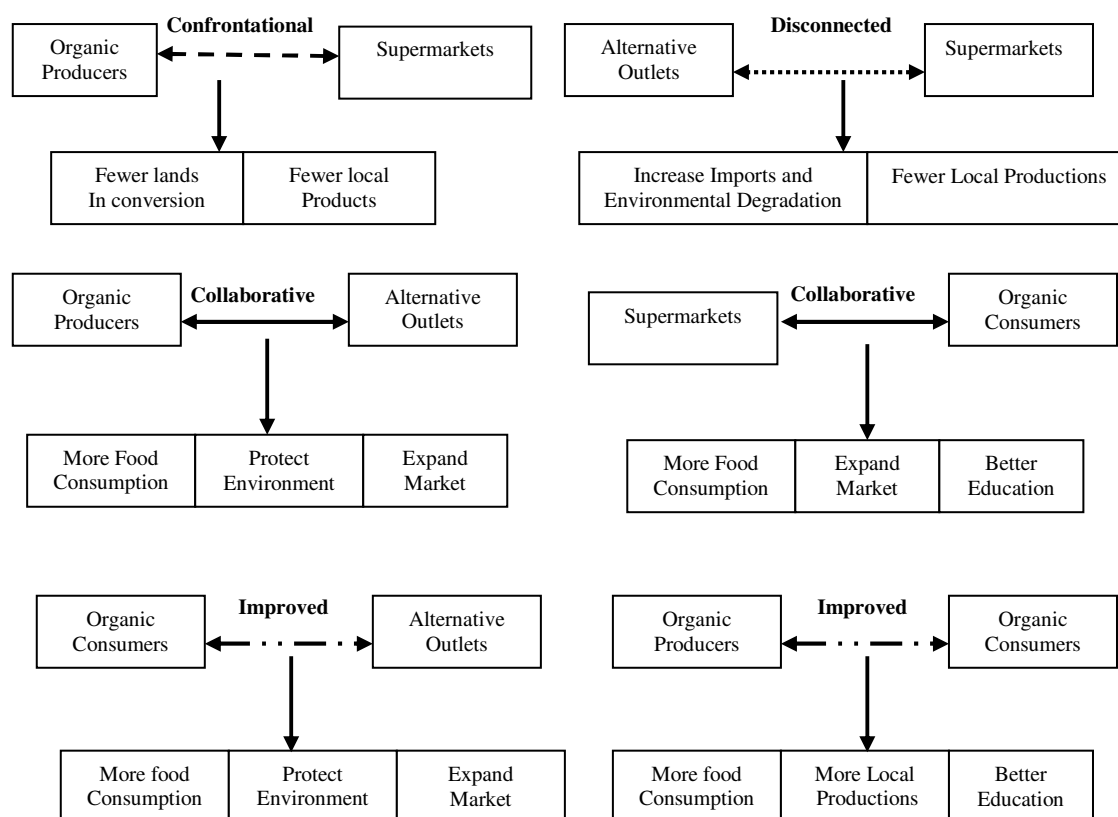
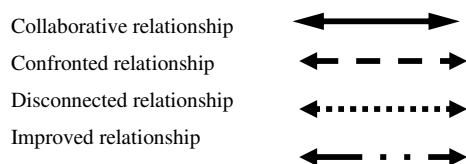


Figure (5). Assessment of interrelationships after evaluation of stakeholders information and its impacts on the aspects of organic farming development.



From Figure 5, it may be concluded that any growth and development in organic farming system depends mainly on the good communication, cooperation, connection and collaboration between its key stakeholders.

The research has highlighted some key issues and suggests a number of tensions that may be critical to the future development of organic farming in the UK. Some of these are in broad agreement with the published literature; others are new observations or differ from established opinions. There are interesting differences in views expressed by key stakeholders, with perhaps a degree of hypocrisy too over matters such as pricing and profits. There are also areas where initially counter opinions (for example supermarkets and alternative supply chains), where they in fact express similar concerns, notably in this case the difficulty in sourcing locally. The different groups of stakeholders all seem to be aware of the importance of partnerships or at least positive interrelationships. How they each translate this into action is of course the critical factor. Similarly, many expressed their view that 'education' or at least dissemination of information, was very important. Again, the content of the information, the audience to whom it is directed, and indeed the form of the dialogue become critical issues. Some stakeholders expressed opinions that the main thing was to educate the public into understanding the 'goodness' of organic food and the fact that it is more expensive. This assertion seems to ignore the strongly held feeling that the majority of people in the UK

expect to pay low prices for food. So whilst education and information might influence a relatively small proportion of concerned ethical consumers, who must also be able to afford to buy at premium prices, will it really influence the wider shopper?

There also appears to be confusion for many shoppers about what is 'organic' and particularly so in terms of 'local' foods, and of 'conservation' or 'environmentally-friendly' or 'sustainable' products. Combined with issues of seasonality, these appear to muddy the waters for many buyers. It seems then that information or education, in terms of clear and unambiguous labelling could help some at least make a more informed decision in their shopping. This might then help the longer-term development of the organic farming sector in the UK.

Price and presentation seem also to be critical issues with a deep tension between stakeholders in terms of the domestic supply chain and that based around imports. Despite protestations from most stakeholders that price and profit are not issues, (when in fact they must be) these seem to be key barriers to consumer purchase, and to supermarkets sourcing locally. Other factors influence overall profiles and performance, but price and quality are critically important.

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THE STRATEGIC ROLE OF LOCAL BANKS' NETWORKS FOR QUALITY STANDARDS OF CORPORATE BANKING SERVICES FOR SMES

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Keywords: *Local banks; bank network; SMEs, bank services; local development.*

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Introduction

The paper introduces¹ the analysis of corporate banking services offered by local banks to Italian SMEs and starts with the exam of the relationship between banks and enterprises and focuses on the examination of the demand side, referred to the financial practice of Italian small-medium enterprises (SMEs), and the supply side, referred to the width and the depth of corporate banking services offered by local banks.

Within this framework, the first section reviews the type of relationship between local banks and small-medium firms; the centre of attention lies down on the financial models which has helped the growth of Italian entrepreneurship. The second section describes the demand of financial services of Italian SMEs and illustrates the characteristics of corporate banking in specific territorial services. The third section uses a model in order to understand the quality of corporate banking services and to identify the existence of a potential gap between the demand of different group of SMEs and the supply of local banks. The fourth section hence deepens the analysis of networks, looking for organizational models capable of strengthening local banks role for territorial competitiveness. Within these, polycentric networks seem to be appropriate both for their power distribution and for their synergic use of common resources. This net characteristic is different from enterprise networks which, for competitiveness purposes usually tend towards centred networks. Moreover local bank networks seem to suite comfortably within disseminated networks of network, since every single local bank is indeed both a network knot and a social network itself within its territorial localization. The last section closes with some considerations about local bank networks in order to strength the quality of corporate banking services.

1. The relationship between local banks and SMESs

The financial relation between banks and enterprises (i.e. credit-based model²) has been explained by two polar theoretical models: the “relationship-based” and the “transaction-based” (or arm’s length) form of financing.

¹ Even though this paper was written in cooperation by both authors, par.1, 2, 3 can be attributed to Michele Modena, and par. 4.1, 4.2, 4.3 to Francesco Polese.

² The credit-based model has its counterpart in the market-based model. For a comparison between the two models and their different impact on the firms’ competitiveness please see Fabbri (1999). For Porter (1992) the credit based model is superior in supporting the firms’ long-term competitiveness because it is not too much focusing on the short-term performance as the market model is.

As Elsas (2002) underlines, relationship lending is defined as a long-term implicit contract between a bank and its debtor. In this form of financing, the bank produces and accumulates private information over time through the relationship with the borrower, and uses this information in giving loans, setting loan terms and renegotiating. The repeated interaction between lender and borrower over time establishes close ties between the counterparts. Such commitment ensures potential benefits to the system such as increased credit availability and more efficient decision if borrowers face financial distress (see Sharpe, 1990; Rajan, 1992; Petersen, Rajan, 1995). At the same time, the relationship-based financing favours the return to the financier by granting her some kind of monopoly over the firm she finances, especially when the bank serve as the sole or main lender (Rajan, Zingales, 1998; 2003)³, and giving her some advantages in obtaining cost economy and economies of scope, which reflect in bigger operating margin or in more favourable conditions to customers⁴.

In the arm's-length system, the loan will be contracted for a specific period, and the interest rate will be a competitive one that will compensate the lender for time and the risk of that particular loan. The more widespread financial information about the borrower let the firm to plug a wider circle of potential lenders; borrowing from "arm's-length" lenders or multiple uninformed lenders could limit one of the costs associated to the relationship lending, i.e. the above mentioned bargaining power of the bank due to her information privilege.

The common finding in the literature agrees that small banks have a comparative advantage in relationship lending and a disadvantage in transactions-based lending. Referring to De Young, Hunter, Udell (2004), theoretical contributions and empirical evidence seems to support this view addressing that: a) there are organizational diseconomies that make it problematic for large banks to process and communicate soft information (Stein, 2002)⁵; b) the contract terms of business lending at large banks are different than at small banks (Berger, Udell, 1996); c) small banks are more likely to base loans on soft information and the strength of the relationship (Berger, Miller, Petersen, Rajan, Stein, 2005; Scott, 2004); d) and that relationship lending is inverse correlated with longer distance where hard information trumps soft information (Berger, Miller, Petersen, Rajan, Stein, 2005).

Also, there is evidence that the strong territorial presence of local banks and the behaviour of SMEs, especially the family-owned ones, drive to a more stable relationship between small lenders and borrowers. The defence of the territory where the bank operates forces the financier to support the local business and to strengthen its competitive advantage in producing and accumulating information useful in the screening and monitoring lending process. At the same time, the entrepreneur favours the creation of a privileged relation with the lender because the relationship lending seems to: a) limit the widespread of information concerning the company's strategy and owner's assets; b) restrict the opportunistic behaviour of lenders, especially during periods of economic instability; c) keep low the financial services' cost, minimizing the additional cost of the multi-banking practices; d) favour the bank's continuous assistance.⁶

For the more common literature, the external financing of opaque small businesses can only be provided by soft information-based relationship lending and small banks are well-equipped to provide relationship lending.

However, recent studies (Berger, Rosen, Udell, 2007) show findings that are not inconsistent with the common finding in the literature, but in the meantime support the hypothesis that

³ The authors claim that, as with every monopoly, the bank power over the firm being financed requires some barriers to entry due to regulation or to the "opacity" (lack of transparency) of the system.

⁴ For more reviews of the literature on relationship lending, see Berger and Udell (1998) and Boot (2000).

⁵ Soft information would include qualitative information about the character of the entrepreneur and the strength of the company. For relationship loans soft information is very important.

⁶ See Baravelli (2003).

there are many transactions lending technologies that large banks may deploy in lending to opaque small businesses. These forms of financing, where soft and hard information are differently mixed, include financial statement lending, asset-based lending, small business credit scoring and leasing (Berger, Udell, 2002; Cenni, 2006). For example, in the U.S. almost the 50% of small business loans are credit-scored micro-business and are held by large banks (Strahan, Weston, 1998). With the introduction of Basel II, there will be an increase of extending credit to small businesses primarily based on the strength of the financial statements, which relies more on hard information.

The potential improvement of the transactions technologies for lending to opaque small businesses and the importance of banking industry consolidation put emphasis on the main risk of the relationship lending.

As Caratelli *et al.* (2007) argue, the attitude of a bank to create stable and long relationship depends from her capacity to tender to the firm over the time a width, integrated, and possibly personalized, set of corporate banking services. In this framework, the supply of banking services from local banks could not rest only on the lending business, but it must cover all the financial needs of SME such as cash management, investment analysis, risk management and all the other areas connected to the main corporate finance themes. This is true especially for the growing SMEs, which ask more sophisticated services to the bank; the lack of an integrated supply from the local banks could lead to the loss of their competitive advantage in the relation with SMEs.

2. The demand and the supply of SMEs corporate banking services

2.1 The demand side

Nowadays, the Italian economic system consists of a small number of large corporations, numerous SMEs and thousand and thousand of micro-firms.

Moreover, the Italian SMEs show a lack of separation between property and management; this feature marks the Italian family business and produces an important impact on managerial and financial behaviour of small-medium enterprises.

Referring to different contributions (i.e. European Commission, 2005; Unicredit, 2004), the state-of-the-art of the Italian financial structure puts in evidence that most of the SMEs use bank debt (typically short-term debt) to cover their financial needs and that the main short term funds are bank commercial loans, especially in the micro-firms. The reason of the dominance of commercial loans is principally due to the length of DSO (days sales outstanding), but also to the imperfect financial coverage of fixed assets made by SMEs.

The “financial way to growth” of Italian SMEs lies in three main variables: the small size of Italian enterprises, the fiscal leverage and the firm’s capacity to create internal fund (net cash flow).

As stated in the traditional trade-off models, the chief benefit of debt is the tax advantage of interest deductibility, that reduces the cost of raise debt instead of raising equity or alternatives external funds. Following the pecking-order model of financing choice, the firms use external financing only when internal funds (net cash flow) are not sufficient. The informational asymmetries between management and investors imply that external funds are undervalued in relation to the degree of asymmetry (Myers and Majluf, 1984; Myers, 1984) and so external funds are less desirable. Therefore, the firms do not target a specific debt ratio and when they decide to use external funds, they prefer to use debt, convertible securities, and, as a last resort, equity.

According to Berger and Udell (1998), the SMEs’ pecking-order model of financing choice finds a support not only in the size of the firm, but also considering the financial growth cycle

that observes the firms' financial in the different stages of their life (at each stage there are a different mix of soft and hard information).

Because the Italian entrepreneurial system is entering the maturity stage, someone could expect the evolution of the SME's financial management with the growing role of capital markets and institutional investors (e.g. private equity) and a stronger integration of the financial function within the corporate organization.

However, the Italian SMEs show a gap with what diagnosed by the theoretical models. In addition to the above mentioned high debt level, there are two other highlights: the low importance of the financial function; the strong demand for traditional banking services (payment services, commercial and industrial loans) and the consequent moderate request of more sophisticated and valuable corporate banking services.

A distinctive feature of the Italian firm system, which explains the existing financial gap, is the presence of the family at the held of the company. The life cycle of the family's founder and the nature of the *liaison* between the family and the internal and external environment drive the firm's strategic growth and the adoption of more virtuous financial practices. In this framework, it is useful to reread the financial behaviour of the Italian SMEs.

A common finding in different studies put in evidence the correlation between the entrepreneurial generation and the use of innovative corporate banking services. The firms that have already crossed the generation path are searching more value added banking services. As De Vecchi stated (2007), in the family business of first or second generation it is the founder of one of his relatives who is the "de-facto" chief financial officer (CFO), sometimes supported by some consultants with more operating than strategic duties. The moderate "family CFO" knowledge of corporate finance themes often causes an inefficient financial management: the financial planning is not a priority for the firm, the investment activity is not supported by the results of the traditional capital budgeting techniques, the funding search begins only when the firm needs new money, the information system is not a pillar in the financial area, and the relationship with the bank system is not based on a strong level of communication. As the recent evidence testifies, the risk of this lack of quality in the financial management could lead the "family CFO" into the trap of exotic and risky financial instrument (e.g. credit derivatives).

The plurality of vectors (size, growth cycle, family business) makes difficult the full comprehension of the financial behaviour and practices of the Italian SMEs. In order to understand the quality and the dynamic of financial services, in the fourth chapter we will segment the SMEs in a new way that will give a strategic and technical contribution to the local banks for the development of an integrated corporate banking proposal to their corporate customers.

2.2 The supply side

Before beginning the analysis of banking service' quality, it is important to define a local bank and the magnitude of corporate banking services.

The bank size may be the best single proxy for identifying a local bank: for many, a local bank must hold less than €1 billion in assets. The exclusive use of the size approach will fail to not well identify the complex phenomenon of local banks. The following qualitative definition captures some of characteristic of this category of financiers (De Young, Hunter, Udell, 2004; Corigliano, 2006; Caratelli *et al.*, 2007): (a) local banks derives at least half its deposits from branches located in a single county; (b) is domestically owned; (c) has a product mix that includes portfolio lending, transactions services, and insured deposits; (d) is either an independent bank, the sole bank in a one-bank holding company, or an affiliate in a multi-bank holding company comprised solely of other local banks; (e) is fully rooted in a

specific territory and operates in a community of which shares history and tradition; and (f) has a vocation to support symmetric entrepreneurship, for size and principally local-based. In most developed countries, the majority of banks continue to be small and local. But there are trends (new financial instruments, innovations in bank production processes, deregulation, advances in information technology and increased competition) that have caused the decrease of local banks' number. For some authors (see e.g. De Young, Hunter, Udell, 2004), it is natural to wonder if the local bank business model will continue to be viable in the future. The potential declining local banking sector has serious implications for the Italian economy. As above discussed, the small business sector – an historically crucial source of innovation and new job creation – relies on small local banks for credit to which they typically offer traditional lending services.

Concerning the magnitude of corporate banking services, it is not simple to define the exact boundaries of this area because the literature gives definitions with different breadth. For the purpose of this paper, we prefer a broader definition that includes all the corporate banking services, both traditional and innovative. In this perimeter, the target areas of our quality analysis are the following:

- Payment services (payment, cash management, credit card)
- Traditional lending services (short-term and long-term commercial and industrial loans, facilitated financing)
- Advanced lending services (hot money, commercial paper)
- Asset management
- Risk management (interest, currency, commodities, insurance risks)
- Corporate finance services (M&A, LBO, turnaround)
- Merchant banking services (IPO, private equity, issues new shares)
- Structured finance services (mezzanine, project finance, subordinated debt, securitization).

All these services have some mutual and distinctive features:⁷ the demand is not elastic to the price; the brand of financial intermediaries, the capital reputation, and the positive track record play a fundamental role as the key success factors; the bank must have solid know-how and strong competences in all the corporate finance fields (e.g. corporate evaluation, risk evaluation and management, advising and consulting); for the more sophisticated services, there is a vocation to the arm's length form of financing instead of the relationship approach.

3. The analysis of corporate banking services

The metamorphosis in the demand and supply of financial services forces to better identify some clusters of SMEs in order to exploit the opportunity, for local banks, to set a proper offer of corporate banking services. The corporate banking market consists principally of SMEs. In this market, an important niche is represented by the family business, which has a consolidate relationship with local banks. So, it is essential for the local banks to have a whole view of the SMEs financial needs in order to create a tailored set of corporate products and services. An organic range of financial services allows local banks to serve SMEs in a proper way: a cash management service for a group of family companies, a support to external growth for the more proactive firms, a holistic risk management approach for the pocket multinational SMEs.

⁷ See Caselli and Gatti (2002).

In order to verify the quality of local bank SME services we use a model - based on a process described later on this paragraph and yet applied to private banking market (Modina, 2003) - to discover the presence of gap between demand and supply of banking services provided by the local banks. The approach is developed as follow: first, we select the survey areas that detect the market of corporate banking services; second, we characterize SMEs' corporate banking needs through a new way of segmentation; third, we derive local banks' services quality and discover potential gaps.

1. Selection of the survey areas: the detected areas are included in the above mentioned general definition of corporate banking services (i.e. payment services, traditional lending services, advanced lending services, asset management, risk management, corporate finance services, merchant banking services, structured finance services).

2. Characterization of customer target: SMEs are partitioned based on their financial needs. Starting from the segmentation suggested by Caselli and Gatti (2002), we separate SMEs market in three main clusters: traditional companies, companies in transition and complex companies. Any customer segment has his distinctive features (see Table 1) that differentiate any firm group from the other for corporate banking needs:

- Traditional companies: they demand essentially traditionally services and generally do not request high value services. They frequently contact banks, but their relation is more low-touch (related to more transactional services) than high-touch.

- Companies in transition: the metamorphosis they are living involves the demand of more sophisticated financial services. Generally they work with more banks (not only local) and they request for more and more high value services not only restricted to satisfy their need of funds (i.e. advising, consulting).

- Complex companies: they usually search qualified banking partners, able to operate as specialists in addressing specific problems and to be proactive in offering high-value solutions.

Deepening the analysis of quality services, in order to build a consistent supply model, it is necessary for the local bank to discover the corporate customer target the bank could and would attend. The analysis focuses on the gap between the bank's model supply and the services demand from traditional, in transition and complex companies.

Table 1: *The features of three clusters of SMEs*

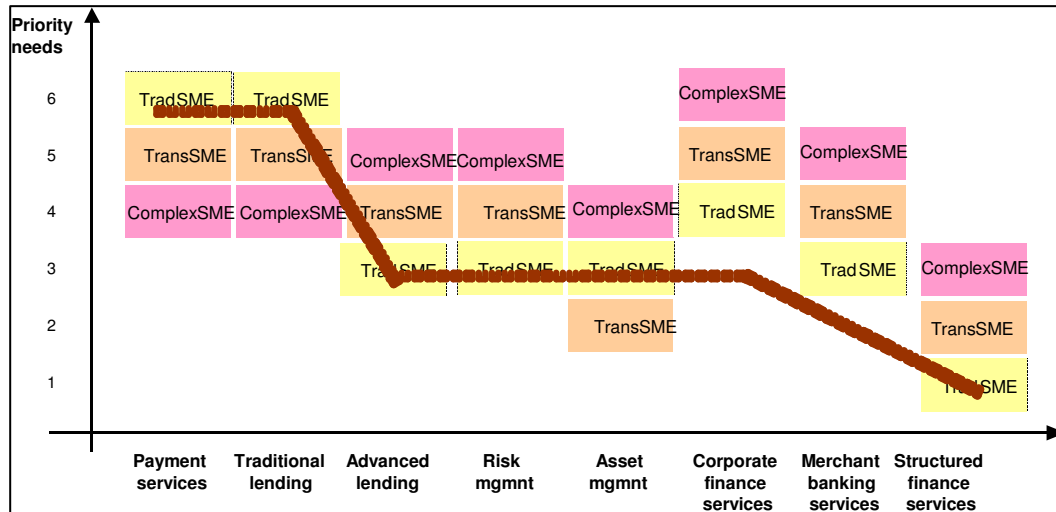
Traditional SME	SME in transition	Complex SME
- Family owned, principally of first generation	- Family owned company in migration toward a more managerial model	- Managerial model (generation path concluded)
- Finance is not a primary area; the focus is on products and (less) on markets	- Rapid growth with change at strategic and organizational levels	- New and more modern relationship between ownership and management
- "Family CFO"; poor approach to financial decision, also in bank relationship	- Improvement in financial management	- Finance area has a strategic position in the company

Font: our elaboration based on Caselli and Gatti (2002)

Analyzing the segmentation outcomes, it is possible to find the priority level assigned by the three SME clusters to each corporate banking service. Quoting the outcomes on a graduate

scale (where 1 is the lowest priority and 6 the highest one) and comparing with the bank competitive advantages (the dotted line on Fig.1), it is possible to see how much the local banks corporate banking offer match with the different need of the SMEs peer group.

Fig. 1: *The analysis and demand and supply of corporate banking services in SMEs market*



Font: our elaboration

The Figure shows features consistent with the common finding in literature: the local bank tends to satisfy the primary financial needs of the SMEs (payment and loan services), but it suffers a competitive disadvantage in the most profitable areas (risk and asset management, corporate and merchant banking services) where knowledge, skills and activities as advising and consulting play a key role.

If the local bank's customer base has a majority of traditional firms, it seems that her offer is coherent with the market. However, if the main customers are transitional or complex SMEs or if the bank decided to turn her attention to the most sophisticated peer groups, it has to formulate a new strategic approach in order to enrich the corporate banking offer, adding some other high value services, where the advisor and consulting are the primary activities. The enrichment of the financial services' range could act as a useful vehicle to keep and strengthen the relation with transitional and complex SMEs.

By mapping and monitoring the corporate financial needs, the local bank benefits a more performed valuation of the corporate portfolio risk and return and preserves a strong relationship with the successful SMEs.

In this framework, one of the most complex decisions for the bank is which organizational solutions (building in house, outsourcing, networking) is best suited to make a sustainable and convenient diversification. In the next paragraphs, we underline how the banking network could be a valuable opportunity to build a qualitative corporate banking offer.

4. Aggregating phenomena among banks

4.1 Business networks

Since many years and according to several disciplines and perspectives scholars have analyzed and deepened aggregating processes among business actors⁸. However the topic continues to be interesting and culturally stimulating for the numerous interpretations possible due to the lack of a shared view upon its explicative variables as well as upon the basilar logics governing network evolution.

This is confirmed by the various positions assumed by researchers who have tried to highlight the benefits related to networks; some of these support how networks mitigate globalization effects, enabling competitive behavior of networks' participants (Grandinetti, Rullani, 1996; Varaldo, 1997); others focus on better performances obtainable through common resources synergic use in networks (Valdani, Ancarani, 2000); others have pointed how enterprises aggregations facilitate the rationalization of value generation processes (Lorenzoni, Lipparini, 1999)⁹.

We believe, anyway, that the observation of nowadays business arena shows that enterprises overcome the fear of relational risks among economic actors, despite the evident difficulties of foreseeing partners' behaviour¹⁰. This is probably due to the harsh competition that stimulates businesses to co-operate one with each other, in search of relationships and interaction more or less stable, due to an open attitude towards trust mechanism (Zand, 1972) among enterprises.

Deepening network analysis brings to the structure elements of nets; among these features we have: number of participants (affecting net dimension); density; connectivity; centrality (Freeman, 1978; 1979); structural holes (absence of direct ties); isolation (absence of ties with other networks); stability (in/out frequency); structural equivalence (homogeneity of participants; similarity of participants' ties)¹¹; property control and network control.

As far as connections are concerned, meaning ties among network nodes¹², it seems appropriate deepening the analysis starting from the studies on the strength of weak ties (Granovetter, 1973), that relates the strength of a tie to a combination of duration, emotional intensity, intimacy (reciprocal confidence) and reciprocal services. Within networks, in fact, the strength of these ties may lead to intense and lasting relationships, reducing cognitive distances and favouring empathy development (McAllister, 1995, Lewicki, Bunker, 1996; Hansen, 1999), enabling powerful control and liking mechanisms (Coleman, 1988).

⁸ Natural trend toward aggregating phenomena characterizing entrepreneurial dynamics, stabilizing in time relations among subjects, has been the focus of studies for many years (Richardson, 1972; Burt, 1980, 1992; Johansson, Mattson, 1984, 1987; Bartlett, Ghoshal, 1990).

⁹ Dealing with financial performances of enterprises operating in networks realities, for instance, literature does not really agree on conferring better performances to these if compared to business acting autonomously (see Singer, D'Amato, 2006).

¹⁰ Relational trust should never be absolute, or certain; it should be limited in time and in its development perspectives. Correctly Williamson (1993) highlights how a blind trust may be unwise, suggesting constant analysis and prediction of opportunistic behaviors. Differently some have observed how trust could be related to cultural and values homogeneity, correlating "characteristics and trust" (Zucker, 1986), concept which, indeed, lead us towards relational patterns closer to clan (Ouchi, 1980), within which the same value and cultural structure support lasting and performing relations based on trust.

¹¹ Structural equivalence is when two or more members have ties with more or less the same other members. Units who show structural equivalence, sharing the same relational pattern, may be concurrent and rivals within the same net (Burt, 1987).

¹² With the term node, or knot, we may refer to every element constituting an organized network, a unit of various dimension aimed toward a goal, self organized, capable of co-operating with others and of interpreting external events, see Butera (1990), p.64.

Apart from structural and ties analysis, anyway, the principal glue, as a cohesion factor and centripetal aggregation force in networks, we can frequently identify informative and competences advantages, whereas the main difficulty may be identified in control mechanisms of complex systems (Burt, 1992). Moreover how can we dissert about control, and in general about network governance if we cannot find a stable entity to analyze? In other words network governance seems to be fostered in case of limited in/out processes pursued by business actors, minimizing spill-over risks and strengthening reciprocal trust and favouring learning processes (March, 1991).

Aggregating phenomena, anyway, demonstrate that cohesion forces often prevail, since more and more private business and public entities coexist within networks nowadays. Now let's deepen the analysis of a specific business, such as the bank sector, within which observe peculiarities and traits of aggregating phenomena, trying to judge networks capacity to enable served enterprises' competitiveness.

4.2 Towards bank networks

Structural changes in banking sector of last decade, and still ongoing, have widened strategic and managerial options for bank operators, modifying banks and enterprises' interactions and stimulating on one side actors' aggregation on international scene, and on the other the valorisation of financial intermediaries on a local basis (Nardozi, 2001).

This has created a deep differentiation in conceptual models serving financial system's analysts when observing a global perspective or a limited and territorial scenario. In this last case, in fact, the correct interpretation tools have to be identified in order to correctly understand local financial intermediaries profiles; a more systemic view of them, in fact, seems to relate their performance both to territorial development and to local SMEs competitiveness, highlighting a strong reciprocal influence (see Zingales et al., 2004).

Moreover global competitive arena affects financial markets since SMEs need the support of local banks to face liquidity and financial pressures. How can we deny that strong corporate and big firms manage internationalization processes regardless their relative financial system's performance and efficiency? SMEs do not have the capacity to overcome geographical limits of their banks relations, consequentially needing a constant and important support played by local banks. As stated in the former chapters, we note a strong correlation between local banks traits and local productive system: the prevalence of SMEs on a local basis stimulate the request of traditional banking services, suggesting strong interactions between local banks and SMEs based on *relationship lending* logics, hence designed upon iterative interactions based on trust instead of being interpreted rigidly on convenience of single transactions (*transaction lending*)¹³.

It seems agreeable, in a way, that this reciprocal inference is sometimes positive, sometimes not. Anyway it is a fact, and indeed SMEs show the need of geographical proximity with their financial intermediaries, as an enabler of credit access¹⁴.

But what about local banks traits and organizational forms? How do they need to react to this market evolution?

The trend seems to show that, in order to compete with major banking groups local intermediaries are stimulated towards reciprocal aggregation and a different strategic positioning of minor banks. While bank groups, serving organizations that distribute their

¹³ In Italy, as well as in Norway, for instance, recent empirical data about banks-enterprises interactions show a strong orientation on relations and not on market (Carretta, Farina, Schwizer, 2006).

¹⁴ Petersen and Rajan (2002) observe how local banks release credit to enterprises operating within their territorial context since their monitoring and control capacity guarantees the operation, preserved by the strong knowledge on real development perspectives of the assisted enterprises.

activities internationally¹⁵, hence operate on an international scale, smaller credit institutes are pushed into networking in search of operational diversification and the right initiatives dimension. A local bank, in this perspective, could become a single knot of a disseminated networks of local banks, who share services, homogeneous productive processes and non concurrent products, in this way reaching the critical dimension needed by the served market. “Less hierarchy, more network and relationships among credit institutes” (Mercurio, 2006), hence this organizational form seems to show its powerful traits capable of supporting resources (mainly intangibles, such as competence and financial support) to local banks, increasing the competitiveness of every aggregated banks.

4.3 Bank networks as a polycentric net

The described aggregating process between local credit institutes, anyway, stimulates the analysis about which network form, among the numerous ones defined in literature, may show the best performance in local banks’ business. Let us clarify some of the basilar hypothesis in order to deepen the issue and identify the most suitable network structure. It seems appropriate assuming that:

- Network knots are represented by local banks or by credit institutes of minor dimension;
- Network knots should show homogeneous traits in terms of service, process, product;
- Geographical localization of network knots should be different;
- The net shouldn’t show a leader; instead it should be based upon a non hierarchical relational and interactive system.

With these premises, deepening the structural considerations given (see section 4.1), we could note several important issues:

- a) dealing with network *dimension*, we can observe that bank networks performance and competitiveness is not related to the number of participants;
- b) network *density* has to show a scarce proximity among knots, in order to minimize competitive phenomena in the net;
- c) network *connectivity* has to show strong reciprocal interactions, efficient dialogue and informative fluidity;
- d) bank networks do not need to be *centred*, which may be a potential cause of non equilibrium among net knots;¹⁶
- e) among local banks networks disseminated in different territorial areas the presence of *structural holes* seems probable; still this is not at all affecting net performance;
- f) network *stability* facilitates common evolution mechanism. However frequent in/out processes, even though not really probable in this kind of network, does not affect network performance, since its governance is certainly distributed or attributed to a directing representation of the aggregate;
- g) as far as *structural equivalence* is concerned, we believe that this kind of network should be based upon homogeneous bank entities, in order to avoid tensions and pressures within the net itself;
- h) in bank networks property is obviously autonomous for each bank institute, whereas the concentration of governance and control mechanism, as just observed, usually is allocated within a directing unit representative of the whole net.

¹⁵ The analysis on the redistribution of value chain on an International basis has been pursued by Porter (1986, p.43); still before Kogut (1985) had analyzed the existing relation between activities internationalization and the distribution of the value chain activities.

¹⁶ It seems appropriate to observe that commonly business network find in the centrality of their structure and governance one of the major element of their success (Polese, 2004).

Hereafter (see tab.2), we present a Table highlighting several explicative variables that we believe particularly important within bank networks, in order to decline fundamental traits supporting the competitiveness of this organisational form.

Table 2: Bank networks peculiarities and benefits

Variable	Network peculiarity	Benefits
Knot characteristic	All minor dimension banks	Decision power equilibrated distribution; harmonic designation of top government; net governance representativeness.
Knot traits comparison	Homogeneity	Service, product and process homogeneity renders efficient integration at a central level, rationalizing functional integration and common services, enabling major benefits of managing within the net.
Geographical localization	Territorial dissemination	Different location and market minimizes opportunistic and competitive behavior among network knots.
Centrality degree	Absence of leader enterprise; knots of the same dimension	Dimensional equilibrium among net knots enables wise power distribution.
Knots characteristics	Every knot is identifiable as a social net ¹⁷	Every bank's relationships in their territorial market represent, combined with all other information and detections within the net, a powerful innovation enabler ¹⁸ .

Font: our elaboration

Gradually, it seems to appear a reticular entity similar to a polycentric network¹⁹, within which every knot plays an equal role with all other bank actors with respect to top government designation, evolution processes participation, resources release. As a consequence, bank network defined upon clear associative "rules" and build with shared and participated procedures seems to represent a powerful organizational model fostering competitiveness of local banks in line with most recent theoretical models about value

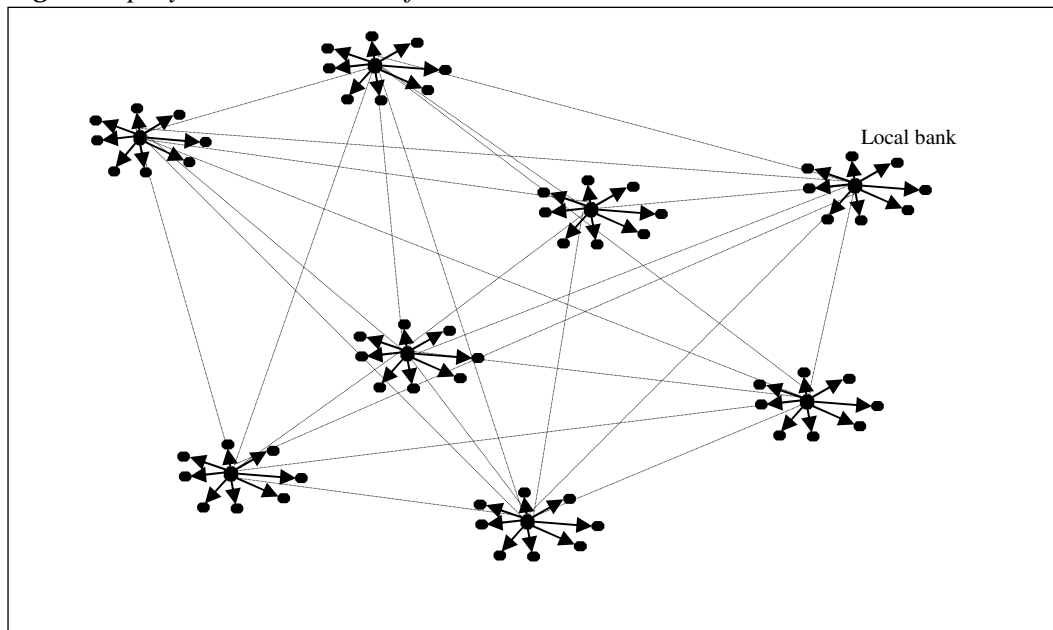
¹⁷ The network shown is indeed characterized by a dense relational pattern with numerous territorial actors present in the served context. These interactions may well represent, hence, an additional network organization if interpreted in a social perspective through which we attribute to local banks the role and responsibility to support territorial development. In this articulated relational system it becomes hard to distinguish interactions with other business from interactions with clients or other stakeholders, therefore B2B, B2C and C2C logics seems to vanish giving birth to a common paradigm (Gummeson, Polese, 2008).

¹⁸ "What is amazing about networks is not really the number of relationships but the chance to transfer from knot to knot specific competences fostering every unit performance and simultaneously contributing to global mission achievement", see Barile (1994) p.75.

¹⁹ Not centered networks represent decentralized and cooperating organized systems in which all actors contribute to development process with the possessed specific competence, for the whole net benefit. This process enables every single knot to reach dynamic equilibrium conditions (Nacamulli, 1989), increasing competitiveness levels.

generation and service management²⁰. Indeed it may become a vehicle of innovation, a way of strengthening competences, rationalizing production costs and innovation technology²¹ and service management, guaranteeing financial assets of single participating banks. The peculiarity of this polycentric net, since every local bank itself may be interpreted as a net due to its relationships with territorial actors, is that the emerging organizational form seems to be a network with as many centers as the participating banks, with these who are local networks as well (see Fig. 2).

Fig. 2: A polycentric network of local banks



Font: our elaboration

5. Final remarks

The polycentric network described above seems to be a powerful organizational solution for local banks, since it seems to show the following benefits:

- a) systemic governance, on one side, participants autonomy on the other;
- b) top government representativeness enabler;
- c) efficacy in creating sense of belonging;
- d) benefits of common and shared resources and services, still strategic independence left to every local bank's property²².

As above deeply analyzed the banking system's needs perceivable by the demand side, and the mutual opportunities found in banking services offered find a synthesis in a more holistic

²⁰ Within network systems, according to S-D Logic, value is co-produced by interaction of several parts, sharing intuitions, needs and resources (Polese, Carrubbo, 2008).

²¹ Innovation in credit institutes may be expressed as "an ensemble of changes in contact, selling and distribution processes and products, considered new for both the bank actor and/or for the served client, sometimes due to the fact that the relationship between the two may reveal substantial differences (Frigerio, Rajola, 2006).

²² All economic and social actors are then resource integrators, implying that the context of value creation may be intended within the logic of "networks of networks" (see FP9 of Service Dominant Logic, Vargo, Lusch, 2006), or else according with "many to many" logics (Gummeson, 2004).

analysis of local bank networks. However these nets should attempt not only an internal dense reticular pattern (within the knots), but should go for profitable interaction with other territorial actors as well. This relational attitude of local banks networks with public entities, NGOs, local communities and others territorial actors is a way to mitigate net isolation and may reveal the best way to beat great international concurrence on a local basis.

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BANKING SERVICES FOR “OUTSIDE” CUSTOMERS

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1. Introduction

The ability to satisfy customer’s financial needs and expectations become a fundamental variable for competition in the Italian banking system. If the banks give services in harmony with potential customer’s requests it’s acceptable to think that the banks offer services with high quality to the customers.

In the market segmentation approach, the services for “outside” targets (Omarini, 2006) are going to consider an important way to stand out from the others in the competition for a bank. In this scenario our paper wants to analyse which services the Italian banking system offers for outside targets like immigrants, housewives and temporary workers.

The analysis moves from the information available on *Pattichiari* website. *Pattichiari* was born in 2003 by the initiative of Italian Banks Association (ABI) and collects all information about the banks that adhere syndicate. Today 152 Italian banks adhere to *Pattichiari* and 146 certificated Italian banks can use *Pattichiari* brand.

For our purposes we use two kinds of information from *Pattichiari* website.

The first concerns the potential customers’ profile that includes variables like age, sons, type of labour and financial needs like payment services or lending services.

The second kind of information is about the supply banks services for each customer outline.

The analysis starts from the immigrant outline, considering that Italy is going to become a country with a strong attraction for a lot of immigrants come from around in the world¹.

So, what are the characteristics of banking services for these particular customers?

2. Financial needs of “outside” customers

Banks usually concentrate their supply on the predetermined outlines of customers: retail market, small business, corporate lending. They don’t, often, pay attention to different corners of the markets for the reasons linked the cost-benefit analysis (Anderloni, 2003). But over the last few years competition pressure determined a new customer oriented formulation of banking management paradigm (De Luca, 1996). In this scenario it’s timely to analyse new potential targets of financial system such as “outside” customers.

With “outside” customers we identify potential customers who have specific needs that aren’t normally satisfied by banks. We define three outlines for three type of customers: immigrants, who need linked to country-out (remittances,...), housewives, who need linked to family management (bills,...) and temporary workers, who need linked to variability of income (overdraft,...).

¹ In the next future we will analyse other “outside” customers too.

The first outline identifies financial needs of immigrants. We are careful to the generation of immigrants who stay in the first stage of the cycle of their project in Italy (Omarini, 2006). In fact they are careful to daily payment for remittances². They are 18-30 years old without sons and they try a labour, they prefer to access to banking services through internet point. The number of annual transactions is less than 50 operations while the average amount is less the euro 5,000. They need payment services through cash card and lending services through personal loan (Caritas-Migrantes, 2006).

The second outline is the group of housewives. Normally, the housewife is identified like a woman with an age about 30/60 years, without an independent source of income. Besides, on one hand, she bears a lot of duties such as payments of bills and rent and, on the other hand, she manages family saving.

The third outline regards to atypical workers which are characterized by irregular income. In particular, they utilize every type of banking services with relevant intensity. For this reason they utilize internet and traditional access to financial system.

3. Immigrants outline: data and methods

In order to define the immigrant outline, in *Pattichiari* there isn't an explicit specific profile, so we need to do some choices specifying age, kinds of work etc. (see Table n. 1).

Table n. 1 – Immigrant outline

Characteristics of the person	Age	18-30 years old
	Sons	No
	Labour	Without labour ³
Way of services	Number of transactions	Less than 50
	Money on deposit	Less than Euro 5,000
	Channels	Counter and internet
Type of services	Payment services	Cash card
		Debit card
		No credit card
	Lending services	No overdraft
		Personal loan
	Investment services	No asset management
No personal management		

Source: Authors processing on *Pattichiari* data.

On the basis of these characteristics we define the financial services described in Table n. 2.

Table n. 2 - Immigrant outline and relative banking services⁴

Cash management services	Cost of statement
	Cost of account
	Number of transactions in the contract
	Cost of transaction on branch
	Cost of transaction via internet
	Withdraw to branch
	Cost of keeping track money to branch
	Interest rate
Payment services	Number of cash machines
	Debit card*
	Fee for withdraw on own bank
	Fee for withdraw on other banks

² In the second step the immigrants borrow little amounts to lease or to buy home and to set up a business.

³ This characteristic depends on the fact that the labour relation is not regular in many cases.

⁴ Every rate in the table is an annual rate.

	Fee for withdraw on other European countries
	Fee for withdraw on other foreign countries
	Order on branch
	Orders via internet
Way of access	Cost of Internet access
Lending services	Nominal interest rate
	Interest rate on delayed payments ⁵
	Annual Interest Rate ⁶
	Charge ⁷
	Cost of policy ⁸

* For a large number of banks this information isn't available.

Source: Authors processing on *Pattichiari* data.

In detail, for cash management services we consider the cost of statement, the cost of account and the relative number of operations which are included in the buffer; consequently, the cost of each operation in any branch or via internet, the cost of withdrawn on branch and the cost of keeping track of money on branch. It's important to note that we consider another variable that could capture immigrant attention: interest rate.

About payment services we consider debit card or the number of cash machine and fee for withdraws. Another aspect is the type of settlement of orders. We don't consider the payment of bills and rents because the immigrant generally doesn't live in the same place for a long time, at least, in the first stage of the cycle.

For the way of services we consider counter and internet access.

About the lending services we consider two types of services: authorised overdraft and personal loans. For the first service, we analyse the interest rate and interest rate on delayed payment while, for the second service, we analyse the following aspects: nominal interest rate, charge and insurance contract⁹. We don't consider APR (Annual Percentage Rate) of charge because it isn't able for all banks that adhere to *Pattichiari*.

Pattichiari doesn't specify if there are "preferential ways of access" such as remittance services, what type of language for information, loans linked to travel for extraction country, loans for marriage, loans for home restructuring expenditure,...

In order to analyse the supply banking services, first, we choose from the *Pattichiari* dataset a count for each bank: we prefer the count more simple than the other in accordance with an outline interested to basic services.

At second point, we apply a factorial analysis on dataset to eliminate redundant information. On the principle factors deriving from the data (the first nine factors explain the 78% of the variance), we apply a classification method (K-means algorithm) (Rizzi, 1989; Fabbris, 1997).

⁵ For the banks who don't communicate this rate we consider the legal rate. For the time horizon of analyse it's equal to 11%.

⁶ A lot of banks utilize IRS 1 year. It's equal to 5.31% at 06.30.2008. A little group of banks use EURIBOR 6months that is equal to 5.211% at same date.

⁷ For the banks who don't communicate the level of charge we consider Italian average.

⁸ For the banks who don't communicate the premium of policy we consider the Italian average of insurance contract for this type of policy (3.5%).

⁹ We consider a multirisk (death, disability,...) policy.

4. Results

The results come from the output of the statistical methods application suggest to classify the banks into eight groups (Table n.3). The homogeneity in the groups is stronger than the homogeneity among the groups.

Table n. 3 – Banks groups for immigrant outline

Group	Group label	Banks
1	“too much expensive group”	B. Popolare Puglia Basilicata
2	“blend”	Bancaperta, B. Nazionale del Lavoro, Hypo Alpe Adria B. spa, IW B.
3	“not very good for cash management”	B. Piemonte
4	“intermediate charges”	B. Agricola Mantovana, B. Caripe spa, B. Antonveneta spa, B. Artigianato Industria e Commercio., B. CR Firenze, B. delle Marche spa, B. Credito Coop. Alta Padovana, B. Generali spa, B. Federico Vecchio spa, B. Mediolanum, B. Popolare Etruria Lazio, B. Popolare Crema spa, B. Popolare di Lodi spa, B. Popolare Cremona spa, B. Popolare Mantova spa, B. Popolare Milano, B. Popolare Friulana B. Sella Nord-Est Bovio Calderari, B. Sella spa, B. Sella Sud Arditi Galati spa, B. Valori spa, B. Toscana, B. Napoli spa, Biverbanca, Cassa di R. Friuli V.G., Cassa di R. Civitavecchia, Cassa di R. di Orvieto, Cassa di R. Pistoia Pescia spa, Cassa di R. Padova Rovigo, Cassa di R. Parma Piacenza, Cassa di R. S. Miniato Carismi, Cassa di R. Venezia, Cassa di R. Bologna, Cassa di R. Lucca Pisa Livorno spa, Credem, Credito Artigiano, Credito Siciliano, Credito Bergamasco spa, Credito valtellinese, Intesa Sanpaolo spa, UBI Banca Private I. spa
5	“not very good for lending services”	B. Legnano, B. Trento e Bolzano
6	“only on-line”	B. Monte de' Paschi di Siena, Fineco Bank spa
7	“not very good for lending services and remittances”	B. Carime, B. Carige Cassa di Risparmio Genova Imperia, B. Monte Lucca, B. Adriatico, B. di Roma, B. Valle Canonica, B. Popolare Commercio e Industria, B. Popolare di Bergamo, B. Popolare di Ancona, B. Popolare di Novara, B. Popolare Pugliese, B. Popolare Verona S. Geminiano S. Prospero spa, B. regionale europea, B. S. Giorgio, B. Brescia spa, B. Sicilia, Bipop Carire, Cassa di R. di Carrara, Carilo Cassa di R. di Loreto, Cassa di R. di Fano. Cassa di R. di savona, Deutsches B., Unicredit
8	“good for primitive investment”	B. Bergamo, B. Meridiana, Veneto B. spa

In the first group we have only one bank. This bank offers an account with much expensive payment services and has the highest cost of account (“too much expensive group”).

In the second group we have four banks. They offer accounts without any specific characteristics. These accounts are less attractive for immigrants (“blend group”).

In the third group there is one bank that is the only bank that has a fee for withdraw on the same branches (“not very good for cash management group”).

The fourth group is the largest with 41 banks. They have an intermediate level of cost for each type of service: the fee for orders via internet, for example (“intermediate costs group”).

In the fifth group we have only two banks that is no good for lending services, in fact they have the most expensive rate for delayed payments and an high level of charge (“not very good for lending services group”). The other type of costs (charges and fees) are in line with other groups.

In the sixth group there are two banks who constraint to utilize only internet for cash management and payment needs, in fact the costs of withdraw to branch and the costs of order on branch are very expensive (“only on-line group”).

In the seventh group we have 23 banks that are less attractive than the other groups for lending services and for extra UE cash management (“not very good for lending services and remittances group”).

The last group is composed by three banks that have a high cost for remittance but they offer the highest rate of interest than all the other groups (“good for primitive investment group”).

5. Concluding remarks

The idea to analyse the peculiarities of the Italian banking system with reference to “outside” customers, it isn’t simple to carry out. We meet some difficulties to find the information for the analysis. To this point, the information available on *Pattichiari* website helps us, even if *Pattichiari* is deficient because the banks adhere to it voluntary.

As it’s observed previously, there isn’t a predefined outline for the immigrants while there are outlines i.e. for employee, professional man, young people.

Besides, we note that the banks doesn’t offer services that are specifically applied to immigrants such as loan for the travel towards own country or, simpler, an account who utilizes own language.

The results from the analysis on the available information show that the largest group of banks has intermediate charges.

We hoped on that the banks should have these characteristics:

- A low cost of account. The most important service for the immigrants is the remittance towards their country. The remittance is a simple service and consequently, not expensive for the bank;
- A low cost for internet services (cost of access, cost of transactions, cost of order). The immigrant could prefer virtual access to banking system because it assures more reserve than the other channels too.
- A low rate of interest for lending service. A low rate could be an opportunity to satisfy new and sophisticated immigrant’s financial needs.

In conclusion we consider that, at the moment, the Italian banking system isn’t careful to needs of outside customers, especially of immigrants. This could be considered a weakness in a market segmentation approach oriented to satisfy better than the competitors the potential customers.

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CORPORATE DIMENSION AND QUALITY PERFORMANCE: AN EMPIRICAL ANALYSIS FROM THE GAS DISTRIBUTION SECTOR IN ITALY♦

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1. Introduction to the study: the gas supply sector in Italy

“Public service” is a relative concept; as it is influenced by the economic and social conditions of a specific community in a specific moment, it needs to be contextualized. Over time the term “public service” has identified different activities¹ that responded to needs perceived as “public”². Similarly, over the years different considerations have been made about the most suitable forms of market which could guarantee the satisfaction of such needs. It is not the purpose of this paper to go through the reasons and the outcomes of such considerations. However, it might be useful to emphasize the recent development of a new approach about the possibility for public services to be delivered by companies (both public and private) in a free market regime where the market has the duty of guaranteeing the best allocative efficiency. To be effective, the liberalization process “must offer all operators, whether incumbents or new entrants, the same conditions of network access through impartial, non-discriminatory and transparent management”³. In this sense, the *unbundling* rule establishes that “traditional operators must separate their transport/distribution operations from their supply operations ... so that competition can develop”⁴.

According to this perspective, the public decision maker must introduce forms of protection of specific social needs and regulate the market itself. In Italy this activity of regulation has drawn new attention to the debate about business concentration and company size as variables that must be taken into consideration if one intends to pursue the public interest and enhance the level of efficiency in the market. In this sense, the norms introduced by the 2007 Financial Act establish new “minimal dimensions of territorial areas” for the entrustment through public tenders of the gas distribution service. These areas should be identified according to “optimal catchment areas”, defined by the Ministers for the economic development and for regional

♦ Even if the paper was discussed together, in writing down the different parts Federico Testa contributed to paragraph 1, Vania Vigolo to paragraphs 2 and 3. Paragraph 4 was written by both Authors.

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¹ Such needs include for example the demand for water and energy supplies, security, education, health. It is not possible to give a complete list of public utilities, seeing that they are strictly connected to the development of society; different communities might have different needs and consequently expect different services depending on their general historical, socio-economic, political and geographical context.

² Significant interactions between economics and the quality of life are analyzed by Galbraith J.K., *L'economia e la qualità della vita*, Mondadori, Milano, 1971.

³ Lecarpentier A., “The Liberalization of Gas Markets in Europe”, *Panorama*, IFP-Innovation Energie Environment, 2006.

⁴ *Ibidem*. On *unbundling*, see also Newbery D.N., “Economic reform in Europe: integrating and liberalizing the market for services”, *Utilities Policy*, Vol. 10, Issue 2, June 2001.

affairs and local autonomies, upon suggestion of the Authority for Electricity and Gas and according to the Unified Conference⁵.

In a managerial perspective, it seems useful to investigate the relationship between company size and performance, since “for researchers in the fields of finance and accounting, industrial economics and strategic management, size is considered to be a fundamental variable in explaining company performance”. On the one side, “larger companies have a greater possibility of taking advantage of scale economies and greater possibility of renegotiating with clients and suppliers”, as well as “a greater ability to cope with possible changes in market conditions”. On the other side, “increased size can also contribute to diminish company performance”⁶.

In future works it might be interesting to analyze the aspects regarding the efficiency and cost-reduction criteria, however, the purpose of this paper is to investigate the existence of a significant difference in performance between companies of various sizes according to specific service quality indicators defined by the Authority.

2. An approach to quality in the gas distribution service

Service quality has been analyzed in literature and dealt with in practice from many different perspectives: the customers’⁷, the company’s⁸, the external assessor’s⁹, the public Authority’s one, just to name a few.

According to customers’ perspective, service quality is often described in literature as the difference between service expectations (i.e., what the service should offer) and performance perceptions¹⁰, so that a positive or a negative disconfirmation of service expectations will determine customer satisfaction or dissatisfaction, respectively¹¹.

⁵ Under provisions of the Decree-law 1st October 2007, n. 159, converted with amendments by the Law 29th November 2007, n. 222 and later modified by the Law 24th December 2007, n. 244.

⁶ Serrasqueiro Z.S., Nunes P.M., “Performance and size: empirical evidence from Portuguese SMEs”, *Small Business Economics*, Vol. 31, Issue 2, August 2008, pp.195 and 206.

⁷ See Iacobucci D., Ostrom A., Grayson K. “Distinguishing Service Quality and Customer Satisfaction: The Voice of the Consumer”, *Journal of Consumer Psychology*, Vol. 4, Issue 3, 1995 and Tam J.L.M., “Customer Satisfaction, Service Quality and Perceived Value: An Integrative Model”, *Journal of Marketing Management*, Vol. 20, Issue 7/8, September 2004.

⁸ The company’s perspective can include considerations about the need for quality also for the “internal customer”, i.e. the employees. “Historically, much of the academic marketing literature has tended to focus upon satisfying the needs and requirements of customers that are external to the organization. However, over recent years, some practitioners and academics alike are beginning to re-address how we do business, considering that such a customer orientation is only likely to be effective when the firm designs the necessary structures, processes and incentives to operationalize customer-oriented values. ... employees of the firm become internal customers. As with external customers, these too have requirements that need satisfying. Thus, through management satisfying the needs of internal customers, employees become more motivated and committed to the cause, which leads to external customers being well served”. Barnes B.R., Fox M.T., Morris D.S., “Exploring the Linkage between Internal Marketing, Relationship Marketing and Service Quality: a Case Study of a Consulting Organization”, *Total Quality Management*, Vol. 15, No. 5-6, July-August 2004, p. 593.

⁹ At an international level, an important role in quality assessment is played by ISO (International Organization for Standardization), the world’s largest developer and publisher of International Standards. For more information, see www.iso.org.

¹⁰ Service quality is conceptualized as “a comparison between expectations and performance”, see Parasuraman A., Zeithaml V., Berry L., “A Conceptual Model of Service Quality and Its Implication for Future Research”, *Journal of Marketing*, Vol. 49, Fall 1985, p. 42. Nine years after their first investigation on service quality, the Authors reiterated the concept of service quality as “the discrepancy between customers’ expectations and perceptions”. See Parasuraman A., Zeithaml V., Berry L., “Reassessment of Expectations as a Comparison

As mentioned before, public services respond to extremely important needs perceived as fundamental for the quality of life of a community. In the last decade, several social and regulation changes have determined an evolution¹² in the concept of quality as far as public services are concerned.

Given the current fierce competition among companies, quality seems to play a key role for the obtainment of a competitive advantage¹³. Recently, organizations, managers and academics have increasingly drawn their attention on quality determinants, considering the close relationship between quality and customer satisfaction, as well as between customer satisfaction and customer loyalty¹⁴.

Since public services play a central role in determining the quality of life in a community, their level of quality can be considered as an essential factor of "social wellness". Nevertheless, in public service organizations, quality is often an implicit attitude left to the good will of individual management and staff rather than a clear and well-defined policy pervading the whole organization.

In this sense, the Authority has tried to define specific indicators to evaluate the companies' performance as far as public services are concerned.

In order to enhance the objectivity/impartiality of the judgment and the *ex post* controls, quality indicators should be the most objective and measurable possible. A useful point of reference for gas distribution service quality can be found in the indicators described in the Integrated Text of the Dispositions of the Authority (May 2007). In fact, companies must communicate to the Authority specific data on precise indicators established to the Authority itself with the aim of identifying important quality variables for the gas distribution service to citizens. These indicators can be summarized as follows: a) service safety b) service continuity c) commercial quality.

It will be useful to recall, briefly, the variables of such indicators.

a) Safety indicators:

- annual percentage of inspected network, in high, medium and low pressure;
- annual number of dispersions located per kilometre of inspected network;

Standard in Measuring Service Quality: Implications for Further Research", *Journal of Marketing*, Vol. 58, 1994, p. 111.

¹¹ On the disconfirmation model, see Oliver R.L., "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions", *Journal of Marketing Research*, Vol XVIII, November 1980.

¹² In the 90s, the evolution of the customers' role, the gradual liberalization of the public service sector and the subsequent introduction of competition have induced public service providers to pay more attention to quality as a strategic tool to gain customers' preferences. For recent debates about gas distribution in Italy, see Testa F., "La distribuzione di gas naturale in Italia: alcune questioni sul tappeto", *Management delle utilities*, Anno 5, n. 1, Gennaio-Marzo 2007.

Rienzner R. and Testa F. analyze customer evolution in the deregulated markets of public utilities and maintain that "The introduction of new competition mechanism exposes the companies of local public utilities to the threat of being replaced by other service suppliers. On the other hand for the same companies, it creates an opportunity for profit by making better use of resources and competencies while occupying the spaces of the market that ... were 'reserved' to other companies" (i.e. the ex monopolist). "We must not underestimate two things: (1) customers continually evaluate companies' performance levels against other service companies ... operating in the market ... (2) ... changing suppliers becomes a common practice". Rienzner R., Testa F., "The captive consumer no longer exists. Creating customer loyalty to compete on the new deregulation markets of public utilities", *Total Quality Management*, Vol. 14, N. 2, 2003, pp. 174-175.

For an approach to quality in public services, see also Baccarani C., "Qualità ed aziende di pubblico servizio: la carta dell'utente" in Baccarani C., a cura di, *Saggi sulla qualità nell'economia dell'impresa*, Cedam, Padova, 1995.

¹³ On the liberalization processes of the gas market, see Testa F., "Verso i mercati liberi dell'elettricità e del gas", *Management delle utilities*, Anno 6, n. 1, Gennaio-Marzo 2008.

¹⁴ See Bloemer J., De Ruyter K., Wetzels M., "Linking perceived service quality and service loyalty: a multi-dimensional perspective", *European Journal of Marketing*, Vol. 33, N. 11/12, 1999.

- annual number of dispersions located upon referral of third parties per kilometre of network
- odourisation of gas;
- intervention time after an emergency call;
- time needed to restore the safety conditions of the distribution network;
- compulsory services necessary for safety, e.g. network inspection.

b) Indicators of continuity:

- beginning, duration and end of the interruption;
- effective and conventional duration of the interruption;
- notice period before service interruption;
- number of end clients with notice period before service interruption of at least three working days;
- total conventional duration of a long interruption per thousand of end clients;
- causes of the interruptions;
- compulsory services necessary to continuity.

The indicators of the service safety and continuity seem still to privilege the point of view of efficiency rather than effectiveness¹⁵, focussing more on the technical-industrial aspects of the distribution system than on the quality in terms of customer satisfaction. A step forward towards efficacy is made however by

c) Indicators of commercial quality established by the Authority:

- time for estimating the cost of works;
- time for the execution of simple and complex works;
- time for activation of the supply;
- time for disactivation of the supply upon request of the end customer;
- time for reactivation of the supply after interruption for default;
- time to rectify an invoice;
- time needed to verify the measurement group and the supply pressure upon request of the end customer;
- time to answer to written complaints or written requests for information;
- punctuality in the appointments with the client;
- personalised appointments;
- calculation of the execution time of the services subject to specific and general levels of quality;

With reference to commercial quality, the Authority establishes also specific and general levels of quality to be complied with, under penalty of automatic compensation to the client by the gas distribution company. Only in the case of force majeure or causes ascribable to the client or third parties, the distribution company is not held responsible for automatic compensation.

Therefore, the qualitative approach just described comprises both a technical dimension – i.e. the activities aimed at the service security and continuity - and an interaction dimension which derives from the service encounter between the gas distribution company and its clients (e.g. when the company answers to customers' written complaints). In order to increase the clients' perceived quality, special attention should be paid to the "moments of truths"¹⁶, i.e. the occasions in which the clients come into direct contact with the service provider, either over the telephone, by (e)mail or in person. In fact, whenever the technical dimension cannot

¹⁵ See Baccarani C., *Mutamenti ambientali e condotta strategica delle imprese municipalizzate*, Cedam, Padova, 1988.

¹⁶ See Normann R., *Service Management. Strategy and Leadership in Service Businesses*, John Wiley & Sons, New York, 1984 and Gronroos C., *Service Management and Marketing. Managing the Moments of Truth in Service Competition*, Lexington Books, Lexington, MA, 1990.

be easily evaluated by the client – e.g. the percentage of inspected networks or the causes of an interruption – the interaction¹⁷ dimension becomes a key point in the service evaluation¹⁸. Commercial quality indicators are the most easily understandable by clients and therefore play an important role in customers' appraisals because they can be evaluated without the risk of incurring into *information asymmetries*¹⁹, i.e. “the disparity in knowledge between user and producer”²⁰. For this reason, it is extremely important for gas distribution companies to gain high performance levels in commercial quality indicators. In this study, we will focus on such moments of interaction by analyzing the data on commercial quality performance of gas distribution companies in Italy.

3. The empirical analysis

In this section the objective, the methodology, the hypotheses and the results of the empirical analysis will be presented.

Objective

This study intends to investigate if there is a significant difference in the performance of small, medium and large gas distribution companies according to a quality perspective.

Methodology

The population includes all the Italian gas distribution companies with more than 100.000 clients, i.e. 28 companies. The whole population was analyzed, except for one supplier, the incumbent, which has far more clients than the other companies because of its former monopoly advantage. The commercial quality data of these companies are publicly available on the website of the Authority.

As shown in the following table, gas distribution companies were subdivided into 3 groups according to the number of clients. As a matter of facts, the total number of clients served can be considered an indicator of the companies' dimension.

¹⁷ On the role of customer participation in public service delivery, see Testa F., Ugolini M., *Public services are changing: turning customer participation to better account*, Proceedings from *The 6th World Congress for Total Quality Management*, Saint Petersburg, Russia, 20-22 June, 2001.

¹⁸ See Berry L.L., Wall E.A., Carbone L.P., “Service Clues and Customer Assessment of the Service Experience: Lessons from Marketing”, *Academy of Management Perspectives*, Vol. 20, Issue 2, 2006, pp. 43-57.

¹⁹ The landmark study about “asymmetrical information” was published in 1970. See Akerlof G.A., “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism”, *Quarterly Journal of Economics*, Vol. 84, Issue 3, August 1970, pp. 488-500.

²⁰ Walsh K., “Quality and Public Services”, *Public Administration*, Vol. 69, Winter 1991, p.509.

Table 1: Gas distribution companies in Italy

Group 1 (100.000-199.999 clients) “SMALL” COMPANIES	Group 2 (200.000-499.999 clients) “MEDIUM” COMPANIES	Group 3 (500.000-1.999.999 clients) “LARGE” COMPANIES
ACAM Gas AGSM Rete Gas srl AMG Energia SpA Azienda Municipale del Gas SpA Coingas SpA Consiag Reti srl Edison DG SpA Erogasmet SpA GEI Gestione Energetica Impianti SpA SGR Reti SpA Thuga Laghi Thuga Mediterranea srl Thuga Padana srl Trentino Servizi SpA	Acegas Aps Spa Arcalgas Progetti SpA Ascopiave SpA Azienda Energia e Servizi Torino CIGE SpA Eni'a SpA Iride Acqua Gas Siciliana Gas SpA Toscana Energia SpA	AEM Distribuzione Gas e Calore SpA Compagnia Napoletana di Illuminazione e Scaldamento col Gas SpA Enel Rete Gas SpA Hera SpA Italcogim Reti Spa
Tot. 14	Tot. 9	Tot. 5

Source: our elaboration

In the course of our analysis, companies belonging to Group 1 will be referred to as “small”, companies belonging to Group 2 as “medium” and companies belonging to Group 3 as “large”.

Data about the service delivery to families (measurement group up to 6GJ) were considered for the year 2006²¹.

A t-test for independent samples was conducted to compare the mean of each group with the ones of the other groups considering some of the commercial quality indicators identified by the Authority, and more specifically:

a) indicators subject to automatic compensation in case of service inefficiency:

- time needed to verify the measurement group;
- time to answer to written complaints;
- time for the execution of complex works required by clients;

b) indicators not subject to automatic compensation in case of service inefficiency:

- time for estimating the cost of simple works;
- time for the execution of simple works;
- time for estimating the cost of complex works;
- time for activation of the supply;
- time for disactivation of the supply upon request of the end customer;
- time for reactivation of the supply after the interruption for default.

Note that all these variables are measured in working days.

Commercial quality tries to identify significant values that can help to enhance service quality from the interaction perspective, whereas the indicators in the categories “safety” and “continuity” are overall too technical and difficult to understand for customers, that is why they were not included in this study.

²¹ The most recent data available.

Hypotheses

The hypotheses we formulated intend to investigate the existence of a significant difference in performance between each group, more specifically:

H₁: There is no significant difference between the performance of small and medium companies.

H₂: There is a significant difference between the performance of small and big companies

H₃: There is no significant difference between the performance of medium and big companies.

The hypotheses were tested with a t-test for independent samples for each of the nine quality indicators mentioned before.

Results

The results of the analysis are shown in the following table.

Table 2: Significant differences in performance between groups of gas distribution companies

	Group 1 vs. Group 2	Group 1 vs. Group 3	Group 2 vs. Group 3
time needed to verify the measurement group	-	significant difference	significant difference
time to answer to written complaints	-	-	-
time for the execution of complex works required by clients	-	-	-
time for estimating the cost of simple works	-	-	-
time for the execution of simple works	-	significant difference	-
time for estimating the cost of complex works	-	-	-
time for activation of the supply	-	-	-
time for disactivation of the supply	-	significant difference	-
time for reactivation of the supply after the interruption for default	-	significant difference	significant difference

Source: our elaboration

Among the performance items not subject to automatic compensation, *there is a significant difference only in the time needed to verify the measurement group* between small and big companies, ie. Group 1 and Group 3 ($t = -2,642$; $p = 0,018$). The mean for small companies is 5,9 days; for large companies it is 10,7 days.

There is a significant difference for the same item also between medium and large distribution companies ($t = -2,939$; $p = 0,012$). It takes a mean of 4,6 days to medium companies to verify the measurement group, while big companies present a mean value of 10,7 days.

Note that Group 3's performance is slightly above the standard established by the Authority (10 working days).

Among the performance indicators subject to automatic compensation, some significant differences were found between small and large gas distribution companies, more specifically:

- there is a significant difference ($t = -2,272$; $p = 0,036$) as far as the time for execution of simple works is concerned (5,1 days for Group 1 and 6,5 days for Group 3);

- there is a significant difference ($t = -2,384$; $p = 0,029$) as far as the time for disactivation of the supply upon request of the end customer is concerned (2,4 days for small companies and 3,3 days for large companies)
- there is a significant difference ($t = -3,480$; $p = 0,003$) between Group 1 and Group 3 also in the time for reactivation of the supply after interruption for default: the mean value for small companies is 0,6 days while for large companies it is 1,3 days.

There is a significant difference in the time for reactivation of the supply after interruption for default also between Group 2 and Group 3 ($t = -2,370$; $p = 0,035$). It takes medium-sized companies 0,7 days to reactivate the service, whereas large companies present a mean of 1,3 days.

Note that all the Groups respect the standards established by the Authority for these activities, i.e. 10 days for the execution of simple works, 5 days for the disactivation of the service and 2 days for the reactivation of the supply after interruption for default.

4. Conclusions

H₁ cannot be rejected. There is no significant difference between the performance of gas distribution companies belonging to Group 1 (from 100.000 to 199.999 clients) and gas distribution companies belonging to Group 2 (200.000-499.999 clients).

H₂ cannot be rejected only for four items out of nine. The t-test proved a significant difference between the performance of Group 1 and Group 2 in four indicators, i.e. the time needed to verify the measurement group, the time for execution of simple works, the time for disactivation of the supply upon request of the customer and the time for reactivation of the supply after interruption for default. As far as these indicators are concerned, small companies seem to have a better performance because they are able to respond to customers' requirements in a shorter time. However, *H₂* must be rejected for the other five items that were tested, i.e. there is no significant difference in the time to answer to written complaints, the time for the execution of complex works required by clients, the time for estimating the cost of simple works, the time for estimating the execution of complex works, the time for activation of the supply.

H₃ cannot be rejected, except for two items, i.e. the time needed to verify the measurement group and the time for reactivation of the supply after interruption for default. For these two quality indicators, medium-sized companies show a better performance than large companies, whereas no significant difference was found in the other indicators.

In this paper only nine items referring to commercial quality were tested, but service quality is defined also by other indicators. As previously stated, we were not interested in mere technical aspects, but rather in the items that implied a certain kind of interaction between client and distribution company or that could be easily evaluated by clients²².

Out of these results, some considerations need to be made.

At a first glance, there does not seem to be a great difference in the performance of companies with different sizes. Maybe this fact could be traced back to the effort made by the Authority in the last years in order to improve public service quality. Competition still needs to be increased where possible and recommendations for call for tenders still need to be clearly

²² Among service security and continuity indicators, it would have been interesting to analyze: 1) the data related to service interruption without prior notice for causes due to company and 2) the date related to the emergency service after the point of delivery of gas to customers. However, they were not included in this paper because they were not homogenous with the commercial quality data and could not be compared to them.

identified; however, the policy of this public organ seems to have led to a levelling of quality indicators among gas distribution companies.

Moreover, if we take a closer look at the results, for certain indicators small and medium-sized companies show a better performance than large companies in terms of efficiency. In fact, Group 1 does not include the smallest companies operating in the market, but only gas distribution companies with more than 100.00 clients. It would be interesting to analyze also the commercial quality performance of companies with less than 100.000 clients, but data were not available .

There are many reasons that could explain the results we obtained: first of all, gas distribution companies may attain a minimum efficient dimension²³ below the lowest threshold considered (100.000 end customers). Secondly, small companies are probably advantaged in keeping close relationships with customers because of their local dimension and their territorial contiguity to clients, whereas large companies must deal with greater spatial distances. Moreover, large companies might not yet have completely interiorized modern technologies and models that should help improving the quality of relationships with customers²⁴.

Following these considerations, we can maintain that, according to the results of our study, there seems to be a kind of relation between corporate dimension and performance. In fact, the aim of this research was to test the significant difference in quality performance between groups of small, medium and large gas distribution companies. Further research is needed to deepen the knowledge of the nature of this relation and to see if dimension and performance are positively or negatively correlated.

If we consider the quality indicators analyzed as part of a scale that tries to describe the commercial quality of the gas distribution service, we do not reach an acceptable Cronbach alpha value. This fact may suggest that these indicators could be usefully integrated with other variables.

However, the positive aspect about these indicators is that they provide an objective basis to compare the performance of companies that differ for number of clients, geographical area and the time they have been in the market. Performance data are available for free to anyone that accesses the Authority's web page, so that they can be used by companies for

²³ "The lowest level of production that enables to make the most of the indivisible factor and therefore to make the best use of economies of scale is usually called minimum efficient dimension or scale, whereas the level of production beyond which it is not convenient to produce is called maximum optimal dimension" (i.e. maximum efficient scale). Our translation from Panati G., Golinelli M.G., *Tecnica economica industriale e commerciale*, Volume Secondo, NIS, Roma 1994, p. 555. On economies of scale, see Scherer F.M., "Economies of Scale and Industrial Concentration", in Harvey J. Goldschmid et al. (eds.), *Industrial Concentration: The New Learning*, Little, Brown & Co., Boston, 1974.

²⁴ Such models constitute the bases of Customer Relationship Management. "To facilitate the management of customer relationships, software manufacturers have developed customer relationship management systems (CRMs), which are enterprise-wide applications that can provide a single view of any customer's interactions with the company by tracking communications from both sides, recording purchases and thus developing an understanding of each customer's preferences. Customers are being viewed more and more based on their lifetime value rather than being measured simply on the value of an individual transaction". Fitzgibbon C., White L., "The role of attitudinal loyalty in the development of customer relationship management strategy within service firms", *Journal of Financial Services Marketing*, March 2005, Vol. 9, Issue 3, pp. 214-215. The term CRM "is often used to describe technology-based customer solutions, such as sales force automation (SFA). In the academic community, the terms "relationship marketing" and CRM are often used interchangeably... However, CRM is more commonly used in the context of technology solutions and has been described as 'information-enabled relationship marketing'". Payne A., Frow P., "A Strategic Framework for Customer Relationship Management", *Journal of Marketing*, Vol. 69, Issue 4, October 2005.

benchmarking activities and by clients to compare the level of service quality they receive with the one delivered by other companies.

It would be interesting to compare these objective data with the subjective perceptions of customers²⁵. The best way to know customers' perception is asking them, so customer satisfaction surveys should be taken into consideration by the Authority and by gas distribution companies if the aim is to enhance not just service quality, but also customer satisfaction. As a matter of fact, it is important to remember that "the difference between quality and satisfaction mirrors managerial versus customer concern; a manager and a service-providing firm tries to provide 'high-quality' service, and a customer experiences the service encounter and is 'satisfied' or not"²⁶. That is way

"A firm may provide 'high-quality' service that nevertheless does not 'satisfy the customer' because the properties improved on do not matter to their customer"²⁷.

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²⁵ The Italian Statistic Institute (ISTAT) and the Authority are doing some research in this direction, but the data at the moment are not available to the public.

²⁶ Iacobucci D., Ostrom A., Grayson K. "Distinguishing Service Quality and Customer Satisfaction: The Voice of the Consumer", *Journal of Consumer Psychology*, Vol. 4, Issue 3, 1995, p. 296.

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THE APPLICATION OF QUALITY FUNCTION DEPLOYMENT IN SERVICE QUALITY MANAGEMENT

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1. Introduction

Nowadays consumers are more informed, more demanding and they easily change brands and companies if their requirements are not met on time and at a price they are willing to pay. Among others, delivering high service quality is considered an essential strategy for success and survival in today's competitive environment (Zeithaml *et al.*, 1996).

Understanding customers' service expectations is a prerequisite for delivering superior service because they are implicit performance standards that customers use in assessing service quality (Parasuraman, 1998). Based on evidence from the PIMS research program, Buzzel and Gale (1987), reported a significant relation between relative quality -as perceived by the customers- and organizations' profitability. Although, service quality and customer satisfaction have certain things in common, satisfaction is generally viewed as a broader concept than service quality assessment; thus, perceived service quality is a component of customer satisfaction (Lee *et al.*, 2001). Indeed, there is a consensus in the literature that superior service quality leads to satisfied customers (Duffy and Ketchand, 1998) and to increased purchase intentions (Cronin and Taylor, 1992).

In summary, service quality is one of the most important issues in achieving comparative advantage and financial success in the service sector. A well-known technique, that is successful in designing services of high quality resulting in customer satisfaction, is Quality Function Deployment (QFD) (Stuart and Tax, 1996). The purpose of this paper is to present the benefits of applying QFD in the service sector and to investigate possible modifications of QFD so as to overcome limitations that companies faced in its implementation. The rest of the paper is structured as follows: Section 2 provides a review of the QFD technique and highlights its advantages and disadvantages. Section 3 presents quantitative techniques that can be combined with QFD so as to overcome its deficiencies. Section 4 illustrates a proposed modified QFD method with an example and finally, a brief conclusion and suggestions for future research are presented in section 5.

2. QFD in the service sector

Quality Function Deployment (QFD) is a service planning and development support method, which provides a structured way for service providers to assure quality and customer satisfaction while maintaining a sustainable competitive advantage (Akao, 1990). The goal of QFD is enhanced customer satisfaction, organizational integration of expressed customer wants and needs, and improved profitability (Griffin, 1992).

QFD is quite different from traditional quality systems which aim at minimizing negative quality such as poor service (Mazur, 1993). QFD focuses on delivering “value” by seeking out both spoken and unspoken customer needs, translating them into actionable service features and communicating them throughout an organization (Pun, Chin, Lau, 2000). It is driven by the “voice of the customer” and because of that, it helps service providers to address the gap between the specific and holistic components of customer expectations and actual service experience. In addition, it helps managers to adopt a more customer-driven perspective, pointing out the differences between what managers believe to be customer expectations and actual customer expectations. QFD is developed by a cross-functional team and it provides an excellent interdepartmental means of communication that creates a common quality focus across all functions/operations in an organization (Stuart and Tax, 1996). The unique approach of QFD is its ability to integrate customer demands with the technical aspects of a service. It helps the cross-functional team to make the key tradeoffs between the customers’ needs and the technical requirements so as to build a service of high quality. Hence, QFD is not only a methodological tool but a universal concept that provides means of translating customer requirements for each stage of service development (Chan and Wu, 2002).

A well-designed QFD process is able to link customer requirements, service specifications, target values and competitive performance into a visual planning matrix. QFD involves the construction of one or more matrices, called “quality tables”, which guide the detailed decisions that must be made throughout the service development process (Cohen, 1995). The first of these “quality tables”, called “The House of Quality (HOQ)”, is the most commonly used matrix in the QFD methodology. The traditional four-phased, manufacturing QFD methodology (Chan and Wu, 2002) is modified slightly so that it could be applied to the service industry and involves three quality matrices instead of four (Gonzalez *et al.*, 2004; Pun *et al.*, 2000; Stuart and Tax, 1996).

QFD has been introduced successfully to the service sector and numbers a great portion of applications. Its reported implementations are in various service areas such as education (Koksal and Egitman; 1998; Lam and Zhao, 1998), e-banking (Gonzalez *et al.*, 2004), healthcare (Lim and Tang, 2000; Lim *et al.*, 1999), hotels (Dube *et al.*, 1999, Stuart and Tax, 1996), public sector (Curry and Herbert, 1998; Gerst, 2004), retail (Trappey *et al.*, 1996; Sher, 2006), spectator event (Enriquez *et al.*, 2004), technical library and information services (Chin *et al.*, 2001) etc.

To a large extent, the widespread acceptance of QFD is due to its numerous benefits. Some of the most important benefits that are found in the literature are the following: Fewer design and service costs due to the reduction of irrelevant processes and fewer and earlier design changes because of the early identification of high risk areas (Gonzalez *et al.*, 2004; Bouchereau and Rowlands, 2000); Lower cycle time and cost minimization of midcourse changes and implementation errors (Griffin, 1992; Xie *et al.*, 2003); Fewer start-up problems and better company performance (Gonzalez *et al.*, 2004); Improved service designs that meet or exceeds customers’ expectations. Better handling of increased demand and efficient allocation of resources (Xie *et al.*, 2003; Tan and Pawitra, 2001); Establishment and maintenance of documentation due to the fact that information is stored in the matrices so none of the details is lost over time (Griffin, 1992; Tan and Pawitra, 2001; Chan and Wu,

2002); More stable quality assurance planning and increased possibility for breakthrough innovation (Xie *et al.*, 2003); Identification of future application opportunities and effective use of competitive information (Chan and Wu, 2002); Improved service quality because QFD helps prioritizing customer requirements in order of importance from customer viewpoint. Increased customer satisfaction due to the reason that QFD helps understanding the actual customer requirement (Han *et al.*, 2001); Improved exchange of ideas and increased communication within the organization. QFD changes management communication patterns from “up-over-down” flows to more horizontal routes. Cross-functional team members communicate directly with one another (Griffin and Hauser, 1992; Gonzalez *et al.*, 2004; Chan and Wu, 2002).

On the other hand, a number of problems have been reported, encountered at some stage of the implementation of QFD. More specifically, QFD limitations are: its methodology imposes the need to deal with large amounts of data gathered from customers, competitors, cross-functional teams etc; The manual input of customer survey into the HOQ is time-consuming and difficult (Bouchereau and Rowlands, 2000); The HOQ can be large and complex. It is not easy and it is time consuming to have to assess the relationships between each customer requirement and service characteristic, and the correlations among the various service characteristics (Han *et al.*, 2001; Bouchereau and Rowlands, 2000); Setting target values in the HOQ is often imprecise (Bouchereau and Rowlands, 2000); Due to the fact that not everyone has the same perception of a particular linguistic description, the voice of the customer contains ambiguity and different meanings (Erol and Ferrell, 2003; Bouchereau and Rowlands, 2000); Due to the need to input and analyze large amounts of subjective data, bias can be easily injected into any stage of the QFD implementation and an invalid conclusion can be made; The QFD method is an ongoing process, thus errors at one stage will propagate to successive stages (Han *et al.*, 2001; Griffin and Hauser, 1993); Strengths between relationships are sometimes ill-defined. The QFD approach uses absolute importance to identify the degree of importance for each customer and service requirement. This assumes that accurate and representative data in an absolute scale is available (Chuang, 2001). It can be difficult to translate customer demands into measurable service features. Also, QFD assumes that there exists a linear relationship between customer requirements and service attributes. Another drawback is that QFD analyses are often limited to the first HOQ, breaking the links between the three QFD phases (Chan and Wu, 2002; Bouchereau and Rowlands, 2000); QFD assumes that the customer requirements are deterministic, thus remaining unchanged over time (Xie *et al.*, 2003). Last but not least, QFD is a qualitative method (Bouchereau and Rowlands, 2000).

These problems have prompted the need for new approaches to the application of the QFD method. As proposed in the relevant literature, the effectiveness of QFD could be improved through the utilization of quantitative techniques such as the Analytic Hierarchy Process, the Analytic Network Process and Markov Chains. The integration of qualitative QFD with quantitative methods helps to overcome previously identified shortcomings and yields greater benefits from its implementation. Efforts, also, should be made to automate the HOQ and reduce the required time to complete it.

3. Quantitative methods integrated with QFD

Customer requirements prioritization is a critical part of QFD implementation. Traditional QFD requires from customers to translate their perceptions into numerical scales, through mechanisms like the Likert scale. In this respect, customers are asked to evaluate whether a relationship is weak, moderate or strong and their answers are translated to a scale like 1-3-5, 1-4-7 or 1-5-9 (Erol and Ferrell, 2003). Then, the service features are prioritized according to their additive impact on customer requirements using a relationship matrix. But, as (Erol and

Ferrell, 2003) point out, not all the customers have the same perception of a particular linguistic description and additionally, the choice of scales can dramatically influence the outcome. However, it is common for customers to respond quite different from what they really mean and tend to rate almost everything as important. Chan and Wu (2005) underline the fact that the “voice of the customer” contains ambiguity and multiplicity of meaning.

To tackle these problems often the Analytic Hierarchy Process (AHP) method has been adopted. AHP is used in the HOQ in order to determine the intensity of the relationship between the customer requirements and the service features. AHP, initially developed by Saaty in the 70's, is a multicriteria decision-making method that uses a hierarchy to represent a decision problem. Each element in the hierarchy is supposed to be independent, and a relative scale measurement is derived from pairwise comparisons of the elements in a level of hierarchy with respect to an element of the preceding level (Karsak *et al.*, 2002). The advantage is that AHP takes into account subtle attribute preferences of the customer that are otherwise difficult to include (Han *et al.*, 2001). In addition, it enables the incorporation of judgments on intangible qualitative criteria along with tangible quantitative criteria (Partovi, 2001).

Despite its numerous applications and its widespread acceptance, there are at least four issues where AHP is subject to criticism. First, it is claimed that the axiomatic foundations of AHP do not derive from a specific mathematical theory. The solution to this problem, according to Dyer (1990), is based on a synthesis of the AHP assessment methodologies with the theory of multiattribute utility method. Second, it is argued that the nine point AHP scale has some obvious shortcomings (Arbel, 1989). The exact ratio scale used in the pairwise comparisons sometimes fails to take into account the imprecision or the vagueness in the mind of respondents when they make the pairwise comparisons. Conventional AHP cannot reflect the human thinking style. In this case we may introduce concepts from fuzzy theory into the AHP. In fuzzy AHP an interval ratio scale and not a single precise value is used to describe a pairwise comparison. Third, it is argued that the form of the questions associated with AHP do not provide useful information about the decision-makers' preferences (Watson and Freeling, 1982). And finally, it is stated that although the eigenvalue method is very elegant from the mathematical viewpoint, the priority vector derived from it can violate the condition of order preservation that is fundamental in decision aiding- an activity in which it is essential to respect values and judgments (Bana e Costa and Vansnick, 2008). An alternative approach might be the MACBETH method, introduced by Bana e Costa and Vansnick (1994). MACBETH employs a non-numerical interactive questioning procedure that compares two elements at a time, requesting only a qualitative judgment about their difference of attractiveness. As the answers are given, their consistency is verified, and a numerical scale that is representative of the decision maker's judgments is subsequently generated and discussed (Bana e Costa and Chagas, 2004). To the best of the authors' knowledge, an application that integrates QFD with MACBETH has not yet been established and it would be interesting to investigate its possible application, benefits and advantages when integrated in the QFD procedure.

Apart from AHP, the Analytic Network Process has been used in conjunction with QFD. The ANP generalizes the AHP by replacing hierarchies with networks. AHP employs a unidirectional hierarchical relationship among clusters, while ANP enables interrelationships not only among the clusters but also between the elements of a cluster. ANP is used in the HOQ so as to calculate the correlations between columns in the Roof matrix, and ANP's Supermatrix is used to determine the priorities of service features. ANP exhibits some important features that promote its integration with QFD. First, in the traditional QFD approach the roof matrix correlations are employed during the post-analysis evaluation to adjust the column values. However, the use of ANP integrates the roof matrix values into the

computations, thereby reducing the amount of subjectivity present. Second, the QFD approach treats the column relationships as symmetrical reciprocal correlations. In contrast, ANP treats column correlations either symmetrically or asymmetrically as appropriate (Partovi, 2001; 2002; 2006). Finally, ANP assumes that the relationships between customer requirements and service attributes are not linear and there is inner dependence among customer needs or among service features. This perspective provides a basis to calculate to what extent a change, in one feature will affect the achievement of the others and consequently to what extent it will affect the customer.

Furthermore, as Re Velle (1991) suggests, customer needs are dynamic. Under rapidly changing environments, customer opinions and requirements may alter over time. In traditional QFD, we collect customers' voice and then ask them to rate the importance of their requirements. However, if customers are asked again after a short time to prioritize their requirements, it is possible that they will not give the same answer. Furthermore, it is very likely that earlier customer needs disappear and new are added in the list. In addition, it is difficult to conduct market surveys on a regular basis. The above problem can be solved if a markov chain model is integrated in the HOQ to monitor the trend for each customer requirement as well as for each service feature from a probabilistic viewpoint. The advantage is that the gathered information on a regular basis is typically uncertain so using markov chain model might be more appropriate to analyze customer needs and track the importance trends of service features (Wu and Shieh, 2006).

4. An illustrative example

This example presents the implementation of QFD along with the most widely used quantitative methods of AHP and ANP. Our example uses real world data from the banking sector aiming at prioritizing customer selection criteria. As mentioned earlier, AHP has been criticized by quite a few researchers regarding its utilization and limitations. This illustrative example is an opportunity to investigate the possible problems that may rise from the implementation of the modified QFD method. All relevant details are illustrated step by step in order to facilitate the understanding of the integrated QFD process in the service industry. The entire QFD process for services includes three inter-linked phases, however, due to the reason that the structures and analyzing methods of the other QFD phases are basically the same as the first one, we limit our presentation to the first HOQ.

In our example, a bank which for obvious reasons is called X, wishes to improve its commercial banking services in response to the increased competition. We utilized primary data regarding customers' perceptions and preferences through a field survey and bank managers' evaluations through interviews. Initially, the commercial customers are identified and categorized into seven market segments, based on their product related primary relationship with the bank. The classification of the market segments is in accordance with the annual report of the Bank of Greece (2007) and they are: Consumer Loans, Housing Loans, Other Loans, Credit Cards, Direct Access Deposits, Time Deposits Accounts, Mutual Funds Shares. The size of each market segment as a percentage of X's total business is 16%, 17%, 8%, 7%, 26.4%, 19% and 6.6%, respectively, as shown in the second column of the HOQ (see Fig. 1 in the next page).

The inputs for the first HOQ were obtained through a market survey among bank X's customers. A questionnaire was designed with a list of pre-defined bank selection criteria mainly identified from Anderson et al. (1976). In order to calculate the weights of the relationship matrix, the customers of each market segment were asked to compare each pair of bank selection criteria and expressed their preference by using the usual nine point AHP scale. An example of the questions posed is: How much more important is "Recommendation by friends" than "Reputation" for the market segment "Housing Loans?"; How much more

important is “Recommendation by friends” than “Service charges on checking accounts” for the market segment “Housing Loans? etc. The same type of questions is repeated for all seven market segments.

In order to complete the roof matrix the impact of all selection criteria on every other selection criterion is evaluated. An example of the questions posed is: Given the bank selection criterion “Recommendation by friends”, which criterion, “Reputation” or “Service charges on checking accounts” contributes more to “Recommendation by friends” and by how much? etc. The same type of questions was repeated for the remaining criteria.

The market segments are shown in the first column of the HOQ, on the left side and their bank selection criteria are shown in columns 2-9 of the matrix (see Fig. 1). The remaining columns on the right represent a competitive analysis. The percentages, presented in column 10, designate the market share of X within each market segment. Columns 11 and 12 show the market share of two selected competitive banks. The cross-functional team used the information about the competitors’ market share in order to select a particular market share percentage as a future goal. This goal, indicates where bank X desires to be in the future with respect to the other competitive banks in each market segment (column 13). The ratio presented in column 14, reflects the X’s intention to improve, reduce or maintain its current position in each market segment and it is calculated by dividing X’s goal by its current position. For example, the X’s market share for the market segment “Housing Loans” is 17% and its goal is 20%, so the improvement ratio is 20/17=1.18. A ratio larger than 1.0 reflects an intention to increase market share in that particular market segment, while a ratio below 1.0 reflects a reduced interest for that segment. The weighting factor of column 15 represents the extent to which a particular market segment is important to X and it is computed for each market segment by multiplying column 1 by column 14. Finally, column 16 depicts the normalized weighting factor of each market segment. This normalized score is calculated by dividing the weighting factor of each segment by the sum of the weighting factors.

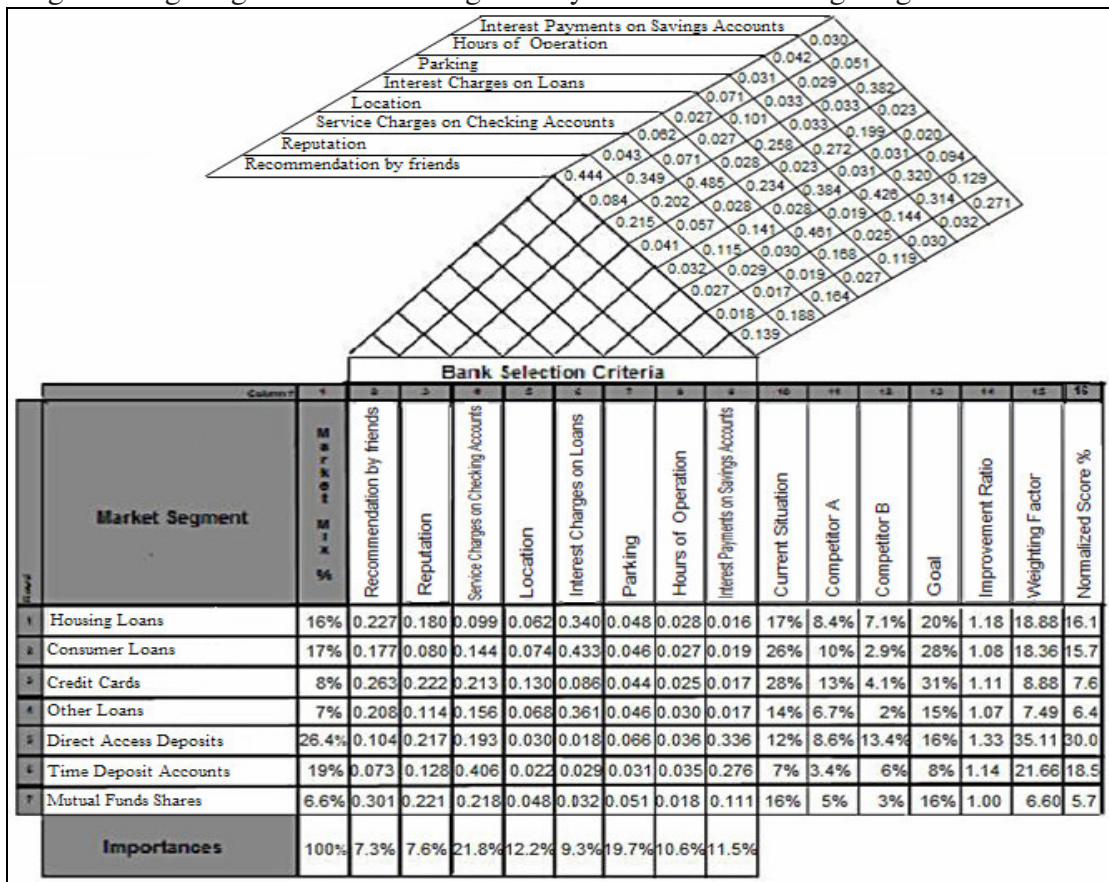


Figure 1: The House of Quality

The relationship matrix and the roof matrix are calculated using the Super Decisions software (www.superdecisions.com/~saaty). First, we computed the weights of the relationship matrix using AHP. The integrated QFD-AHP process structures a hierarchy with 3 clusters: a goal cluster containing the goal element, which is “customer satisfaction”, a criteria cluster containing market segment elements and an alternatives cluster containing bank selection criteria elements (see Fig. 2). In particular, we used AHP in order to prioritize bank selection criteria with respect to each market segment.

After completing the relationship matrix with the importance ratings, the process moves to the phase of deriving interdependent priorities for bank selection criteria using ANP. The elements of the cluster “bank selection criteria” present inner dependencies. In figure 2, we present a snapshot of the software showing the integrated QFD-AHP-ANP model, which structures a network (the loop indicates the inner dependencies). To complete the roof matrix, the impact of all bank selection criteria on every other criterion and the influence of a bank selection criterion upon itself are also assessed (Partovi, 2001; 2002; 2006).

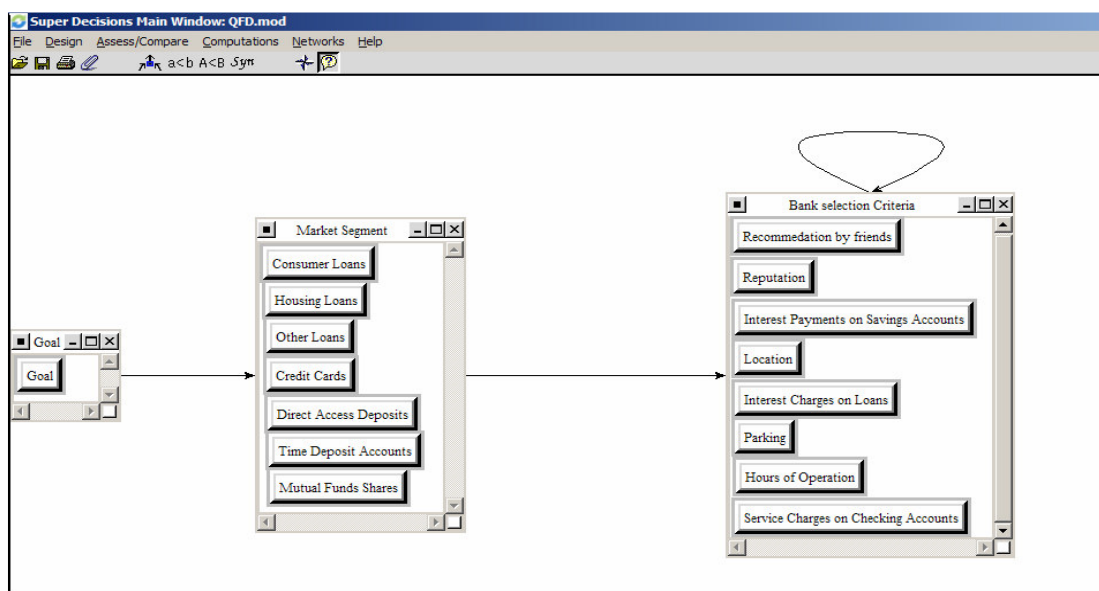


Figure 2: The QFD-AHP-ANP network

	Objective	Market Segment									Bank Selection Criteria					
Objective	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.161	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Market Segment	0.000	0.227	0.177	0.263	0.208	0.104	0.073	0.301	0.444	0.043	0.062	0.027	0.071	0.031	0.042	0.030
	0.000	0.180	0.080	0.222	0.114	0.217	0.128	0.221	0.084	0.349	0.071	0.027	0.101	0.033	0.029	0.051
	0.000	0.099	0.144	0.213	0.156	0.193	0.406	0.218	0.215	0.202	0.485	0.028	0.258	0.033	0.033	0.382
	0.000	0.062	0.074	0.130	0.068	0.030	0.022	0.048	0.041	0.057	0.028	0.234	0.023	0.272	0.199	0.023
	0.000	0.340	0.433	0.086	0.361	0.018	0.029	0.032	0.032	0.115	0.141	0.028	0.384	0.031	0.031	0.020
	0.000	0.048	0.046	0.044	0.046	0.066	0.031	0.051	0.027	0.029	0.030	0.461	0.019	0.426	0.320	0.094
	0.000	0.028	0.027	0.025	0.030	0.036	0.035	0.018	0.018	0.017	0.019	0.168	0.025	0.144	0.314	0.129
0.000	0.016	0.019	0.017	0.017	0.336	0.276	0.111	0.139	0.188	0.164	0.027	0.119	0.030	0.032	0.271	
Bank Selection Criteria	0.000	0.227	0.177	0.263	0.208	0.104	0.073	0.301	0.444	0.043	0.062	0.027	0.071	0.031	0.042	0.030
	0.000	0.180	0.080	0.222	0.114	0.217	0.128	0.221	0.084	0.349	0.071	0.027	0.101	0.033	0.029	0.051
	0.000	0.099	0.144	0.213	0.156	0.193	0.406	0.218	0.215	0.202	0.485	0.028	0.258	0.033	0.033	0.382
	0.000	0.062	0.074	0.130	0.068	0.030	0.022	0.048	0.041	0.057	0.028	0.234	0.023	0.272	0.199	0.023
	0.000	0.340	0.433	0.086	0.361	0.018	0.029	0.032	0.032	0.115	0.141	0.028	0.384	0.031	0.031	0.020
	0.000	0.048	0.046	0.044	0.046	0.066	0.031	0.051	0.027	0.029	0.030	0.461	0.019	0.426	0.320	0.094
	0.000	0.028	0.027	0.025	0.030	0.036	0.035	0.018	0.018	0.017	0.019	0.168	0.025	0.144	0.314	0.129
0.000	0.016	0.019	0.017	0.017	0.336	0.276	0.111	0.139	0.188	0.164	0.027	0.119	0.030	0.032	0.271	

Figure 3: The Initial Supermatrix

The procedure concludes by obtaining the ANP limiting supermatrix which shows the importance ratings of bank selection criteria. Since the initial supermatrix, appearing in figure 3, is stochastic, irreducible and acyclic, its limiting form, shown in figure 4, is stable and

provides the results for the modified QFD model (Saaty, 1996). The limiting supermatrix's values become the "Importances" row of the HOQ (see Fig.1).

	Objective	Market Segment								Bank Selection Criteria							
Objective	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Market Segment	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	
	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	
	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218	
	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	0.122	
	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	
	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197	
	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	
Bank Selection Criteria	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	

Figure 4: The limiting Supermatrix

The results show that the most important bank selection criterion is "Service charges on checking accounts", with a percentage priority of 21.8%. The next more important is "Parking" with 19.7% percent. The rest of the criteria in descending order of importance are the following: Location (12.2%), Interest payments on savings accounts (11.5%), Hours of operation (10.6%), Interest charges on loans (9.3%), Reputation (7.6%), Recommendation by friends (7.3%).

5. Concluding Remarks

QFD is an elegant tool that has been successfully introduced to the service sector. It offers a structured guideline for converting customers' requirements into characteristics of new services. The main scope of this paper was to present the benefits of applying QFD in the service sector, point out the possible shortcomings and propose quantitative methods that enhance the effectiveness and efficiency of QFD as a means of translating the "voice of the customer" into service requirements.

AHP and ANP are well-known quantitative techniques that were used in conjunction with QFD. The real world illustration provided in this paper demonstrated the applicability and ease of use of the modified QFD model, but also revealed at least one shortcoming. The integrated QFD-AHP-ANP method entails gigantic data collection tasks. It employs a lengthy questionnaire with numerous and quite similar questions, occasionally causing confusion to respondents. Consequently, it is extremely difficult for customers to make all these pairwise comparisons and the overall procedure also requires a lot of time and patience.

Lastly, while the proposed model adds quantitative precision to an otherwise qualitative method, on the other hand, there are several studies that point out weaknesses and drawbacks of AHP. In particular, we identified at least four main issues regarding AHP criticism.

Therefore, our final comment regarding this analysis is that future research should be directed towards exploring alternative quantitative approaches of preference assessment, which may resolve the issues raised for AHP. Still, undoubtedly, the incorporation of AHP in the QFD context provided a more accurate and less subjective measuring framework. The outcome supports better service offerings that meet or exceed customers' needs, leading to improved sales and higher satisfaction.

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THE EXCELLENCE IN WORKPLACES AS COMPETITIVE FACTOR FOR BUSINESS SUCCESS

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Introduction

The managing of human resources in the workplaces - with particular attention to their motivation and satisfaction grade - can be a critical factor for business success of the organizations.

The excellence in the workplaces has been recently deepened by the Great Place to Work Institute - leader in the measurement of the quality in the organizations - whose aim is “building a better society by helping companies transform their workplaces”.

A few studies on quality management approach for the human resources - not necessarily involving the implementation of a complete quality management system 1 - evidenced that the “inherent human resources variables constitute the long term drivers for business development”; in particular the companies that focus on human resources as factor of competitiveness, with the purpose to confer effectiveness to their projects of development, use objective indicators, whose correct choice is important to measure with precision the effects of their policies and management activities 2.

The objective of the present paper is to propose - as a consequence of a detailed analysis of the data at disposal from the 100 “best workplaces in Europe 2007” - a general “workplace panel of factors and indicators” in order to monitor the quality of a workplace, giving the organizations a competitive advantage deriving from an increased satisfaction and motivation of their personnel 3, 4 .

The following analysis takes in consideration the 100 Best workplaces in Europe (whose national distribution - as synthesized in Table 1 - includes the different sites of every company), according to the ranking proposed from the Great Place to Work Institute Europe for the year 2007.

Table 1 - National distribution of the 100 Best workplaces in Europe (2007)

NATIONS	Germany	Ireland	Denmark	UK	Finland, Portugal Netherlands, Norway	Austria, Belgium	Italy, Sweden	Spain, France, Greece
N°SITES/NATION	21	14	13	12	7	6	5	4

The Italian automobile company Ferrari best place to work

It can be evidenced that the Italian luxury car maker Ferrari “has earned the number one spot (2007) and - with it - the title of European Workplace of the Year”; in particular the

automotive company (2850 employees: 11% women and 89% men) - already in the European List in 2003 - has been appreciated for:

training programs named after famous explorers (for instance: Christopher Columbus, for Basic Training/Orientation information teaching people - especially new hires - to live the company values; Charles Lindbergh, for the Managers' Institutional Training; Neil Armstrong, for Leader' Continuous Training; Marco Polo, for Workers' Training);

a 12-points values system modelled after a 12-cylinder motor (including values as Tradition and Innovation; Individual and Team; Passion and Sport Spirit; Territorial and Internationality; Ethics and Profit; Excellence and Speed);

quality improvement projects organized as races between teams/employees (for instance: "Fiorano Race", among 10 working teams who challenge themselves with quality improvement projects; "Grand Prix" program, for employees who offer new ideas) 5.

In 2008 the Ferrari "Formula Uomo" program focuses the attention on occupational safety, ecology, workers quality of life, technological aspects and energy savings: "a long time strategy to create a only in the world workplace started in 1997" 6 and finished this year with the complete innovation of the "Gestione Industriale". From 2009 the strategy will impact with the "Gestione Sportiva", the division of the company concerned with racing.

The historical entrance, with the office of the deceased founder Enzo Ferrari, is the only one structure remained of the original plant (1947) a: the actually workplaces, in seven other buildings, are completely new, with big glasses for natural light, innovative technologies, internal and external gardens, a thousand trees, a considerable number of benches, 100 red bicycles at workers' disposal for the movement in the internal "avenues" (named in honours of famous racers). The cost sustained to implement such a plant transformation was 200.000.000 euros in ten year; in 2008 the investments for occupational safety amounts to 4.000.000 euros. The company in order to improve workers' quality of life implemented some other initiatives such as: granting of loans - at competitive rates - for the first and the second house, free medical-sportive check-up (extended to workers' members of the family), free gymnasia, discounts for scholastic books and University texts 7.

"In the new workplaces, with noise, temperature and humidity under control, the high technological machinery stops less frequently. As a consequence of better maintenance and energy savings such an investment is profitable in a couple of years. By end 2009 the company will be 90% energy autonomous, grace to an existent photovoltaic plant and to a tri-generator (planned for spring 2009) that will allow to transfer the energy surplus to the surrounding territory. In the same time there will be a 35% reduction for the CO2 emissions"8.

The Ferrari Quality and Environmental Management Systems in Maranello obtained - from the Certification Body Det Norske Veritas (DNV) - respectively the ISO 9001:2000 9 and the ISO 14001:2004 10 certifications. The initial Quality and Environmental Management System certifications are respectively dated 1996 and 2001. The scope in the actual certificates deals with:

Planning, realization, sale and post-sale assistance for Grand Tourism cars (ISO 9001);

Planning and realization of Grand Tourism cars, through the phases of: planning and development, light alloys fusion, mechanical operations, plating, painting and assembly. Realization of Racing cars through the phases of: light alloys fusion, elaboration of composite materials and painting, mechanical operations and assembly. The activities in the autodrome of Maranello are not included (ISO 14001).

^a Ferrari is based in Maranello, Italy, and was founded by Enzo Ferrari in 1929 as Scuderia Ferrari. The company manufactured racing cars and sponsored drivers before moving into production of legal street vehicles in 1946 as Ferrari S.p.A..

The Ferrari S.p.A. is the first Racing cars producer to have obtained the ISO 14001 certification for the realization of Formula One cars.

A model for the Best Workplaces and the assessment process

The Great Place to Work Institute is a research and managerial consultancy company based in San Francisco (USA) with over 30 affiliate international offices all over the world in four macro areas: North America, South America, Europe and Asia. It has been established in 1991 by Robert Levering and Amy Lyman following the publication of the best seller "The 100 Best Companies to Work for in America" 11.

The first activities of the Institute were developed in collaboration with the magazine "American Fortunes", actually editorial partner of the Institute, and involved organizations of every sector and dimension. The Institute offers to the organizations different services such as assessment/evaluation, education and/or research on great workplaces.

The Institute firstly expanded in South America (Brazil in 1995) and then in Europe, with projects in Italy, United Kingdom, Denmark and Switzerland, and with the creation of the Great Place to Work Institute Europe in 2001. In March 2003, with the support of the European Union, it has been announced the first List of the 100 Best Workplaces in Europe.

The Great Place to Work Institute aims to help the organizations to understand and to put into practice those qualities and behaviours that bring to the creation of excellent workplaces. This effort brings to improve the quality of the working life for the employees and the efficiency for the organizations.

In 2006, in fact, the 100 Best Workplaces in Europe have increased revenue by 20% and hired 12,6% more staff, have lower rates of absenteeism and lower voluntary employee turnover compared to the general labour market. In the year 2007 - worldwide - more than 3.000 companies in 30 countries participated to the evaluation process (the data include more than 1.000 companies from 15 European countries, with more than 100.000 European employees responding to the survey) (Source: Great Place to Work Institute, 2007).

According to the protocol of the Institute, it is necessary that each organization reaches the excellence in the quality of three key relationships, i.e.: a) between employees and management; b) between employees and their job/occupation; c) between employees and other employees.

The model

The Institute employee-centred model ("protocol") is based on the analysis of five different variables or "Dimensions" (Credibility, Respect, Fairness, Pride and Camaraderie) as summarized in the Scheme 1. "Trust" is the essential ingredient for the primary workplace relationship between the employee and the employer: according to the model, "Trust" includes the three "dimensions" of Credibility, Respect and Fairness.

Scheme 1 - Dimensions of the Great Place to Work Model

T R U S T	1 - C R E D I B I L I T Y
	2 - R E S P E C T
	3 - F A I R N E S S
	4 - P R I D E
	5 - C A M A R A D E R I E

1	Managers regularly communicate with employees about the company's direction and plans - and solicit their ideas. Coordinating people and resources efficiently and effectively, so that employees know how their work relates to the company's goals.
2	Providing employees with the equipment, resources, and training they need to do their work. Appreciating good work and extra effort. Reaching out to employees and making them partners in the company's activities, fostering a spirit of collaboration across departments and creating a work environment that's safe and healthy.
3	Economic success is shared equitably through compensation and benefit programs. Everybody receives equitable opportunity for recognition. Decisions on hiring and promotions are made impartially, and the workplace seeks to free itself of discrimination, with clear processes for appealing and adjudicating disputes.
4	Workplace relationships between employees and their jobs/company. Employees take pride in their job, their team, and their company: they feel that they can be themselves at work.
5	Workplace relationships between the employee and other employees. The workplace becomes a community: employees celebrate the successes of their peers and cooperate with others.

Source: elaboration from the Great Place to Work Institute Internet site (2008).

The assessment process

The participation to the assessment process starts with the voluntary registration of the organization that must have a minimum of 50 employees and not to have an acquisition in progress that increases the personnel more than 25%.

The process implies the anonymous compilation of a standardized questionnaire (called "Trust Index", structured in 57 questions related to the five above "Dimensions" and two open questions) and the delivery - from the organization - of "workplace documentation" (i.e. procedures and programs for the excellence in the workplace).

The scale of evaluation in the questionnaire is based on six impressions (almost always false; often false; sometimes false; sometimes true; often true; almost often true); for the final classification a weight of 2/3 is assigned to the questionnaire and a weight of 1/3 to the documentation sent by the organization.

For each "Dimension" three representative macro aspects (A, B, C) (Table 1) are investigated through the questionnaire.

Table 1 - Dimensions and macro aspects of the Great Place to Work Model

DIMENSION		MACRO ASPECT	
1	Credibility	A	Communications are open and accessible
		B	Competence in coordinating human and material resources
		C	Integrity in carrying out vision with consistency
2	Respect	A	Supporting professional development and showing appreciation
		B	Collaborating with employees on relevant decisions
		C	Caring for employees as individuals with personal lives
3	Fairness	A	Equity - balanced treatment for all in terms of rewards
		B	Impartiality - absence of favouritism in hiring and promotions
		C	Justice - lack of discrimination and process for appeals
4	Pride	A	In personal job, individual contributions
		B	In work produced by one's team or work group
		C	In the organization's products and standing in the community
5	Camaraderie	A	Ability to be oneself
		B	Socially friendly and welcoming atmosphere
		C	Sense of "family" or "team"

A tool to improve the quality in the workplaces

As a consequence of a detailed analysis of the material at disposal in the Internet site of the Great Place to Work Institute it has been possible to elaborate a sort of simplified questionnaire ("Check-list"), structured in only 21 questions but useful to orientate the processes of an organization to the five typical "Dimensions" of the "employee-centred" Model (Table 2).

According to the previous indicated scales of evaluation, as proposed by the Great Place to Work Institute, the results of the check-list could be classified in demographic and functional categories. In particular the obtained data could be disaggregated and elaborated in four categories - with reference to sex, class of age, title of study and level in the company (worker, employee, manager) - in order to monitor both the personnel satisfaction grade and to influence the correct managing not only for eventual complaints and other observations, but also for appreciations and improvement proposals 12, 13.

Table 2 - Check-list basically aligned to the Great Place to Work Model

DIMENSION		QUESTION		NOTE
1	Credibility	Q1	Can you freely set any pertinent question to the management and to receive a clear answer ?	It measures the propensity of the management to divulgate information to the employees and the availability to make to understand them the motivation of the business choices.
		Q2	Do you believe the management informs you about the most important problems and changes ?	It measures the interest of the management to establish a relationship of trust with the employees involving them in the decisional process.

		Q3	Is the management always clearly expressing its own expectations ?	It measures the attention of the management to invest in the communication with the employees, in order to be sure they have understood the expectations of the management and the suitable means to satisfy them.
2	Respect	Q4	The personnel is encouraged to find a correct balancing between professional and private life ?	It measures the propensity of the management to pay attention to the personal necessities of the employees, encouraging them to balance their professional appointment with the personal necessities.
		Q5	The services offered by the company contribute to improve the quality of the workplace ?	It appraises the effectiveness of the services to the employees in order to contribute to the quality of their workplace and is therefore a check for the company about the utility and the costs met for such services.
		Q6	Can you freely take a period off work when you feel that it is necessary ?	It measures the management propensity to prefer the psychophysical health of the employees to the logic of the profit, showing attention to the worker as a person.
		Q7	Do you believe that this is a psychologically healthy workplace ?	It measures the management efforts to make the company a valid workplace, investing in the structures, the services and the assistance towards employees.
		Q8	The personnel receive a remuneration in proportion to the value of the developed work ?	It measures the ability of the company to guarantee processes of auditing of the results, personalized for every employee, guaranteeing nevertheless an equitable and impartial evaluation.
3	Fairness	Q9	Do you think that the employees receive a correct quote of the company profits ?	It is facing to measure the management propensity to redistribute, among the employees, part of the profits as a reward for the attainment of the objectives.
		Q10	Do you perceive to be considered as a real member of the company independently from your position ?	It is directed to measure the ability of the management to involve in the productive and managerial processes every employee, attributing to each the worth for the contribution given to the attainment of the business mission.
		Q11	The personnel is fairly treated without any distinction based on age, sex, race or ethnic group, sexual orientation or other diversity ?	It measures the top management ability to respect and accept the diversities, not to discriminate the minorities, in the processes of selection and evaluation, in guaranteeing equal salaries and not setting limits to the possibilities of career.
4	Pride	Q12	His work has a special meaning, or better, it is not a "normal" job ?	It measures the employees sense of pride to belong to their company, in relationship to the business mission or to the contribution given to the society.

		Q13	Do you believe your work contributes to “do the difference” ?	It measures the perception of the employee to contribute to the business mission and to realize something useful for the life of the people and/or for the environment in which the company operates.
		Q14	Considering the reached results, do you perceive a sense of pride ?	It not only measures the management ability to reach the objectives but also to be able to make the most of every employee, showing appreciation for his contribution and making to feel him responsible of the business success.
		Q15	Do you feel satisfied about the way the company contributes to the welfare of the society ?	It measures the management ability to communicate and to effectively transmit to all the employees the mission to be an important part of the society in which the company operates, contributing to its welfare.
5	Camaraderie	Q16	Do you feel you can realize yourself in your workplace ?	It appraises the management ability to establish a serene workplace based on the mutual trust and, when possible, without formalities among employees and between them and the management.
		Q17	The personnel celebrates the special events inside the company ?	It appraises the sense of aggregation and the management mission to consider the structure as a family, introducing in the company some aspects concerning the employees personal life.
		Q18	Do you perceive your workplace as a friendly one ?	It measures the grade of existing affinity among employees, that can be supported by the management by proposing aggregation moments to improve the interpersonal relationships among colleagues.
		Q19	Do you perceive your workplace as an amusing one ?	It measures the grade of informality in the workplace and the perception that the employees have about the management efforts to favour a serene and amusing environment in the company.
		Q20	Do you think you can count on other personnel cooperation ?	It measures the “team spirit“ present in the company. The management can influence this variable evaluating the personal employees’ contribution to the common projects: aware of being evaluated with equity and objectivity, the employees will be more induced to participate in common projects.
		Q21	At the moment of your assumption, did you feel at ease and well-accepted ?	It measures the management ability to involve, since their assumption, the new employees making them feel part and share the mission of the company.

Source: elaboration from S. Rivella, The mutual trust between management and human resources in achieving business success: The Great Place To Work Institute’s analysis, Dissertation, University of Turin, 2008.

Conclusions

A practical instrument for the management in order to evaluate the grade of satisfaction of the personnel about their company is represented by the check-list. The correct use of a business tools as the above - or a similarly structured - check-list can facilitate the process of quality improvement in a workplace.

Such a tool could be inserted in an internal auditing procedure in order to consolidate a business praxis oriented to periodically analyse the trend of the grade of satisfaction.

The final result of the elaboration of the data obtained could be used: as a useful synthesis (for instance articulated in indexes) of the grade of perception of the personnel about the quality of their workplace; as a starting point for a periodical improvement process about the quality of their workplace; for a benchmark analysis among other companies (with other similarly obtained indexes); to obtain a third part certification about the quality of the workplace; to obtain an appreciation about the excellence in the workplace.

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RISK MANAGEMENT WITH CREDIT DERIVATIVES

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Key words: credit derivatives, risk management, market participants, credit risk, model risk.

1. Market participants and credit derivatives use

The growth of credit derivatives suggests that market participants find them useful for risk management. Notional amounts of credit derivatives outstanding have roughly doubled each year for the past six years. In 2007 notional amounts of these derivatives was reached almost 58,000 billion USD [1]. Credit derivatives have been used by a wide variety of market participants. No single data source provides definitive information on the activity of different types of market participants. But by combining the Bank for International Settlements (BIS) Semiannual Derivative Statistics and surveys providing by Fitch Ratings, we can get a relatively clear picture. These data sources measure activity in credit derivatives market with notional amounts, which are often not a good measure of the credit risk that is actually transferred in a particular transaction. However, notional amounts are relatively easy data to collect and that's the reason why they are the most common data reported.

Table 1 shows the notional amounts outstanding of credit default swaps by type of counterparty for December 2007 [1]. The largest category is reporting dealers, reflecting the inter-dealer nature of the market. In any dealer market, dealers rely on inter-dealer trading to adjust their risk profile in response to trading flows from end-users.

Table 1: Credit Default Swaps Market
Notional amounts outstanding at end December 2007 (in millions of US dollars)

	Notional amounts outstanding bought	Notional amounts outstanding sold	Total
Total CDS contracts	44,298,440	45,625,528	57,893,972
Reporting dealers	31,386,564	32,673,440	32,030,002
Other financial institutions	12,423,089	12,562,246	24,985,336
Banks and security firms	6,767,797	7,081,360	13,849,157
Insurance and financial guaranty firms	319,060	166,362	485,422
Other	5,336,232	5,314,524	10,650,757
Non-financial institutions	488,788	389,843	878,631

Source: Bank for International Settlements, 2007.

Banks and security firms that are not reporting dealers make up around 15% of the total. Some of this captures non-dealer banks investing on their own account in credit derivatives. Some likely captures banks acting as fiduciaries for private banking or high-net-worth investors. The category of “other financial institutions”, besides banks and security firms, includes also hedge funds, pension funds, and special purpose vehicles and makes up another 12.7% of the total. Many structured credit products, including collateralized debt obligations (CDOs), make use of special purpose vehicles. Hedge funds are active traders but tend to maintain their positions for a short amount of time; their share of trading volume would likely be larger than their share of notional amounts outstanding. This category is the fastest-growing among the non-reporting dealer categories. Insurance firms account for a small portion of outstanding notional amounts, but are notable for their one-sided participation as net sellers of credit protection to dealers. It is unclear how much risk transfer that data represents, given that notional amounts cannot be equated with risk.

Fitch Ratings has repeated its survey annually. The most recent survey done in February 2008 suggests that insurance and financial guaranty firms remain net sellers of credit protection, mainly through portfolio credit derivatives, a category that includes synthetic CDOs, credit default swap indexes and credit index tranches [3]. Banks as a group remain net buyers of credit protection, but in last two years some individual banks has shifted to net sellers of credit protection via derivatives.

In general, market participants think that the credit derivatives are useful tools for risk management. The market participants are differing in the way they are using the credit derivatives. Having this in mind, we are going to point out to three main types of market participants:

- (1) Commercial banks,
- (2) Investment banks and,
- (3) Investors.

1.1. Commercial banks

Commercial banks use credit derivatives to tailor their credit risk exposure. They shed credit risk via credit derivatives. Banks have used credit derivatives and other means of credit risk transfer (e.g. securitizations), to shed risk in several areas of their credit portfolio, including large corporate loans, loans to smaller companies, and counterparty credit risk on over-the-counter (OTC) derivatives. Banks use single-name CDS to shed the credit risk of issuers to whom they have a large exposure. Banks can transfer the credit risk of a portfolio of exposures to investors via securitization transactions, such as collateralized loan obligations (CLOs). In last few years the categories of credit risk shed include not only the large corporations, but also loans to medium-sized and small enterprises, loans to emerging markets, and counterparty exposure on derivatives [3].

There are three key reasons that can explain why commercial banks became the important hedgers of their credit risk. First, credit spreads are at low levels, reducing the cost of hedging. Second, accounting changes in Europe have made it possible for banks to carry loans at fair value, reducing the conflict that was perceived between the accounting treatment of credit derivatives and their use in risk management. Third, the Basel II capital accord aligns regulatory capital charges more closely with actual credit risks and allows greater recognition of hedging.

1.2. Investment banks

An investment bank can use credit derivatives to manage the risk it incurs when underwriting securities. An underwriter assumes credit risk for the short time between when it takes the risk on its own books and when it sells the risk into the market. By virtue of the growth of credit derivatives, the underwriter may now be able to hedge some of that credit risk more easily.

Non-agency residential mortgage backed securities (RMBS) have been a rapidly growing market for securities underwriting in recent years. The rise in issuance volume led to a rise in credit risk borne by underwriters, because they must warehouse residential mortgage loans on their books during the time it takes to assemble a large enough pool to launch a securitization. Underwriters must find a way to cope with the potential increase in credit risk, which might be so large as to discourage them, at the margin, from taking on additional underwriting business. One way for underwriters to cope with such a potential increase in credit risk is to hedge more of it.

New credit derivative instruments (i.e. credit default swaps on asset-backed securities (ABS CDS)) appear to have proved useful to underwriters who want to hedge the risk of a residential mortgage loan warehouse. The notional amount outstanding of ABS CDS in 2007 was more than \$17 billion [1]. An underwriter can use an ABS CDS to buy credit protection on an RMBS with similar characteristics to the loans in its warehouse. The performance of the ABS CDS should roughly offset the performance of the warehouse loans.

As is typical of successful and liquid new markets, there appears to have been a healthy balance of supply and demand of credit risk in the ABS CDS market. In addition to underwriters seeking to hedge warehouse loans, asset managers with a negative view on the housing sector are also natural buyers of credit protection on RMBS. Investors seeking exposure to the RMBS market, including CDOs, are natural sellers of credit protection. ABS CDS have proven to be relatively liquid compared to the markets for individual RMBS.

1.3. Investors

Investors are the third group that uses credit derivatives for risk management. An investor can use credit derivatives to align its credit risk exposure with its desired credit risk profile. Credit derivatives can be more flexible and less expensive than transacting in cash securities.

Investors are a heterogeneous group that participates in the credit derivatives market in different ways, such as:

- a) “Buy-and-hold” investors,
- b) Active traders and,
- c) Investors in credit index tranches.

In general, “buy-and-hold” (usually insurance companies and pension funds) investor seeks to earn a return from a broad exposure to issuers of fixed income securities. This type of investor by using credit derivatives can shift its exposure away from the issuers in sector for which it has a negative view. The investor can do this by buying credit protection on issuers in certain sectors using credit default swaps. The bid-ask spread on credit default swaps is generally lower than the bid-ask spread on corporate bonds, and the difference is larger when the bonds are seasoned. To replace the sector exposures, this investor can sell credit protection on other issuers (in other sectors), or simply sell credit protection on a credit default swap index.

Investor can act as an active trader (usually hedge funds), which means that it seeks to earn a return by predicting short-term price movements better than other market participants. For example, let’s suppose that there is an investor who is an active trader with a view that over

next two months issuer X credit risk standing will improve and its credit spreads will tighten. One obvious trade based on such a view is to buy one of issuer X's bonds or sell credit protection on issuer X with a single-name credit default swap. However, buying a bond or selling credit protection exposes the investor to the risk that issuer X defaults, which may be a risk the investor does not want to take.

Investor can use credit derivatives to take a customized exposure to particular components of credit risk, such as spread risk, default risk, recovery risk, or correlation risk. In our example, the investor wants to be exposed to the spread risk of issuer X but not default risk. To achieve this, suppose that the investor sells \$1 million notional amount of credit protection on issuer X with a 10-year maturity and buys \$1 million notional amount of credit protection on issuer X with a 5-year maturity. These two positions have the same \$1 million exposure to default risk, but the longer maturity position has a greater sensitivity to credit spreads (higher credit duration). Table 2 shows what happens in three different scenarios. In scenario 1 issuer X defaults, so the investor will receive \$1 million face value of issuer X's bonds on the 5-year CDS and will deliver \$1 million face value of bonds on 10-year CDS. Clearly, such a trade is hedged against the default of issuer X within the next 5 years. Scenarios 2 and 3 show what happens when issuer X's credit spread curve narrows or widens at all maturities in a parallel shift. As expected, in scenario 2, the issuer gains on net when the credit spread narrows, and the opposite occurs in scenario 3 when the credit spread widens. Of course, credit spread curves do not always shift in parallel, and an additional risk of this trade (not shown in the table) is that the credit spread curve steepens. Without credit derivatives, such a trade would only be possible if issuer X happened to have bonds outstanding with 5-year and 10-year maturities, and if it was possible to borrow a bond to establish a short position. While the stars may align on occasion for both of these conditions to be satisfied, it is clear that a liquid credit derivatives market offers more possibilities for customizing risk exposures along these lines.

Table 2: Alternative scenarios faced by an "active trader"

Scenario	Change in market value		
	Sell \$1 MM@10yr	Buy \$1 MM@5yr	Net
X defaults	Deliver bonds	Receive bonds	Zero
X credit spread falls by 10bp at all maturities	+\$76,347	-\$43,837	+\$32,510
X credit spread increases by 10bp at all maturities	-\$76,347	+\$43,837	-\$32,510

Source: Bloomberg page CDSW, using a BBB spread curve as of April 16, 2007.

The role of asset managers combines the "buy-and-hold" investor with active trader because they may place some of its assets in a "buy-and-hold" index strategy and some with an in-house team of "active traders", while the remainder may place with external managers who could pursue either type of strategy.

Credit index tranches are another example of how credit derivatives can produce different risk-return tradeoffs. A credit index such as iTraxx (in Europe) is a liquid product that provides exposure to a broad segment of the credit derivatives market. Credit index tranches take the risk of a credit index and tranche it into pieces with different seniority. Because these tranches on credit indexes are standardized, they are relatively liquid compared to other tranching credit products, which are usually customized on a one-off basis. Table 3 shows the tranches for the iTraxx Europe index, along with the spreads and deltas on each tranche at the 5 and 10-year maturities as of March 1, 2007. The spread represents the cost paid by a buyer

of credit protection. Understanding the relative risk of credit index tranches is difficult, but is obviously important for investors who are choosing the risk and return of their investment portfolio. A common way that market participants compare the risk of different tranches is to use a model to compute the relative size of the position in the underlying index that would have the same sensitivity to a small movement in the index credit spread as the tranche. This measure is called “delta” and, by construction, the delta of a position in the index equals one. Delta can be seen as a measure of the tranche’s leverage. The deltas themselves purport to measure the risk of a tranche relative to a position in the index. We can also use deltas to compare the risk of different tranches. For example, at the 5-year maturity, the 3-6 percent tranche is 20 times riskier than the 12-22 percent tranche. However, delta only measures one dimension of a tranche’s risk, exposure to credit spread risk. Other dimensions of risk, such as default risk, may give a different sense of the relative risk of different tranches.

Table 3: Spreads and Deltas on iTraxx Europe tranches on March 1, 2007

Tranche	Spreads on iTraxx Europe tranches (basis points per annum)		Deltas on iTraxx Europe tranches	
	5-year	10-year	5-year	10-year
0-3 percent	500 + 9.98% upfront	500 + 40.85% upfront	27.5	13
3-6 percent	46	334	4	11
6-9 percent	13	88	1.25	4.25
9-12 percent	6	39	0.6	2.1
12-22 percent	2	13	0.2	0.8
Index	23	43	1	1

Source: www.creditfixings.com

2. Credit derivatives and risk management challenges

Credit derivatives pose risk management following challenges:

- (1) Credit risk,
- (2) Counterparty risk,
- (3) Model risk,
- (4) Rating agency risk and,
- (5) Settlement risk.

Credit derivatives do not eliminate credit risk, but they can transform credit risk. This could be done by using: credit default swaps, where the exposure is nearly identical to that of a corporate bond; credit default swap indexes, where the exposure is nearly identical to that of a portfolio of corporate bond and; complex credit derivatives, such as CDO tranches.

Counterparty risk is the risk that the counterparty to a credit derivative contract will default and not pay what is owned under the contract. For credit derivatives, as with other OTC derivatives, counterparty risk is an important risk that needs to be managed. Given the growing role of hedge funds in the credit derivatives market, counterparty risk is becoming even more prominent, since hedge funds generally are among a dealer’s riskier counterparties. In many cases, dealers use collateral to reduce counterparty risk. However, despite the widespread use of collateral and margin, there are some important risk management challenges associated with counterparty risk on credit derivatives. One challenge is simply

measuring the exposures on complex credit derivatives. One of the key measures of counterparty risk is potential future exposure. Potential future exposure takes into account the possible future moves in credit spreads or future defaults that could create a larger credit exposure if the market moves in the dealer's favor. This potentially larger credit exposure is something that is already present in the current derivative contract and therefore should be measured like any other credit exposure.

Complex credit derivatives require complex models for valuation and hedging. While a few complex credit derivatives, such as credit index tranches, are traded in liquid markets with some price transparency, most are not. Products without a liquid market are referred to as "mark-to-model." The risk of loss due to a flawed model is known as model risk. [5], which is materialized in the market for tranching credit derivatives in May 2005.

It is important to have in mind that any model is only an approximation of reality, and model improvement must be a continuous process for products as new as tranching credit derivatives. In the two years since the May 2005, there has been an explosion of research into alternatives to the Gaussian copula model. While eventually this research is likely to lead to better models and a reduced level of model risk for complex credit derivatives, there could be a long wait until that occurs. For the foreseeable future, those who trade complex credit derivatives will need to pay careful attention to measuring and managing their exposure to model risk.

Rating agencies play an important role in the credit derivatives market. Moreover, the structured finance market, including the credit derivatives market, relies heavily on ratings [2]. Given the complex nature of many credit derivatives, many investors rely on rating agencies to assess the credit risk of a particular transaction. However, large institutional investors do not rely solely on ratings for making investment decisions.

The debate over the role of rating agencies in the market for complex credit derivatives has two sides. On one side, it can be argued that rating agencies are fully transparent in the methodologies they use to rate synthetic CDOs. They publish detailed criteria reports that are available to the general public without charge, and in some cases they allow their models to be freely downloaded. They implicitly acknowledge that their ratings of structured finance transactions are fundamentally different than their ratings of corporate debt, for example, by compiling and publishing separate default and migration statistics for the two groups, rather than pooling them into a single group. This should discourage investors from treating an AAA rating on a structured credit derivative exactly like an AAA rating on a corporate bond. On the other side of the debate, it can be argued that the one-dimensional nature of traditional credit ratings makes them insufficient for comparing the risk of corporate debt and structured credit derivatives, and that using the same rating scale for the two is misleading. While the expected loss or probability of default of a BBB-rated corporate bond and a BBB-rated synthetic CDO tranche may be the same, their risk differs materially in other important dimensions. For example, synthetic CDO tranches are much more sensitive to the credit cycle, or to business cycle risk, than a portfolio of similarly-rated corporate debt [4]. Finally, the tranches of the iTraxx index can also be used to illustrate some of the points about rating agency risk. In general, without taking a stand on which risk measure is better or worse, it is not a good idea to rely on a rating when thinking about risk on a tranching credit derivative product.

When an issuer defaults, credit derivatives that reference the issuer's debt must be settled. Traditionally, settlement in the CDS market was based on physical delivery by the protection buyer of the referenced issuer's debt securities in exchange for par. Physical settlement is the natural settlement mechanism when a CDS is used to hedge the credit risk of owning a bond. Cash settlement is less desirable in that situation, because the value of owning the bond of the

defaulted issuer may diverge from the cash settlement price on a CDS, reducing the effectiveness of the hedge.

Since the growth of the credit derivatives market shows no signs of slowing down, settlement risk is likely to continue to increase as long as physical settlement is the standard in CDS contracts. Although all participants in the credit derivatives market have a broad interest in seeing the market function well, their interests may diverge in a settlement situation when some are protection buyers, some are protection sellers, some would probably prefer physical settlement and some would prefer cash settlement. However, each auction is an ad hoc process that must be quickly agreed to following a default. Settlement risk will still be high until the auction settlement mechanism is incorporated into standard CDS documentation and is tested in actual defaults, including some in less benign market environments.

3. Conclusion

The paper has tried to document the striking growth of credit derivatives. Driving this growth, market participants, including commercial banks, investment banks, and investors, appear to find a variety of credit derivative products to be useful for their own risk management purposes. We discussed a number of the ways that credit derivatives can be useful for risk management. At the same time, credit derivatives are posing some significant risk management challenges. Many of these challenges reflect the immaturity of the credit derivatives market. For the credit derivatives market to develop and mature, market participants must address these risk management challenges.

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THE TIME-SPACE DYNAMICS OF FOREIGN TRADE: INTERNATIONALIZATION MAPS[♦]

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1. Internationalization and local development

Firms operate in a competitive environment where technological and managerial capabilities are developed under the influence of national culture, institutions and common knowledge. Moreover, their internal assets and capabilities are often developed in collaboration with both domestic and international partners like other enterprises, institutions, local actors.

Indeed, according to Porter (1990), firms' competitiveness is interdependent with that of their national business community, sub-national business clusters or industrial districts (see also Kristensen, 1989).

In such a scenario, the internationalization of firms is co-evolving with the internationalization of their national business environment. Factors like local culture and education, regional economy, business interactions between firms and local markets and institutional conditions constitute local competitive advantages, which are the foundation of firms' competitive advantages, and determine the country's outward international business (Chetty *et al.*, 2003).

The most important consequence of this relationship between internationalization and local business is perfectly highlighted by Kasahara *et al.* (2008). According to the Authors, in this environment, trade liberalization which lowers restrictions on the importation of intermediates increases aggregate productivity because some inherently productive firms start importing and achieve within-plant productivity gains. This, in turn, leads to a resource reallocation from less productive to more productive importing firms, enhancing the positive aggregate productivity effect. Furthermore, productivity gains from importing intermediates may allow some importers to start exporting, leading to a resource reallocation along the intensive margin.

In equilibrium, higher labour demand from new importers and exporters increases the real wage and, as a result, the least productive firms leave the market.

In this context it is easy to understand why it is very important to thoroughly investigate the link between local development and internationalization and the steps of the internationalization process.

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2. Literature review

Existing literature can be divided into three main theoretical areas: stage theory (Johanson *et al.*, 1975), network theory (Coviello *et al.*, 1999), and foreign direct investment theory. To summarize.

- *Stage theory.* According to this model, firms internationalize using a staged approach. A staged approach may mean that (1) firms start exporting their products and then open offices, building production facilities et cetera. It may also indicate that (2) firms expand geographically in stages, such as first expanding into countries adjacent to the country of origin and then into countries farther away. It may also mean that (3) firms begin expanding into countries with cultural familiarity (Gankema *et al.*, 2000; Coviello *et al.*, 1997).
- *Network theory.* According to this model, a firm's network relationships are the basis for internationalization (Coviello *et al.*, 1999). The network model is used to describe an approach to internationalization where firms use networks to access foreign markets.
- *Foreign direct investment theory.* According to this theory, internationalization depends on investment patterns (Lu *et al.*, 2001; for the Italian case see Bronzini, 2007; Nefussi *et al.*, 2007).

Independently from the internationalization approach, the authors agree to underline that firms establish relations with actors in foreign countries through a multiplicity of channels: through import and export trade flows; through direct investments abroad and from abroad; through sub-contracting; and through commercial, technological and other kinds of formal and informal agreements.

Empirical evidence shows that internationalization in the form of direct investment involves a limited number of businesses; much more many firms have engaged in intermediary forms, such as technical collaboration agreements with overseas companies.

The competitiveness of the company-territory system, intended as the ability of the local actors to compete with and measure themselves against their competitors, is generated by a number of factors. In an ever more interconnected economy the degree of internationalization of commercial flows seems to be a good indicator of competitiveness. Foreign commerce is a source and expression of the competitiveness of an area because its dynamics reflect heterogeneous combinations of the ability to export local products and, through the importation of semi-finished and finished goods from other countries, take advantage of economies deriving from the difference between labor and production costs.

Nevertheless the analysis of import/export flows supply an approximate measure of the competitiveness of an area because it doesn't consider the flows of financial capital and the exchange of intangible assets (patents, trademark licensing).

3. The Italian case

In Italy, traditional sectors are less present in overseas markets and hold smaller foreign direct investments than high-tech sectors do. The only sector with a significant delocalization is the textiles, clothing and footwear sector (Rossetti *et al.*, 2003; Constantin *et al.* 2008).

Similarly, an important survey of Italian manufacturing sectors for the period 2000-2003 (Capitalia, 2005) showed that a very big number of Italian firms export abroad (70% of the total), and that the majority of them were maintaining, or starting up, trade operations or overseas trade agreements with foreign correspondents, with a marked increase over earlier periods.

Moreover, it is evident that a significant part of firms' international activities concerns trade. This is much more evident if we consider the typical Italian regional context: the district. District firms, in fact, have better export performance than non-district firms (Pyke *et al.*, 1992; Enright, 1996; Bronzini, 2000; Carpinetti *et al.*, 2007). A district, as we know, is something very close to a cluster. According to Porter they are "(...) *geographic concentrations of inter-*

connected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition" (Porter, 1998, p. 73).

As such, it is evident how important it is to thoroughly understand the relationship between trade and local development. There are some studies of this kind which highlight very interesting aspects.

For example, Bronzini (2000) states that Italian districts exhibited a strong export performance compared to the national average, and some of the most dynamic export areas were typically districts. By the same token, Menghinello (2003), and De Propriis, Menghinello, and Sugden (2008) demonstrate that industrial districts are among the most competitive of local industrial systems; Becchetti, De Panizza and Oropallo (2007) investigate the relationship between districts and exports and they find that firms located in industrial districts export more, and have higher value added, than firms located elsewhere, net of the impact of appropriate controls.

Finally, De Arcangelis and Ferri (2005) provide a new point of view on the export dynamics of the Italian districts. They state that Italian districts have changed in the last few years; indeed, they are now specializing in the production of capital goods closely linked with the districts' traditional areas of specialization.

The evaluation of the competitiveness of the single areas cannot, however, be based on a simple reading of the quantitative flows. Instead, it must also look into the rate of variation and analyze the advantages and weaknesses related to the structure of the commercial flows. Indeed, the geographic composition of imports/exports expresses the vocation of the territory and the strategies pursued by its operators. This then implies a greater or lesser sensitivity to potential geopolitical and/or economic or financial shocks, in addition to a differing exposure to competition from newly industrialized countries.

In this case attention is focused on the recognition of the influence of the spatial composition of commercial flows. The objective is to bring to light the dynamics of foreign export and import markets.

Through *shift-share* analysis, areas that can obtain advantages and/or are exposed to risk, because of the structure of imports or exports are identified. Indeed, the cartographic representation provides us with a map of internationalization. The choice of carrying out the study for the entire national territory as well as at a provincial level allows us to make useful comparisons, identify the existence of eventual economies of proximity or the existence of similar structures for territories that are spatially distant. The comparison between administrative areas with similar productive specializations brings to light the territorial systems that were able to carve out significant shares of "difficult" markets and the realities that, in spite of their dynamism, have seen a dramatic reduction in their exports, including in markets experiencing strong growth.

4. Shift-share analysis

Shift-share analysis (Dunn 1960; Cugno, 2006) is a quantitative method to examine the time-space dynamics of an aggregate, for which a latent structure exists. The method empirically separates the contribution of the different components:

- *trend* (or *of the entire area*), i.e. the degree of variation attributable to the overall movement of the variable studied;
- *structural* (or *of a sectoral mix*), i.e. the contribution of the initial structural characteristics of the phenomenon of the single territorial units at the beginning of the period. These components, if positive, indicate that in the sub-area the phenomenon studied has grown at a higher rate than the average of the referral group because of the presence within the structure of sectors or typologies which as a whole have demonstrated a rapid growth. When negative, the sectoral composition of the sub-area appears as a factor that, within the

spatial context, contrasts or reduces the development of the phenomenon being studied;

- *local* (or *of a local mix*), i.e. the tendency of the phenomenon within the various sub-areas to grow more or less as is to be expected given the initial structure, when each modality develops at the same rate as the corresponding typology of the area. The entity of the parameter shows the effect of factors complementary to those of the structural component, which originate in local specificities, while the positivity or negativity indicates the promotional or regressive effect on the development of the phenomenon.

The analysis is based on the construction of a matrix containing the different data for each sub-area in each year considered. The variations of the matrix at the beginning and end of the period –or of the years where the largest increase of the phenomenon was recorded- are then determined, and identified respectively as t_0 and t_1 .

Indicating as

- y_{rht} the determination of the variable in the sub-area r of typology h in the reference period t ;
- $\Delta y_{rh} = (y_{rht_1} - y_{rht_0})$ the absolute variations in the period considered;
- $g_{rh} = \frac{\Delta y_{rh}}{y_{rht_0}}$ the relative variations in the period considered.

One obtains

$$\begin{aligned} \bullet & Y_{r,t} = \sum_{h=1}^q y_{rht} & Y_{.ht} = \sum_{r=1}^k y_{rht} & Y_{.,t} = \sum_{r=1}^k \sum_{h=1}^q y_{rht} \\ \bullet & \Delta Y_{r.} = \sum_{h=1}^q \Delta y_{rh} & \Delta Y_{.h} = \sum_{r=1}^k \Delta y_{rh} & \Delta Y_{..} = \sum_{r=1}^k \sum_{h=1}^q \Delta y_{rh} \\ \bullet & G_r = \frac{\Delta y_{r.}}{y_{r.t_0}} & G_h = \frac{\Delta y_{.h}}{y_{.ht_0}} & G_{..} = \frac{\Delta y_{..}}{y_{..t_0}} \end{aligned}$$

Therefore, the variation ΔY_{rh} can be expressed in the following form

$$\begin{aligned} \Delta Y_{rh} &= G_{rh} Y_{rht_0} = [G_{..} + (G_{.h} - G_{..}) + (G_{rh} - G_{.h})] Y_{rht_0} = \\ &= G_{..} Y_{rht_0} + (G_{.h} - G_{..}) Y_{rht_0} + (G_{rh} - G_{.h}) Y_{rht_0} \end{aligned}$$

Summing according to h one obtains the breakdown of the absolute variation of the variable considered in the sub-area r for the three trend, structural and local components

$$\begin{aligned} \Delta Y_{rh} &= G_{rh} Y_{rht_0} = [G_{..} + (G_{.h} - G_{..}) + (G_{rh} - G_{.h})] Y_{rht_0} = \\ &= G_{..} Y_{rht_0} + (G_{.h} - G_{..}) Y_{rht_0} + (G_{rh} - G_{.h}) Y_{rht_0} \end{aligned} \quad [1]$$

If one wants the relative variation each term, [1] must be divided by $Y_{r.t_0}$ which yields

$$\Delta Y_{r.} = \underbrace{G_{..} Y_{r.t_0}}_{\text{trend}} + \underbrace{\sum_{h=1}^q (G_{.h} - G_{..}) Y_{rht_0}}_{\text{Structural}} + \underbrace{\sum_{h=1}^q (G_{rh} - G_{.h}) Y_{rht_0}}_{\text{Local}} \quad [2]$$

Fundamental to shift analysis is the choice of:

- *the units of analysis*;
- *the data sources*, the reliability of which will affect the quality of results;
- *the extremes of the temporal interval*, which obviously influence the entity of the variations of the phenomenon;
- *the definition of the phenomenon*.

The unit of analysis

The study is carried out in 103 Italian provinces, for which it measures the volume of the imports and exports – international trade –.

Data sources

The data on imports and exports comes from the ISTAT database, specifically the International Trade of the Territorial System for goods, broken down into geographical area: countries of the European Union (UE-25); other European countries; North Africa; Other African Countries; North America; Central and South America; the Middle East; Central Asia; South-East Asia; and Australia, Oceania and other countries.

The extremes of the temporal interval

In the definition of the temporal arc it was considered preferable to not overly extend the period considered, given that the processes of internationalisation of a territory can be appreciated better within the mid-term. This also guarantees that the institutional operators are able to obtain the information necessary for a timely promotional or corrective intervention. As such, the study considers the data from the last available five years, ie 2000-2004.

For the year 2004 particular comments will be made regarding the individual geographic areas.

Cartographic representation of the components

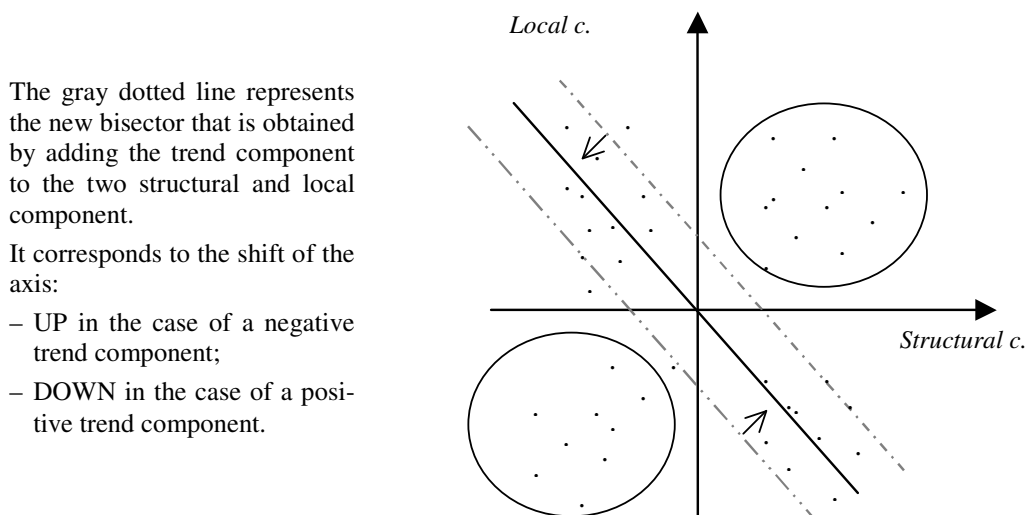
The results of the structural and local components are reflected in different cartograms, where the values are then subdivided into two classes (positive and negative).

5. A proposal to integrate *shift-share* analysis

In order to offer the evaluation of the potential strengths and weaknesses of the territorial system (Golinelli, 2000, Golinelli C.M., 2002, Tardivo-Cugno, *Forthcoming*, Tardivo-Cugno-Bresciani 2008), three syntheses of the information generated through shift-share analysis are proposed and validated:

1. *Maps of the spatial-temporal dynamics of distinct import/exports per province.* The cartographic depiction shows the variation of the phenomenon during this period and reflects the results of the integration of the trend, structural and local components identified by the shift-share analysis. Their usefulness is linked to the reconstruction of the entire result as a consequence of the operation of the latent structure of the phenomenon.
2. *Dispersion graphic of the trend, structural and local components.* This instrument (Fig.1) allows, through the punctual graphic representation of the administrative areas and the measurement of the components, to recognize the entities that are furthest from the average progression.

Fig. 1 – Diagram of the graphic representation of the results of the *shift-share* analysis



Within the graph the structural component is represented on the x -axis and the local component is on the y -axis. In this way one can read the value of the components and their combined effects.

- In quadrant I both components are positive and they generate an increase in the degree of internationalisation of international trade.
- In quadrant III both components are negative and they cause a reduction of the degree of internationalisation of international trade;
- Quadrants II and IV are intermediate zones, where the two components have different signs.

The value of the trend component is incorporated by shifting the axis: the bisector of quadrants II and IV is shifted *up*, when the trend component is negative, and *down* when the trend component is positive.

Using a dispersion graphic to illustrate the results of shift-share analysis therefore ensures the possibility a) of clearly distinguishing the positioning of the different administrative units within transnational economic relations, i.e. to identify the modalities that regulate their involvement in the flows of the global economy; b) to evaluate their degree of competitiveness/vulnerability.

3. *Map of the distribution of the shares of volumes of imports/exports by geographic area of origin/destination.* The relationship does not enter in the output of the shift-share analysis, but provides an interesting support element when evaluating the eventual specialisation of commercial flows.

$$R_loc_{rb} = \frac{y_{rb}/y_r}{y_b/y_{..}} \quad \text{where} \quad y_r = \sum_{b=1}^q y_{rb} \quad y_b = \sum_{r=1}^k y_{rb} \quad y_{..} = \sum_{r=1}^k \sum_{b=1}^q y_{rb}$$

The informative value of the quotient is linked to the capacity to circumscribe the administrative areas that align with the national reality ($R_loc=1$); are in positions related with a lower incidence of the latent form considered ($R_loc<1$); are distinguished by its larger impact ($R_loc>1$). The coefficient therefore locates –hence its name- the areas that show signals of competitiveness/vulnerability compared to the weight of a certain sectoral typology h . The indicator assumes the national value is an ideal border line between the two conditions, and essentially a normal situation, given the dominant behaviours and dynamics.

The readability of the map given the locator index is improved by using a color scheme. The quotient then becomes a sort of “synthetic indicator” of evaluation of the situation. This can be obtained by classifying the values according to three levels: the areas in “progress” with a weak gradation ($1<R_loc\leq 1,5$ in pink) and those with a strong one ($1<R_loc>1,5$ in red); the areas corresponding to the national value ($R_loc=1$ in beige) and the areas “in regression” with a weak gradation ($0,5\leq R_loc\leq 1$ in pale green) and those with a strong one ($0<R_loc<0,5$ in dark green). In this way one can provide a first assessment for decision makers through a compared evaluation of the existing situation in the various areas. This analysis is highly reliable given that it has been carried out thanks to a fixed parameter, which serves as a “comparison point”.

6. Foreign Trade

The presentation of the results should begin with a brief reconstruction of the traits that affect the dynamics in the sector of the Italian peninsula.

With regards to foreign trade (ICE-PROMETEIA 2006, UnionCamere, 2006), the balance of payment is worsening, because of the slowing of commercial growth and an increase in the

income gap and in unilateral transfers. The service dynamics remains substantially unchanged. The current account has registered, since 2000, a deficit in the Euro area, while remaining positive elsewhere.

In the last decade (1995-2004) imports grew mainly due to demand for energy products. Exports in real terms increased by little less than 42%. This increase is linked to a fall in the share of the Italian market of about one percentage point (moving from 4.53 to 3.79%). With regards to worldwide exports, Italy therefore fell from sixth to seventh place.

The increase in international trade flows, in any case, does not follow a linear trend: in the decade considered, the years 1995 and 2000, which exhibit a record variation in both imports and exports, stand out. There are also signs of slowdowns that can be reflected in occasional negative results.

The discordant progress of the data with regards to the value of exports and their market share is surely a “warning sign” for national operators: indeed the global demand for goods has increased faster than the Italian supply. As such, more market opportunities were created abroad and these have not yet been perceived and/or taken advantage of by national firms.

For a correct interpretation of the phenomenon, one must therefore:

- understand whether this lesser dynamism is linked to the productive and organisational structure which is insufficient to sustain a more intense activity abroad, or whether the loss of market share is due to a lack of competitiveness of our products;
- recognize the existence of eventual differences in the capacity of administrative areas to take advantage of the opportunities of an economy that is ever more international and/or to promote niche production.

6.1 Italian Provinces' Imports

The cartogram of the time-space dynamics of imports summarizes the entity and the nature of the process of internationalisation of purchases, within the 2000-2004 period. The colour expresses the direction of the change; the tone indicates the relevance of the opening or closing of commercial channels to internationalisation.

Map 1A shows a reality that is rather differentiated. The areas where a change can be perceived are found:

- in the North of the peninsula, which is coherent with a past dominated by a fordist model of large industrial development and today is characterised by a move towards a service based economy and by economic systems defined by the presence of a large number of family-run businesses;
- in the South of the country, where compact administrative areas are defined by enormous increases in revenue flows, well indicated by the intensity of the pink-red colour scheme; and
- in the centre of Italy and in the islands, where one finds the largest part of the areas where there is a fall in the initial values or where the variation –even when positive – is not above 5%.

The structural component [Map 1B] places the provinces that register a positive intensity in the Centre-North of Italy, along the Adriatic coast, and in particular areas of Sicily and Sardinia. In these administrative areas the weight of imports increases because of a purchasing model that favours contacts with the geographic areas that, at a national level, have shown themselves to be more competitive in the commercialisation of their products.

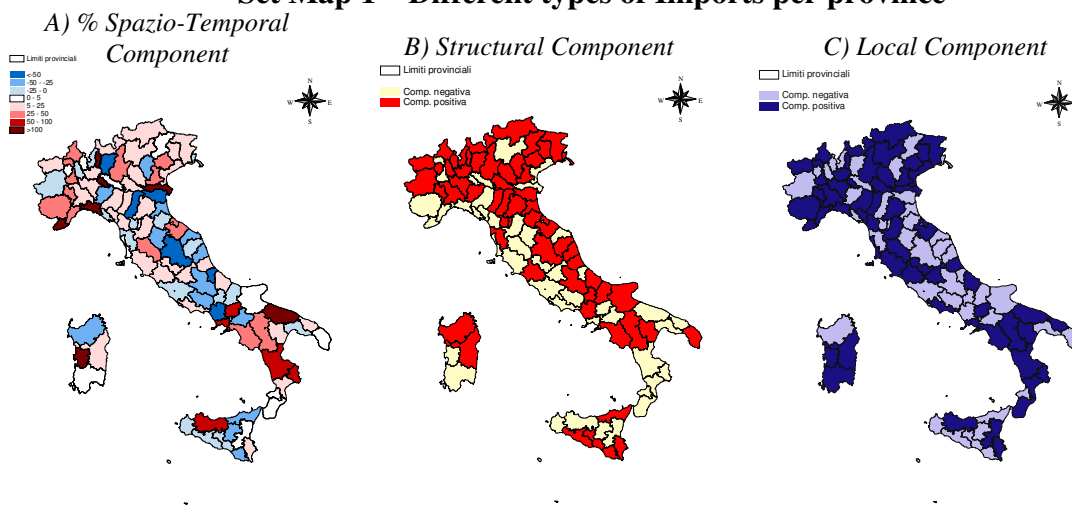
The entity and nature of the flow of imports is oriented by the local component in agglomerations of contiguous administrative areas [Map 1C], which tends to exhibit a “leopard print” pattern and is, in most cases, relevant. Once more the focus is on a large portion of the Centre-North, as well as the higher part of Tyrrhenian and Southern coast of the peninsula and a large part of the South-Central Sardinia. Within these areas imports grow as a result of inter-

nationalisation processes that, at least in part, are shaped by the particular socio-economic preferences of the provinces.

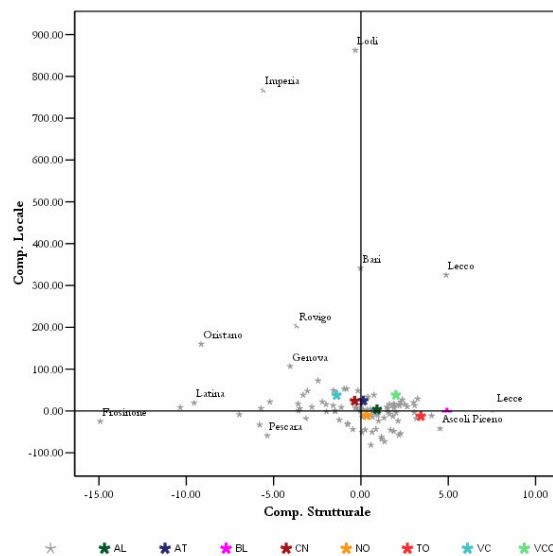
The local component, although operating in a similarly broad part of the peninsula, is crucial to determining specific characteristics of imports in a smaller portion of the national territory. In this case, this includes the province of Mantova (862.67%) and Imperia (767.59%), followed by Brindisi and Lecce with smaller values than the first group, but which are nonetheless above 300%, as well as the province of Rovigo (204% approx). Instead, Caserta, Ferrara and Modena exhibit a negative local component: the phenomenon increased less than what would have happened if the structure of local imports had increased their value at the same rate as the national average. Local factors therefore attenuated the increase in demand originating from trend and structural components.

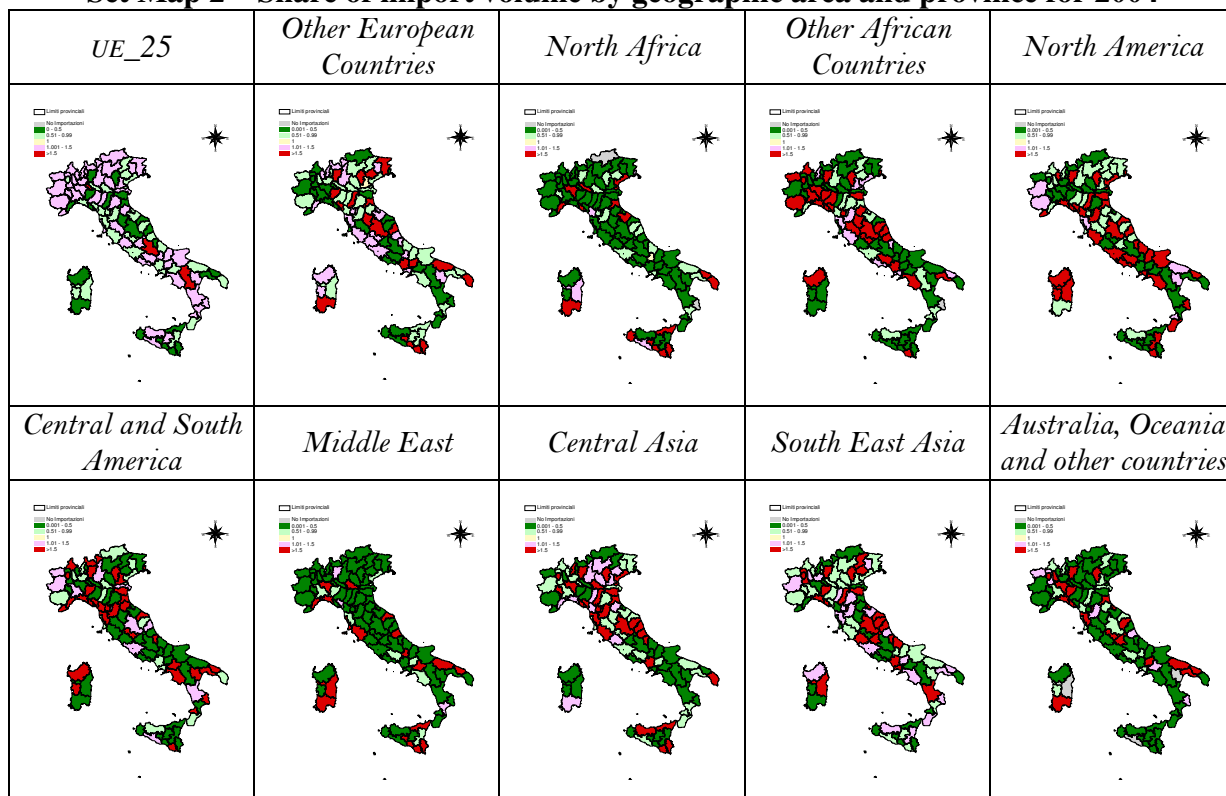
On the contrary, Pescara, Frosinone and Ancona represent emblematic cases of a regression in the degree of internationalisation (quadrant III)

Set Map 1 – Different types of Imports per province



Graf. 1– Dispersion graphic showing imports based on the values of the structural and local shift-share components by Italian province



Set Map 2 – Share of import volume by geographic area and province for 2004

In the other two quadrants one finds a situation where the two components are of opposite sign and therefore partially offset each other.

The outline of the situation shown here can be further strengthened through a report on location (Set Map 2) which describes the nature and “strength” of the characterisation of the geographical structure of imports. This allows us to identify the areas that are furthest from the national dynamics and which can be reconsidered as standard.

All of the areas in green represent areas where the importance of manufactures as a share of the total is lower than the national average, while those in red indicate that this share is higher. The gap between these statistics, which can be compared to the locator index, becomes obviously more marked as the colour tone darkens.

A quick overview of the whole allows us to note immediately that provinces with a rate close to the national rate or that do not entertain commercial relationships with one or more macro-areas of importation are the exception. The tendency to acquire goods from the European Union is diffused and well entrenched in over half the Italian provinces, located overall in the North and South of the peninsula. Only in three cases – Lodi, L’Aquila and Potenza – the relationship seems significantly different. In this case there is a larger number of entities that stand out for being “negative”, i.e. where the value is lower.

The situation with regards to the other macro-areas is more varied and shows the existence of a network of purchasing channels punctured by real “provincial gravitational centers”, in many cases situated outside of the great axes of movement of the goods and far from each other. The comparison of the locator indexes reveals several surprises, as it shows openings and the sharing of interests that are unexpected and unpredictable.

6.2. Italian Provinces’ Exports

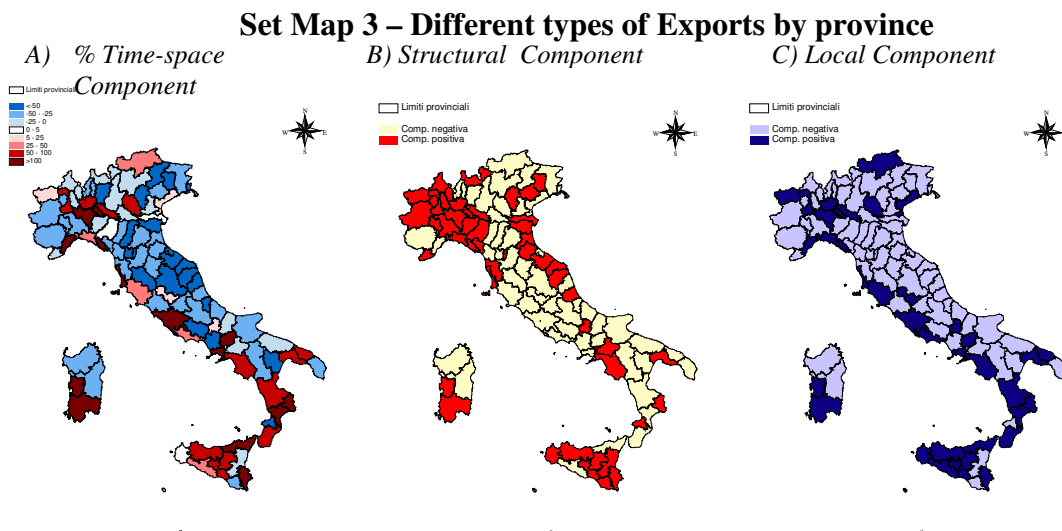
The mapping of the time-space dynamics of exports (2000-2004) shows a situation of great vulnerability for a large part of Italian provinces (Map 3A). This can be seen when one compares the progress of the phenomenon in the administrative area and its evolution at the na-

tional level. The location of the areas that have increased their competitiveness and stand out, therefore, from the national “trend”, does not seem to follow any pattern nor reflect the Italian economic development models. The “best behaviours” are found in the regions of Calabria, Sicily, Sardinia, Liguria and in lower Lombardy, where the variation is positive and substantial. On other hand, there is no shortage of other cases –more or less isolated – that exhibit the opposite trend compared to the rest of the region, notably Bolzano, Verona, Livorno, Roma and Brindisi.

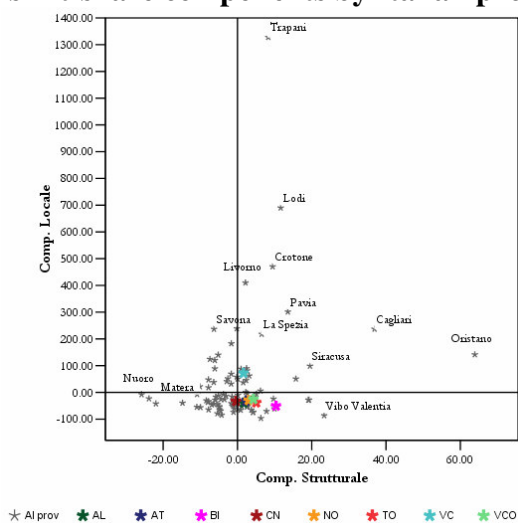
Shift share analysis allows us to investigate the reasons behind the situation described above. The effect of the global trend of exports is evaluated as a “push” on local exports equivalent to 3.84% and therefore superior to the similar trend component identified for imports. This means that the operators of the provinces have been able to count on the increase in competitiveness of the overall Italian system.

The impact of the structural component (Map 3B) is evident in the vast area in the North-West of the country, in the top part of the Adriatic coast, in Sicily and in South West Sardinia, as well as in a few scattered administrative areas. The overlap of factors allows us to verify that in a large part of the area indicated as highly “vulnerable”, the contribution of a structuring of exports, significantly focused on the more dynamic markets, has been positive. This represents the propensity of local actors to invest in the commercialisation of their products in macro-areas where the presence of Italian firms and the image of *Made in Italy* is noticeable and well entrenched.

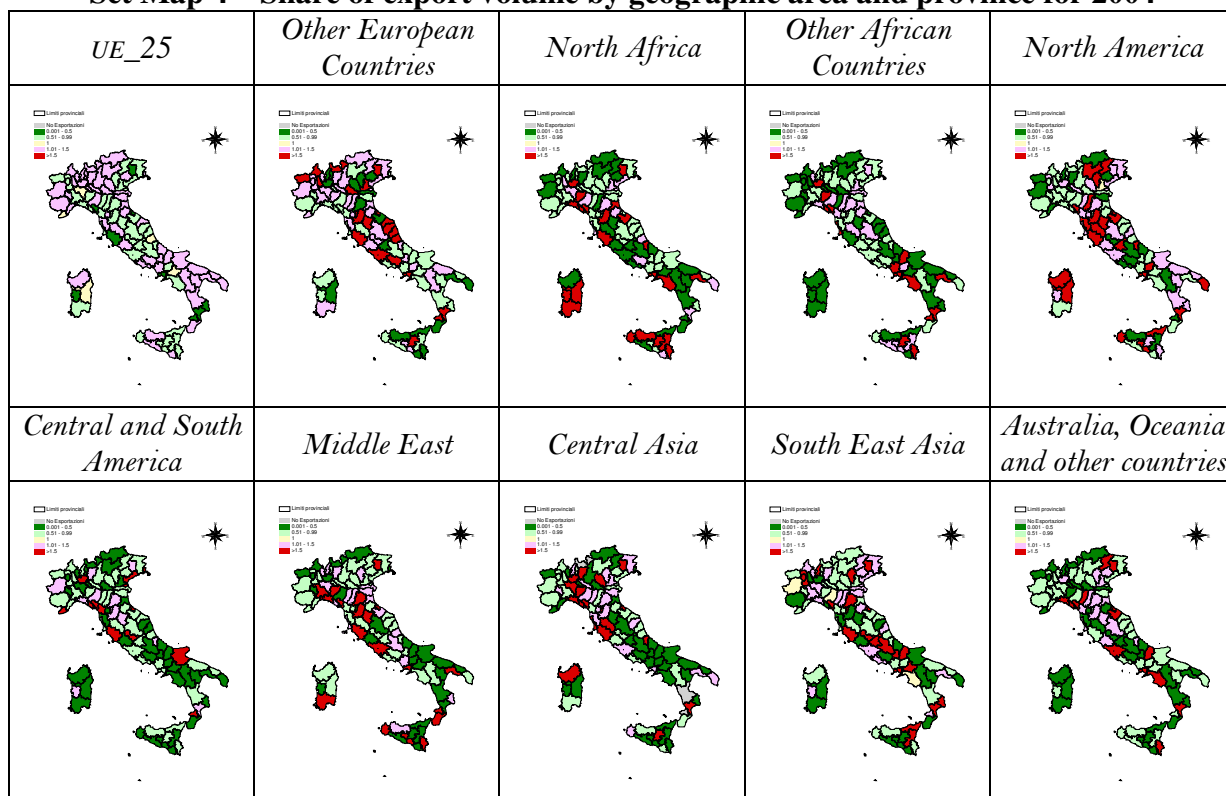
The overall result is therefore chiefly explained though the local component, that is negative for most part of the national territory and that, in these areas, acts as a constraint on the competitiveness of national products. This component is also the main reason behind the “virtuous” situations illustrated by the cartogram of the time-space dynamics of exports, where it is shown to be an essential contribution for the development of relationships that are already existent and for the promotion of new projects.



Graf. 4– Dispersion graphic showing exports based on the values of the structural and local shift-share components by Italian province



Set Map 4 – Share of export volume by geographic area and province for 2004



Graphic 4 focuses on a select group of provinces that, under the combined effect of the positive structural and local components (quadrant I), increase their degree of internationalisation in target markets: Trapani and Oristano are “limit” cases of this which, for contrasting reasons, stand out for their increased capacity to commercialise their own products abroad. The sub-group of administrative units where commercial exchanges have fallen as a result of the negativity of both components is even larger. Within the third quadrant the values of the two components seems to be more similar in absolute value and the outlier realities –identified as Matera, Arezzo and Nuoro – can then be seen as “isolated cases”.

In the other two quadrants one finds the provinces for which the value of the two components is of opposite signs and tends, at least in part, to compensate for each other. This is the case of the most part of Italian provinces and is the defining characteristic of the Piemonte provinces. Except for Vercelli (for which both components are positive) and for Cuneo (where both values are negative) all of the others can be found in the fourth quadrant, which highlights the stronger weight of the structural variable compared to the local one.

The panorama described up to now, which must serve to improve efforts of governance in the firm-territory system, should conclude with a quick comparison between the structures that exist at the national level (Set map 4).

A substantial number of Italian provinces, located mostly in the North and in the South of the peninsula, demonstrate a good capacity of exporting towards other member states of the European Union. This form of commercial exchange –contrarily to what takes place in the other macro-areas of destination of the goods – does not follow any “excellence” patterns, but does permit the identification of positions of “weakness” for Pordenone, Lucca, Pesaro and Urbino, Grosseto, Salerno, Catanzaro and Oristano. There are four provinces that in this regards are aligned with the national situation: Pavia, Chieti, Benevento and Nuoro.

Commercial flows towards the other European countries and North America highlight agglomerations of neighbouring administrative areas responsible for a consistent volume of exported merchandise. Commercial exchange with North Africa seems in large part to concern the provinces of the two Italian islands. The exports towards the other geographic macro-areas are of a more heterogeneous character. The zones that stand out for their volume of exports that is superior/inferior to the national average can not be fit into any pre-existing pattern, but are instead explained by specificities of local economic systems.

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THE TOTAL QUALITY APPROACH IN ITALIAN PMI, PUBLIC ADMINISTRATION AND SANITARY SYSTEMS: LITERATURE, INSTRUMENTS AND INQUIRIES.

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With the expression ‘third industrial revolution’ many scholars mean what happened around the year 1974 with the introduction of production ‘just in time’ and of ‘Total Quality’ of Toyota type. The Japanese industrial revolution marks also the shift from industrial society to a society of information since it integrates productive processes into the new social system. The American model of the Henry Ford kind, adopted also by many Japanese firms, was abandoned in favour of the Japanese model of Toyoda Kiichiroa.¹ The concept of work was completely revised. There are two fundamental points to grasp the deep change developed by the Japanese applications of the idea of Quality and its evolution:

- Overturning of the logic of marketing
- Conversion of industry into a computer information system

Total Quality replaces the production ‘in line’, based on the assembly line island of production and

quality circles. Workers do not specialize in few elementary tasks but they accomplish different ones and are able to control the productive process. Actually control is internal and self- managed by workers on the opposite, in the tayloristic system of work, control was external and based on two different positions: the worker and the person who checked on him. In a Quality- based system direct contacts with customers take up a leading role and innovation comes from people working in the production department. Innovation is suggested by labour and there is no top management that plans work, as in the tayloristic system. Information and communication are horizontal rather than vertical. ‘Just in time’ production, as regards quality and quantity, is based on customers’ requests and market demands. Stock is abolished and flexibility in the working process is introduced. Altogether these innovations are integrated with a system which makes it possible both to reverse the logic of marketing and to turn industry into a computer information system. Only an integrated management of information can allow to meet the demands of Total Quality above mentioned. The reversal of the logic of marketing means considering customers’ satisfaction a matter of primary importance. Instead of trying to convince customers, it is necessary to meet their requirements and abandon the idea of a standardized mass-production. Every productive process must be flexible and able to bring about changes and improvements (KAIZEN). This can happen only in a factory capable of immediately communicating all information about processes and conditions of production. The most suitable tools are the ‘kanban’ and the ‘andon’ (PINBOARD). They are simple, elementary instruments which have proved the importance of work organization and have highlighted how simple innovations, based on communication, have become decisive. The introduction of the new information electronic machines enhances and speeds up this trend, overturning the old logic and abolishing old devices.

In the ‘80s American enterprises have discovered Total Quality and with it they have tried to reduce the competitiveness gap; with a certain delay the same happened in Europe. Following up the success of Japanese enterprises, in the same years in Italy, like in the rest of the world, Quality was the talking point in the world of economics and business. In order to spread the culture of Quality in U.S.A and in Europe awards have been established. In 1984 President

¹ Sakichi and Kiichiro Toyoda are big leaders in the history of Toyota, K. Toyoda was the first to introduce the concept of ‘just in time’ - ‘Lo spirito Toyota’ di Taiichi Ohno – Einaudi, 1993.

Reagan officially declared the start of an annual campaign for promoting Quality, October being the national month for it. Soon after election President Clinton, in his turn, launched the idea of Quality for Government bodies; also the European Union has created offices to spread the concept of Quality. On 15 September Jacques Delors, President of the European commission, when EFQM was being founded, declared: “the battle for Quality is one of the prerequisites for the success of our enterprises and for our general success”. In Italy the first initiative to promote Quality on a national level dates back to 1995, about ten years later than other European nations.

Since the years after the Second World War, the historical concept of Quality intended as compliance with the requirements of a needed product-service, has remarkably modified changing into a much larger one. Quality in its latest evolution can be intended as the whole of characteristics of a material and immaterial entity, product or service, which enables to meet explicit or implicit requirements and to associate the employments of the entity itself to production and supplying processes. Therefore according to such definition the focal elements of Quality culture and praxis consist in satisfying the mix of needs which may be moral, material, economic or social. These may come from the so called Stakeholders: customers and users-patients, consumers, workers, shareholders, suppliers and in general the present and future community. The objectives can be achieved through adequate processes able to build Quality in a wider, integrated sense which includes the defense of the product conformity and of the inside and outside environment; furthermore it considers workers and consumers’ security in observance of the ethical principles of social responsibility. Therefore enterprises and associations in general must be oriented not only towards customers and their satisfaction to remain competitive, but also towards Stakeholders.

LITERATURE

There is a vast literature concerning the idea of Quality, a lot of texts are addressed to managers by others successful managers who have felt the need to share their winning experiences. They are especially authors of American and Japanese school, their approach to Quality though, even if they share some points of views, show remarkable differences due to their different cultures which led Quality to a different evolution.

In Italy according to different schools of thought and approaches, several authors² have dealt with Quality in the industrial field and elsewhere; unfortunately there has not been much coordination among them.

Total Quality has several fathers and variations. There is Quality according to Deming, Juran, Crosby, Feigenbaum and many others; moreover there are the ideas of Q. created by adviser agencies which want to promote their own model to the extent of giving a different definition of Q.

We have thought useful and appropriate to take up again the most representative authors³ whose re-reading has allowed us to meditate on ideas which, being habitually widely used, may be emptied of all meaning. We have made any effort to give a meaningful content to the word Q. in the original industrial field and in its evolution into a managerial model; after that we have tried to define the concept of T.Q. in the Health service and in the Public Administration.

All authors underline the importance of a strong, innovative leadership and invite managers to produce strategic, cultural changes and look at reality from new perspectives. T.Q. is used by all authors to define a mentality which leads to meet in the best way the customers ‘ demands,

² Among the first Galgano in 1990 with the book ‘La Qualità totale’

³ For ex. W. Edwards Deming, Joseph M. Juran, Kaoro Ishikawa, Taichi Ohno, Yasuhiro Monden, Armand V. Feigenbaum, Philip B. Crosby, Hitoshi Kume, Masaaki Imai

reducing costs and improving efficiency and effectiveness. There are different methodological approaches, which we believe can be summarized in 'Japanese Quality' and 'Western Quality'. It is possible to state that they are essentially different in two aspects: the first one concerning the different cultural approach, the second one concerning attention towards people more than to standards.

Comparative reading of the texts of Feigenbaum and Ishikawa emphasizes the different cultural approach. The systemic interpretation of Quality contrasts with the specialist outlook, expression of a mentality influenced by Taylorism. In the Japanese managerial model, Quality refers to a business culture in which all functions contribute to reach it, while in the western model Quality is entrusted to a specialist function. This interpretation has largely influenced the western model as we can notice both in the building of ISO regulations and in the reality of many enterprises.

In his book 'WHAT IS TOTAL QUALITY' Ishikawa criticizes this approach as he considers that the western approach to TQM puts too much emphasis on the traditional department of Quality control. The Japanese approach differs from Feigenbaum's as evident in Ishikawa words: '..... since 1949 we have been insisting on the importance of sharing and promoting the study of Quality control by all departments and the whole staff. Our movement has never exclusively belonged to specialists of Quality control.'

ISO regulations are largely influenced by the western approach. According to them the head-office has to appoint a person who is to be entrusted with the responsibility of correct rules application in compliance with the principles they are based on. Actually this idea has led many companies to create two parallel organizational routes: A real one and a 'paper' one in conformity with the regulation demands. ISO require a documentation and a specific terminology to account for the organizing project of the company. This has led the various organizations to the production of documents, not only for exclusive internal use, but to respect the demands of regulations.

In the '70s the institutional approach was taken up again,⁴ this is an important school of thought composed of several currents and opinions in economic, political and social sciences sharing the acknowledgment of the importance of institutions in conditioning human behaviour. Men create institutions and then they are conditioned by them. To the question 'Why organizations of the same kind are so similar among them' the authors Meyer and Rowan⁵ answer that there are processes of ISOMORPHISM and in an essay of 1977 they state that organizations operate in highly institutionalized contexts which establish the rational criteria which enterprises have to respect to be considered efficient. Once enterprises originated from the initiative of an entrepreneur who was endowed with a great spirit of enterprise, intuition and propensity to risk. Nowadays there are a lot of different institutions forming a thick net of rules by which an enterprise is conditioned. The criteria ruling the development of processes of isomorphism are pointed out, by authors, in powerful institutional rules defined as Rational Myth. The expression is an oxymoron meaning rules not based on the empiric proof of the scientific method but justified by the belief that they are effective, efficient or in conformity with a legal warrant. They facilitate the creation of new fields of activity to satisfy the business fed by Myths. Typical rationalized myths are, for ex., the regulations of Total Quality in the certification of products and the enterprise system. The authors distinguish between two kinds of organizations: those which take the criteria of rationality from the outside (museums, theatres, school, associations of voluntary work) and the ones which have their own criteria which may be in conflict with the outside. The latter

⁴ Philip Selznick founder of the first phase of institutionalism –years 1940-1960- 'Foundations of the theory of organizations'-American Sociological Review 13 Feb, 1948.

⁵ Meyer J. Rowan B. 'Il neo-istituzionalismo nell'analisi organizzativa.' Comunità Milano 2000

presents researchers with the most interesting problems because of the contrasts which may originate between their efficiency criteria and the ones suggested by outside institutions. Two possible parallel structures may originate: a formal one and an informal one. The formal structure is visible and respect external ceremonials. The informal structure is discreetly hidden to follow its own efficiency rules. The institutional pressures which push organizations to become more and more similar do not necessarily, as the two researchers point out, contribute to make them more efficient. In an article of 1983 Powel and Di Maggio⁶ indicate the organizational field as an answer to the research of the reasons of the process of isomorphism. The organizational field is defined as: *a whole of organizations and subjects forming an acknowledged area of institutional life such as enterprises, suppliers, consumers who, altogether, form a recognized area of institutional life.* The idea of organization becomes so wide as to include the organizational fields and to abolish the distinction between organizations which exercise pressures and others which suffer from them.

Isomorphism, intended as homogenization of criteria and inside performances in an organizational field, is the result of all the actors in the field itself.

Researchers distinguish among:

- Coercive isomorphism: when the organizations are subject to external pressures, typically law restraint or contractual obligation such as it happens for the head-enterprise of the production chain towards the sub-suppliers enterprisers.
- Mimetic (imitative) isomorphism: when the enterprises carry out mimetic processes to face uncertainty.
- Normative (prescriptive) isomorphism: it originates from professionalization processes, that is when people belonging to the organization learn new methods, techniques and technologies, in specialized centres, voluntarily with no constraint but aware of the validity of innovation in comparison with the traditional way of operating.

The account of the debates developed during technical committees for the writing of ISO in Kume's article, confirms this different cultural approach and also points out the other much discussed aspect: the existence of two souls of Quality: one based on attention to the people, the other on standard. From classical literature there comes the idea of an ideal organizations carried out through instruments rationally oriented to the achievement of special purposes.

Each organization is characterized by:

- a chain of commands
- technical and managerial competence
- division of work

One of the problems to be solved in every organizational project is the delegation of tasks (and its degree) which demands mechanism of coordination and control of the delegated activities. To make the organization both efficient and effective, in a regular and time-constant way, it is considered essential, according to the classical concept which considers an organization as a formal structure, that management standardize the working performances. It is equally important to make the components of the staff more and more interchangeable among them in spite of their different abilities. This approach is at the bases of the standardization of positions and enterprise procedure typical of tayloristic inspired models. It is necessary to consider, on the other hand, that in the reality of an enterprise there are routines and creative activities, routine decisions and critical decisions.

Bureaucracy, which is a typical organizational apparatus is not composed of positions which are all alike. Many authors, also of the American area, have noticed that the Weber's principle

⁶ Di Maggio P., Powel W. - The iron cage revisited: institutional isomorphism and collective rationality - American Sociological Review, April 1983

⁷ of *disciplined competence* is indeed an oxymoron. Competence is in contrast with discipline. Most of bureaucracy apparatuses are organized so as to distinguish between jobs of high professionalism (where the principles of competence is institutionally recognized as superior to discipline) and jobs of low professional level, where discipline dominates the level of competence. Mintzberg ⁸ makes a distinction between professional bureaucracy and mechanical one and asserts that the organization control must be based on different criteria. In professional bureaucracy, which includes positions demanding some discretionary power and personal initiative, control is exercised over initial training and results.

In mechanical bureaucracy, on the other hand, where the tasks are repetitive and standardized according to pre-established procedures (regarding both works and clerks), control is exercised on the way of executing the assigned work. These considerations try to motivate the two different souls of Quality which are expression of differences in culture and also reflects the complexity of reality.

Ishikawa, in expressing his opinions about ISO regulations and about the western model, invites to consider how the two souls must integrate as they represent two important realities in enterprises. Standards-based Quality management tends to obtain Quality creating standards which are to be achieved by the people composing the organization, in a process that will be verified. Quality is ensured documenting the flux of work and with written instructions describing the methods to be used. The documentation of actions, objectives and methods of the process show what it is necessary to do and the people who must do it. Standards are created by the organization: 'how to do' depends on the size of the organization, the field and culture of the enterprise.

Japanese Total Quality and what derived directly from it in western world (in Italy the model suggested by Galgano ⁹ and 'Premio Quality Italia') are certainly people-oriented in the respect of procedures; people's needs and usefulness are primarily recognized. Moreover the strategic levers for motivated, responsible human resources are found in the staff management and in good training-formation. The texts of Japanese area, as regards the history of Quality management, highlight that a laborious, formative process has been necessary to obtain the cultural support of managers.

Many authors describe the difficult path to obtain answers to *how to do*, through a process of errors and attempts, rather than to *what to do*. The latter approach is suggested by Quality based on standards and by ISO. This managerial model in its two varieties has undoubtedly a pragmatic approach as it considers the organization in its productive processes, in its physicalness, in the daily management of problems, and gives importance to the organizational project which every enterprise must formulate, considering the ever increasing complexity of markets.

The theory of Total Quality develops the concept of Quality evolving it from the mere observation of Quality in the product to observation of the enterprise system, in which all the positions are involved in the final achievement of results. I think it necessary to turn our attention to the cultural and organizational change in which the enterprises must engage to reach the control of the whole system: customer's satisfaction, constant improvement and prevention; all these objectives have made the difference from the tayloristic model. Every cultural change requires a long laborious cultural growth. The effort Quality in its last evolution, can be intended as the whole of characteristics and attributes of a material or

⁷ 'I principi della burocrazia enunciati da Weber' from Giuseppe Bonazzi: Come studiare le organizzazioni. Il Mulino - Bologna, 2002.

⁸ Mintzberg H. - La progettazione dell'organizzazione aziendale.

⁹ Alberto Galgano: 'La rivoluzione manageriale, ripensare la Qualità Totale' - Il sole 24 ore libri, 1996.

immaterial entity, product or service, which have given it the possibility to meet explicit or implicit requirements and to associate its use to processes of production or supplying.

Thus the focal of culture and praxis of Quality consists in satisfying the mix of moral, material, social, economic demands typical of all the parts interested in the organizational processes, meaning as 'interested parts' the so-called Stakeholders: customers, users-patients, consumers, workers, shareholders, suppliers and in general present or future collectivity. Such objectives may be reached through adequate processes of building and ensuring quality, intended in a general, integrated way which combines the respect of conformity of the product-service with the respect of internal and external environment, the security of workers and consumers (customers, users, patients) and finally the ethical principles of social responsibility.

QUALITY AND ITALIAN PMI

The model offers remarkable possibilities of growth both in sizes and in efficiency. PMI, a model of enterprise typical of the economic Italian reality, has positive characteristics such as: flexibility and creative capacity which have contributed to its success on the market. On the other hand there are also negative characteristic such as the scarcely formalized structure and its being centred on the charismatic person of the enterpriser, which may limit the development and make the generational changed more difficult. Quality is increased also by certification instruments and self-evaluation, these being characteristics of the prize. Quality gives a remarkable contribution to a formalized and documented structuring of productive processes. Total Quality can make the enterprise less dependent on the enterpriser, at the same time facilitating its continuity in favour of the creation of a more rational structure.

MODERNIZATION OF ITALIAN PUBLIC ADMINISTRATION

P.A. is a whole of public institutions and subjects, both central and peripheral (Councils, Provinces, Regions, State, Ministry....) sometimes private (organisms of public law, sole agents, contractors, S.P.A...) and all those who have somehow an administrative function in the interest of collectivity according to the principle of subsidiarity. P.A. (peripheral and central) must meet citizens' demands in social life, such as: health, security, education, mobility, work, public works; they must also supply commodities and facilities of public utility: in school, transport, environment, energy, and technological and administrative services. In services organizations, both public and private, one of the focal points is surely the relationship consumers-producers since the production of the service coincides with the relation with users. An enterprise of services is an organization suitable to solve problems, therefore by definition it should be customers-oriented and obliged to listen to the customers' real needs beyond what is declared. P. Administration should contribute to the cultural, social, economic welfare of the community with a fair management of resources. Thus the main objective is the creation of confidence between the subject supplying services and the ones who benefit from them. The reforms of the '90s can take the credit for pushing change especially in the economic and social field, also because of the European influence. Since then the function of P.A. have been moving progressively from a regulating function of community life to an active one of promotion and development.

Since the '90s the rich Italian production of regulations has accepted the strong European insistence to make P.A. closer to civil society through the devolution of several State functions to local institutions. Hence comes the need to reform the P.A applying criteria of effectiveness, efficiency and constant improvement in the Quality of services. Italian and European regulations base their way towards modernization on the model Quality through its strategies and managerial techniques.

Improvement of public institutions, as underlined in the Lisbon summit and in the other extra Spring summits, becomes effective if we create the conditions to make services measurable and verifiable and we define the assumptions to reduce 'waste' and to promote University high education and research. Europe can stand competition with the other countries of the world if economic processes are modernized. From the first summit conference held in 2000 to the fourth held in Tampere in September 2006, Quality and its evolution has been the object of projects and exchanges of experiences to increase competitiveness of the system Europe. In Dec. 2006 the Department of Public Function sent out to all administration the directive 'For a Public Administration of Quality'; it is a directive signed by Luigi Nicolais, Minister of Reforms and Innovations in P.Administration; it is aimed at focusing the administrations' attention on Quality and constant improvement of its policy and on self-assessment of organizational performances. It invites each administration to evaluate its organizational performances, highlighting priorities of intervention and planning the necessary changes which may enable to meet demands especially taking advantage of new technologies. As well, it is necessary to develop in a more balanced way the relationship between State and Society and modernize the services supplied especially in local institutions like Council Administrations.

The main factors which have pushed organizations to a strategic re-thinking of the ways of supplying services can be seen in:

- the social-economic change which strengthen the competitive challenge between States, regions and cities.
- The present technological changes, which bring new opportunities and new ways of supplying services (for ex.: internet, the digital signature, the electronic identity card, the territorial portal...)
- A greater awareness of his rights on the part of the user, who is now more demanding and ready to discuss the operating ways of institutional people, should they be unfair¹⁰.
- Changes in regulations.

These changes have contributed to introduce, even if with some delay in comparison with other fields, organizational principles, methods and techniques of the model Quality.

QUALITY AND THE SANITARY REFORM

In Italy the legislative decree 502/92 and its subsequent modifications, introduce the idea of Quality into the national Health system. In short an organizational model is introduced by law into sanitary enterprises: it comes from the model Quality subtended by ISO/9000 and other system for ex. VRQ originating from the industrial world.

The change wanted by this reform is remarkable and involves the sanitary system and the regions which are asked to manage the changes expressed in regional legislation. The introduction of this new organizational-managerial model is pushing the sanitary system with all its components to modify work organization, the personnel management, administration and resources control.

However so far the evolution of the approach to Quality in the sanitary system is characterized by decision making factors not easily interpreted. Actually Quality has been introduced here but with some approximations and persistent blind spots as regards methods and instruments. There are few, generic rules and sometimes they are contrasting one with the others. In the sanitary system, just like in industrial field, different methods are proposed; they share organizational principles such as constant improvement, customer's satisfaction,

¹⁰ Ezio Boiani, Daniele Cristoforetti, Pietro Massobrio, Bruno Susio: *'Vision 2000. Certificare la qualità dei servizi nella Pubblica Amministrazione. Il caso del comune di Fidenza'*. Milano, Guerini e Associati, 2003, pp.57-58.

processes to measure and assess Quality. Different influences have made the general context quite confused, therefore institutions choose one or the other of the methods or of the instruments proposed. People operating in the Sanitary System seem to be rather skeptical as concerns the possibility of applying effectively the new methods to the daily assistance and work. This has delayed the transformation of routine operating methods into new ones. The adoption of a system of management Total Quality has one of the most strategic levers in the management of human resources, whose involvement is essential to achieve the execution of tasks which, at present, are more controlled and requires more sense of responsibility to get to a service-product which can meet all the customer's requirements. These organizational projects represent an important step towards co-sharing and appreciation of the enterprise objectives. For all these reasons and to manage the changes, the sanitary reform acknowledges the need for sanitary institutions to undergo formative interventions. This attitude was shown in the attention given to constant formation, especially the managerial one. Moreover the difficulties in defining the idea of Quality in the sanitary field are even bigger than in other fields ranging from the complex idea of health to the varieties of people composing the Health System.

There is a vast literature mainly North American on the difficulties in defining Quality in the Sanitary System. Here we quote Avedis Donabedian¹¹ who historically was the first to deal with this topic. He defines Quality in the Sanitary System as 'relationship between the improvement in health conditions and the maximum improvement attainable with the present knowledge, with available technologies and the circumstances of patients' life. The author identifies three parameters or indicators to be considered when assessing Quality in Sanitary assistance:

- STRUCTURE: with this word the author means the relatively stable characteristics of administrators and sanitary staff, of instruments and resources at their disposal and of the physical organizational environment in which they work. The idea of Structure includes the human, physical and financial resources necessary to sanitary assistance and the organization of hospital personnel both doctors and nursing staff.
- PROCESS: such a word means and includes all the aspects concerning the activities linked with sanitary assistance.
- RESULT (EFFECT): this word is used by the author to indicate a change in the present and future health conditions of the patient, ascribed to a previous intervention of assistance.

Summing up if we analysed the different dimensions of Quality we can state that the different methodological approaches tend to assess, measure and constantly improve:

- Professional Quality
- Organizational Quality
- Perceived Quality

Therefore the different dimensions needs methods techniques and instruments to assess and measure the different points of view of Quality observed.

In order to implement the model Quality in the Sanitary system and in P.A, the organized managerial approach, concerning Organized Quality, uses the following instruments:

- The Chart of Services
- Authorized accreditation and minimum Q. requirements
- Certification of Quality according to ISO9001\2000
- Accredited excellence (JCAHO)
- Prizes for total Quality management
-

¹¹ A.Donabedian 'The Definition of Quality and Approaches to its Assessment' published in America in 1980

INSTRUMENT OF QUALITY

There are different instruments to implement the model Quality in organizations, some can be used in all fields: private and public, industrial or services enterprises; some instruments belong specifically to the sanitary field.

The instruments which can help the management implement the model Quality in the industrial field are: certification according to regulation ISO9001 and the Prizes such as the Japanese Deming Prize, the US Malcolm Balbridge National Quality Award, the European Quality Award and the Italian Premio Qualità Italia.

Certification according to ISO9001 has two purposes: ensuring the Quality of the product on the market and enabling organizations which produce goods or supply services to exploit successfully their resources and their productive processes, so as to be able to meet customers' requirements. Moreover it invites to respect some compulsory requirements and demands constant commitment to time-sustainable improvement. To be effective the strategy of Prize must plan actions which are to be constantly monitored, analysed and assessed. Self-assessment is an instrument for staff education in the fundamentals of Total Quality Management; it facilitates the sharing of examples of 'best practice' within the organization and the 'benchmarking' with organizations similar or related among them.

The Prize as a permanent instrument for Quality promotes culture and Quality methods through:

- Associations or foundations created purposely to spread the model Quality;
- The support of self-assessment activities and of personnel education-formation.

In my opinion these instruments represent the two different 'souls' of Quality. They can hopefully combine to help an enterprise develop the aspects that they want to favour. It is necessary to underline that Certification in itself is not a synonym of Quality, but it is a practice useful and necessary to achieve Quality, which is an instrument not an objective.

Nowadays Certification may, unfortunately, become 'profitable business'. Advisers and Certifying Agencies quite often behave unethically, thus discrediting Certification and its strategies and justifying the critical, skeptical attitude of enterprisers, organizations and managers who do not want to be under discussion.

Certification, as well, has an original sin: the controlled entity is the controller's customer; this process might turn out as an operation not always credible if behaviour is not ethically correct.

Culture and praxis of Quality have spread more as 'culture and praxis of procedure' than 'culture and procedure of results'. This justifies the bad reputation of Quality in some fields, and is one of the reasons why the actions of renewal and improvement do not give the expected results. Actually the use of instruments shows a logic of bureaucratic fulfillment which have often undermined their credibility and their real validity. It would be necessary to abandon the idea of bureaucratic fulfillment in favour of the idea of 'result'. The logic of bureaucratic fulfillment has unfortunately spread also in public institutions, as it had in private sectors, this may have been caused by poor understanding, scarce involvement and participation of the management, cultural reasons and factors due to the professionalism of advisers and certifying agencies. Finally it has to be considered that in the different fields people choose to use Certification, which is the most largely adopted instrument, for reasons concerning markets or regulations, as in the Sanitary System; while the principles of the model Total Quality are still scarcely understood. For 'principles' we mean customers' satisfaction, constant improvement, measurement of results, efficiency, effectiveness in the use of resources which are more and more expensive in all economic fields; we can add a strategic management of human resources. For its implementation this model needs a strong will and a management capable of innovating culture and supporting change. Moreover to obtain the envisaged purposes, the strategic management must carry out actions able to favour

communication and support formation-education, and to keep the structure aware of principles and objectives.

From literature and from the analysis of successful enterprises, it is clear that a motivated, committed leadership is the real Keystone to operate: adherence to the model and therefore to the different instruments, becomes a real opportunity of growth and improvement.

In the reality of P.M.I (small-medium industry), of P.A. and the sanitary system the management is maybe the weakest link in the path towards implementation of this model, introduced for market reasons, for legislative decree, and for the European Community urging. The research done have led to verify and confirm these opinions. The instruments common to the Sanitary System and to P.A. are the Chart of services, certification according to ISO9001, and the different prizes; while others such as the institutional crediting, and the Accredited Excellence ¹² belong specifically to the Sanitary System. The Chart of Services, was meant to regulate citizens' access to Public Administration, it originated from the Act no. 241 of 1990,¹³ concerning the administrative proceedings. The Chart of Sanitary Services represents an agreement between the structures of the National Health System and the citizens, according to the informative principles clearly described in the regulations. They are:

- Impartiality in supplying services and equality of admittance to the services themselves.
- Definition of standards, promotion, on the part of the local Administration, of Quality services and of self assessment of the Quality itself.
- Organization of procedure structured for the defense of citizens' rights
- Attention to opinions and criticism about the Quality of the service, expressed by citizens directly or through Associations representing them with modes and instruments of participation and involvement.

The Chart of Services has been thought as one of the most suitable ways to introduce the idea of Total Quality management into P. Administration and sanitary enterprises; it is considered a suitable instrument to carry out and support the organizational change in these realities. The implementation of the Chart of Services in all organizational fields producing services, should represent an engagement of the whole enterprise to respect: information about time and Quality standards, participation of citizens, efficiency and inexpensiveness of management. It is also an opportunity to re-examine the organizational processes that must be followed by the management to introduce the idea of constant improvement and Quality programmes.

INQUIRIES

Inquiries have been restricted to the most meaningful instruments. Certification has been examined in the field of PMI : an empirical model of Bergamo enterprise. The investigation carried on among people coordinating nursing staff and sanitary technicians aimed at verifying the knowledge and sharing of the Chart of Services, of certification and excellence accreditation among operators, while inquiries among Bergamo municipalities have analysed the diffusion of the Chart and the certification of the above mentioned realities.

Inquiries on Bergamo PMI started at the end of the '80s and are still in progress since the sample is constantly monitored to verify the evolution of the certification phenomenon both in numerical quantity and in terms of certifying procedure and enterprise culture.

¹² The Accredited Excellence is a process of assessment through standards, specifically planned for the hospital structures, carried out by advisers-certifying not belonging to the structure which is being assessed. This kind of accreditation, born in 1917 in U.S.A. by initiative of associations of surgeon as professional accreditation, imposed itself definitely in the '50s thanks to the activity of the now so-called Joint Commission on Accreditation of Healthcare Organization (JCAHO). JCAHO is at present the most influential crediting organization for sanitary structures in the world. It has accredited more than 20.000 organizations.

¹³ Act no.241\ 90 Nuove norme in materia di procedimento amministrativo e di diritto di accesso ai documenti amministrativi.

An enterprise may be induced to be certified for internal or external reasons. The former originate from situations of scarce satisfaction in the enterprise progress as regards efficiency, effectiveness, organization and relationships with the staff. Once chosen Quality as a strategy, certification according to ISO9000 regulation can represent a valid instrument to put this system of management into practice. The external reasons are linked with the market requirements, therefore with commercial strategies. Internal motivations have been the leading incentive to certification in few cases of the analysed samples; often internal and external motivations cross each other, but almost ever the need to set out on the path of certification originates from market demands.

Undoubtedly all the examined enterprises have shown that conviction and shared principles are at the basis of certification and are necessary to help this document become effectively a useful instrument for the system Quality, beyond the value of a paper document, almost a tax to be paid to the market. Adherence to ISO9000, whatever the motivations ,represents, in the examined PMI, a remarkable effort and implies managerial, operative, organizational changes which involve all the enterprise functions. The difficulties are mainly connected with the commodity sector, the customers and the dimension of the enterprise. Inquiries in the local Public Administration of Bergamo started in 2005 with the administration of a first questionnaire to 244 Municipalities of Bergamo taken as a sample; it continued in 2007 with a second similar questionnaire administered to the same people. The second questionnaire was initially devised for verifying improvement in the diffusion of instruments in Municipalities, but actually it was motivated by the hope to obtain a bigger adherence than to the first one. Unfortunately this hope was not fulfilled because the number of questionnaires given back was even lower than the first one, in spite of all the efforts. It was ascertained that the lack of participation, in both surveys, derives in general from the fact that Municipalities think it useless to answer all the questions negatively. In the distribution of questionnaires there have been difficulties due to inaccurate or not up-to-date addresses supplied by Municipalities. The consulted web sites, phone communication or faxes have proved heterogeneous, even 'folkloristic'. The difficulties highlight that communication between local institutions and their public must be improved to guarantee access to information about their structure and their activities as established by the European Community and the Italian State. It must be pointed out that many Municipalities of Bergamo area, especially in the mountain, are small, scarcely structured realities and their dimension justifies situations which are still out-of –the date as the survey noticed.

The passing on of the second questionnaire was less difficult; addressed proved more accurate and many municipalities had prepared electronic addresses, showing that obligation coming from law directive has improved communication among institutions. The questionnaires given back after the first administration were 46. Many were not completely filled in, 25 were not filled in at all. Anyway even the empty questionnaires or the incomplete ones are useful for assessment as the incomplete answers or the blanks are a meaningful datum to understand the level of diffusion of the instruments, object of the inquiries. In the second administration the questionnaires filled in and given back were 35. They had been administered to different Municipalities (except two) from the first administration. They were built considering the activation of the Chart of Services, which is compulsory, and they aimed at monitoring adherence to the voluntary instrument of certification.

Of the 46 Municipalities of the first survey, only 4 have drawn the Chart of Services; three of them stated that they did not know that obligation came directly from the law. Certification according to ISO9001/2000 is still only occasionally used; the two Municipalities which have certified some services took the incentive from the Mayor's experience grown in another field; the same motivation has been verified also in the ten Municipalities which have started the way towards certification. The data obtained in the second questionnaire show that 80% of

the 35 Municipalities have drawn up the Chart of Services. The blank answers are still a very high percentage and refer to all questions. Also the outcome of this administration clearly highlights the persistent scarce diffusion of the organizational tools considered. Inquiries among people coordinating nursing staff and technicians of Bergamo sanitary structures aims at verifying how much sanitary employees share and know of the different organizational instruments used to manage the organizational change, compulsory imposed: the level of knowledge may depend on the organizational culture and the ability to communicate shown by the management. Inquiries started in 2006 with the building up of a questionnaire composed of four different parts :in the first one there are 22 questions aimed at monitoring the sanitary structure, the second one has 13 questions about quality certification in order to verify the way of use and adherence to this organizational tool; the third part aims at verifying through 15 questions, diffusion and understanding of the Chart of Services by the staff, especially of its importance for communication and organization. Finally the fourth one wants to verify, through the last 16 questions, the approach to excellence accreditation on the part of sanitary structures. Altogether 180 questions were sent through e-mail or personally delivered. The evaluated questionnaires were 69. In the first part of the questionnaire there were questions to get information about the structure where people work. Many answers show a scarce knowledge, others were incorrect or incomplete. The Chart of Services, which was the first instrument for Quality introduced by law, proves to be less known than certification and above all far from the operators living experience. The examination of the questionnaires show a high number of blank answers or 'I don't know'. This result highlights that a category of operators who have an active part in the institution, is not involved and does not share the objectives of the structures as regards patients. This consolidates the idea that the Chart may be introduced only for bureaucratic fulfillment. The answers about the excellence accreditation (JCAHO) prove the appearance of this instrument in Lombardy hospitals. The percentage of blank answers is quite high and they show a critical attitude towards the instrument. Lombardy insisted for years on the use of certification, now it has been insisting for quite a long time on excellence accreditation to help sanitary structures step constantly forward. The introduction of this instrument was not without problems and was not free of criticism, as previously pointed out. Moreover it led to the creation of parallel paths which were not integrated with the course followed by certification.

BUILDING A HIGH PERFORMANCE SERVICE ORGANISATION

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1 INTRODUCTION

Most of the research on best practice companies has been conducted in the USA and has provided valuable experience and insights into key factors for building sustainable and successful organisations through operational and service excellence. In 1994 Collins and Porras published *"Built to Last"* which assessed 18 high performing companies (mainly USA) and identified common factors which were keys to their success. This research advanced Peters and Waterman's (1982) pioneering book *"In Search of Excellence"* which also identified a group of excellent American companies and their management practices. The findings followed 6 years of research and reflected CEO's opinions as to what created high-performance companies.

Despite these findings and extensive media coverage of the performance of businesses in Australia there is little consensus about which companies might qualify as winning organisations and more importantly, what practices they have followed to become the best. These questions provided the impetus for this major empirical research study which took 4 years to complete and covered the evolution of these organisations over a 25 year period from 1982 to 2006.

The research methodology was based on that of Collins and Porras (1994) and all types of organisations were considered – listed, private, government, non-profit and subsidiaries of overseas organisations. Based on surveys from 1000 CEO's more than 100 organisations were nominated and detailed analysis reduced this to a final group of eleven. These were then studied in detail to identify their key principles and practices.

2 RESULTS AND DISCUSSION

2.1 Winning Organisations and the Winning Framework

The methodology identified the 11 winning organisations in Table 1: Australia's Winning Organisations

Organisation	Services/Operations
Brambles	Diversified industrial services
Harvey Norman	Discount specialist retailer
Lend Lease	Property developer and manager of property
Macquarie Bank	Specialist banking and funds management services
National Australia Bank	Retail bank
Qantas Airways	Airline
RioTinto	Diversified resource explorer, miner and developer
Salvation Army	Religious welfare agency
Telstra	Telecommunications
Westfield	Shopping centre developer
Woolworths	Retailer

It is a very diverse group with ten “for-profit” organisations - all well-known public companies from a range of industries - and includes one “not-for-profit” organisation. Each can be characterised as either a service organisation in its own right or one where there is a major service element in the core processes of their total value chain. The research suggests that it is the organisation itself, not their industry sector, which is the underlying cause of success - winning service organisations do not need to be in significant growth industries to prosper.

The research identified nine common elements for long-term success. Collectively, these elements form a “Winning Wheel” framework (Fig 1) that appears to apply to service organisations of all types and from all industry sectors.

Fig.1 The Winning Framework for Organisations in Australia by Hubbard et al. (2007)



The power of the model lies in its integrative approach - there is no "start" or "finish" to the wheel. All elements are important and success is based on superior execution of all elements in the winning framework to deliver results. A brief outline of each of the nine principles now follows.

2.2 The Nine Principles of Winning Organisations

Effective Execution

Effective execution is the pivotal element that characterises winning service organisations. Conventional wisdom might suggest this should be one of the last elements and perhaps even the end result of doing everything else well. Leadership or strategy formulation might be considered as the logical starting point. However the research showed that it was results that they delivered that caused success - they were chosen on the basis of their results. It is effective execution that enables them to deliver these results and that is what makes them different.

Perfect Alignment

Getting alignment across the organisation is very difficult but essential, and requires all internal and external activities to be consistently matched. Alignment must cover all external key stakeholders including customers to ensure that the internal process delivers the products and services that are wanted, rather than those the organisation can produce. The research indicated that winning organisations aligned mainly around strategy, culture and leadership depending on the stage of the organisation in its strategic cycle and its industry.

Adapt Rapidly

Winning organisations do not necessarily provide the same products and services over time. As organisations grow and develop, they must change, adapt and do so quickly. The catalyst for change may be externally or internally induced but generates continuous improvement and innovation within the organisation.

Clear, Fuzzy Strategy

Strategy is an important element of the winning framework but it must be integrated with other elements if effective execution is to occur. In winning organisations the strategy is consistently aligned with its values and vision, all of which will vary over time depending on the organisation's stage in its strategic cycle. Sometimes all aspects of the strategy are not defined and this allows some flexibility to take advantage of unexpected opportunities whilst retaining commitment to the overall direction. Good strategy is an important driver of success but on its own does not guarantee success. It helps overall alignment and direction setting by promoting correct choice and ensuring focus and consistency.

Leadership, not leaders

In winning organisations, leadership is seen as a team based capability rather than the responsibility of one individual. Leadership style is dependent on the particular needs of the time and the organisation, with an ability to adjust rapidly to changing needs as a key characteristic of success.

Looking out, Looking in

Winning service organisations have a very high external focus and alignment with all key stakeholders, especially customers. They carefully manage relationships outside the organisation and know their place in the value chain, understanding how future value is created and can be extracted. Winning organisations think from the customer's perspective and develop customized products and services, using market research used to validate needs and satisfaction. The same energy is deployed to building lasting relationships with suppliers and other alliance partners such as government and regulators.

Right People

Getting the right people into the right jobs is critical for service excellence. Initial recruitment and subsequent retention requires good alignment with the organisational culture and strategy if collective talents are to be harnessed to achieve superior performance. What is right for one winning organisation may not be right for another. Having the right attitude and being effective in a team based environment may ultimately be more important than having the 'best' formal qualifications. The resulting higher commitment and motivation of individuals means less need for organisational hierarchy, bureaucracy and excessive controls.

Manage the Downside

Winning organisations are relentless in their drive for progress to stay ahead of their competition and in tune with their customer's needs and market place changes. Their quest for continual renewal impels change and forward movement as they try to understand the discontinuities and to get to the future first. The research however, indicated many of those organisations are financially conservative and sought to manage risk rather than avoid it. These organisations accepted risk was necessary to progress and proactively developed techniques and contingencies to manage the downside in critical areas.

Balance everything

Winning organisations achieve superior service performance by combining all elements of the framework, which are executed to the highest standards. They do many things consistently well and at the same time thus achieving the "correct" balance between strategic and operational activities. This ability is built into the organisational culture, leadership and strategy in each element of the winning framework which creates an effective balance between external and internal, top and bottom, individuals and teams, geographical and functional activities.

3 KEY PRINCIPLES – EXECUTION AND LEADERSHIP

3.1 Effective Execution in Winning Organisations

Most organisations disappoint their stakeholders by failing to deliver what they say, what they promise and what they promote and market. On the other hand, winning organisations say what they are going to do and then do it. And they keep doing it, again and again. This is quite challenging because saying in advance what will be achieved sets an expectation and a target. For most organisations this invites an assessment of failure. For winning organisations it is an opportunity to demonstrate success.

Seven factors for effective execution that directly contribute to delivering service excellence are:

Clear Processes

Knowing what is expected to be done - having clear processes - is an important ingredient for delivering outcomes. Having structures that support these processes and delegating the authority and responsibility to carry out the processes - and making decisions quickly in borderline cases - supports the completion of the organisation's tasks and activities. Irrespective of whether the process is structured, informal or democratic, acceptance by those who are responsible for making the process and decisions work is critical.

Operational and Technical Efficiency

Effective execution means being efficient. Operational and technical efficiency is about using systems that work to achieve expected objectives. These objectives usually relate to cost, quality, speed and service.

Taking Personal Responsibility

People's attitudes to the systems and processes will significantly affect outcomes and results. To get effective execution, people need to take responsibility for the performance of their part of the organisation. Open and direct feedback from management during planning and execution is essential.

Good Management Control Systems

Winning organisations need robust management control systems to check whether they have clear processes that are efficiently undertaken by responsible people. Controls begin during the planning and approval process.

Rigorously Measure Performance

In using systems and processes to achieve results, winning service organisations are differentiated by the rigour and discipline they apply to make them work. This usually involves setting targets and developing a small set of key performance indicators that are lead rather than lag indicators.

Handling Mistakes Positively

Winning organisations are not error-free in their execution. However when an error is made, they expect people to admit it early, fix it as quickly as possible, learn from the mistake and never make the same mistake twice. They treat mistakes as opportunities to improve.

No Cross-Subsidisation

Effective execution in winning organisations involves focussing on delivering results at each unit level as much as it does across the entire organisation. The poor performance of a business unit is not allowed to drag down the overall performance of the organisation (or at least not for very long). Every business unit needs to meet the standards and pay its way.

To summarise, winning service organisations do what they say. They announce what they plan to do and they get the job done, on time and on budget. They have clear processes for execution, efficient operational and technical systems to assist in delivering the required results and the right people who take responsibility for the outcomes of their work. The organisation has good control systems and rigorously measures performance. Winning organisations learn quickly from mistakes and do not cross-subsidise business units. These factors give winning organisations the ability to effectively execute their plans and strategies. Together with the other elements in the framework they characterise winning service organisations in Australia.

3.2 Leadership Characteristics of Winning Organisations

The research indicated that there is no single leadership formula in winning organisations. The required skill set includes a list of generic competencies matched by additional leadership characteristics that are strongly evident in winning organisations in Australia. Some of these are cultural differences peculiar to Australia with its more egalitarian view of leadership, consistent with the values of "mateship" in the Australian culture. Leadership is clearly a critical element since it is often the driver of the other elements.

The leadership characteristics that distinguish winning organisations in this research are:

Leadership Means Teams

Emphasis is on team leadership rather than just a single visionary leader. Within each organisation, leadership comes from a different group of individuals and from four levels - the CEO, top management team, business unit leaders and the board of directors. Each leader and leadership team has faced different circumstances from their predecessors and successors so it is concluded that leadership must be "right for the time".

Captain-Coach Leadership

The leadership style that people seek in Australian organisations is unique. People want their leaders to be coaches who exhort them and encourage improvement rather than "generals"

describing a vision and telling them what to do. They respond to leaders who are players on the field, participating in the game, showing captaincy skills and sharing the work. They want a relationship with their leaders. Australians are also comfortable with change that gradually evolves and builds on the current situation within a structured framework. It follows that leaders in winning organisations tend to be low key, not particularly charismatic and focus on building a sustainable business rather than egotistically promoting themselves and their own careers. They don't display the trappings of office. Being captain-coach leaders, they tend to easily build informal communication networks within the organisation. They also go to great lengths to find different channels in which to communicate formally, frequently and as widely as possible.

Home Grown and Stable Leaders

The vast majority of leaders come from within a winning organisation and have been with that organisation for long periods. The CEO also remains for a long time - nearly twice the current tenure of CEO's in Australian industry. Turnover in winning organisations is lower than the industry average. Promotion from within means that the strategic direction is likely to change incrementally but since winning organisations are externally focused and performing well, this is not an unexpected result. Promotion from within means the organisation identifies with the new CEO and vice versa. When managers are brought in from outside it is usually because an organisation is either not performing well or it needs or wants transformational change.

Passion for the Cause

There are many organisations with passion and energy but without a strategy this passion cannot be harnessed to make the organisation more effective. Conversely an organisation with a robust strategy but which is not passionate about that strategy is unlikely to effectively execute it. Leaders in winning organisations are passionate and fiercely proud about the reason why their organisation exists and they understand why this is important. Their passion is traced to the existence of a cause – a fundamental belief in the value to external parties of what the organisation stands for and is doing, other than just financial returns to shareholders. They understand that good strategy must have a cause. Australians tend not to believe mission or vision statements and organisations struggle to get their people to buy in to the vision or mission. The leadership group needs to identify the cause, generate emotion around the value of that idea and coach their people towards achieving it. The cause is a key motivator for the organisation and effective leaders in service organisations use it to attract the right people and galvanise the creative talent of their workforce.

Decisive and Long Term Views

Leaders in winning organisations, through being close to their people, open to external influences and having good information systems, are well placed to make good decisions and to make them rapidly. However being decisive is not just about speed and being focused on the short term – it is also about commitment to the long-term view. This provides stability and encouragement to pursue the long-term purpose of the organisation, even when things are not going well. People then see their leaders as consistent in their actions and in their communication of key priorities and initiatives.

In summary, this research has identified a distinctive set of leadership characteristics of winning organisations in Australia. Leadership is a team-based capability made up of captain-coach leaders who build the business and are grown from within. They are passionate about the cause and are decisive but maintain the long-term view. They communicate widely and are consistent in their actions and behaviours.

4 CONCLUSIONS

This empirical research has revealed nine timeless elements that define the practices of eleven winning service based organisations in Australia over the last 25 years. These elements are; effective execution, perfect alignment, adapting rapidly, clear and fuzzy strategy, leadership not leaders, looking out and looking in, right people, managing the downside and balancing everything. Collectively these elements provide a winning framework for long-term success that applies to service organisations of all types including listed, private, not-for-profit, higher education, public service and government.

To be a winning organisation, these best practice elements need to be in place and linked together – change in one precipitates change to others. Leadership is clearly a critical element since it is often the driver of the other elements and effective execution is identified as the pivotal element to achieve service excellence and long term success.

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EVOLUTION FROM TQM TO ORGANIZATIONAL COMPETITIVENESS THE CASE OF THE 2008 MEXICO QUALITY AWARD MODEL

Rafael Espinosa and Fernando Gonzalez

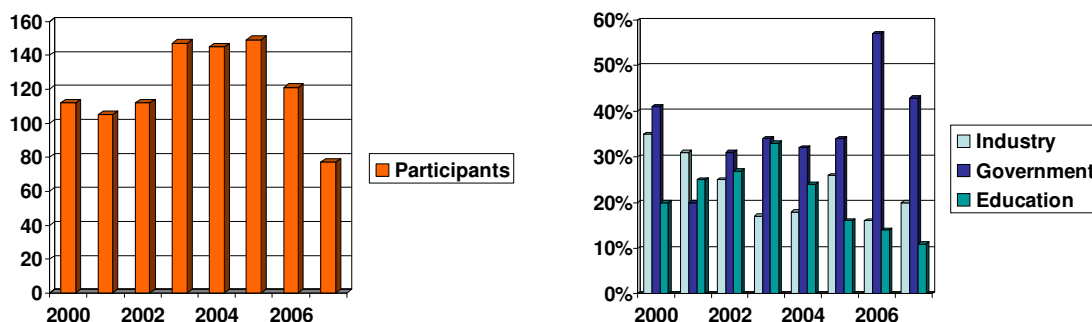
I. - THE CONTEXT

The Mexican Quality Award (MQA) started in the early nineties, under the auspice of main private industrial groups, in order to help Mexican organizations develop and improve their work systems and business performance. With this purpose in mind the Award Model was developed and conceptualized considering Total Quality Management concepts, with an approach focused on design, implementation and improvement of organization systems that gradually impact performance results in a cause-effect relation.

The MQA has been fulfilling its assignment recognizing organizations that have been successful in Model implementation and promoting the use of this Model. During 18 years, the use of the Model was increased around the country. Several important industrial groups developed their own models customized to their own specific needs, and established assessment processes to evaluate their business units. Education, Government and Health Care organizations have been adopting the model in recent years. As a result of this, the MQA has had one of the highest world participation rates, for this kind of awards, from around the years 2000 to 2005.

During these 18 years, the Model has been updated at least every three years, gradually trying to incorporate new tendencies, but it had not been revised deeply considering the economic environmental changes, organization challenges, and it had privileged the point of view of quality specialists in its conception and actualization.

According to MQA participation statistics, it was observed that MQA participation rate of large private industry started to decrease since 2000; total participation continued to grow until 2005, supported by government and education sectors, but it started to decrease in 2006. These facts were a point of concern for the MQA Technical Board, because the award started with the support of large private industry groups and their absence was an important reason to analyze. We can see participation tendencies from 2000 in the following graphs.



This information brought about a series of discussions and analysis inside the Technical Board, in order to identify the root causes of the decrease in MQA participation and Model usage. The first step considered was to carry out a series of direct interviews with senior executives in business and

academic sectors (22), in order to have a clear idea about their perception of the MQA model. The questions asked were:

1. Is the model responding to Mexico's present competitive context?
2. Is this a model that Mexico's organizations need to respond to today's challenges?
3. Does it consider key factors for organizations' success in 2005 - 2010?
4. Does it consider today's tendencies for competitiveness, high performance and innovation?
5. Does it have a language spoken by top management?
6. Is it understood by top management?

From the interviews we learned:

- In Mexican companies, results are more a consequence of the positive or negative economic environment than from the execution of company strategies.
- There is a lack of alignment between strategy and execution, and the deployment of plans is limited.
- Many companies still work from the seller's market point of view; they still don't feel the heat of being in the buyers market.
- Leaders have a rational understanding of the need to change, but they have a blurry vision about how to do it.
- Everybody has an initiative for innovation, but they really don't know what to do with it.
- There is a clear understanding that growth is imperative.
- They consider 6 Sigma, Lean Manufacturing and Toyota Production Systems as the new mantras in quality.
- They approach our present Model (2005) with skepticism as to its capacity to deliver results. They don't understand the language.

In addition to senior executive's interviews, one of the MQA Technical Board members participates in the annual Global Excellence Meeting (GEM) that congregates main world Quality Awards and Excellence Model responsables. GEM 2005 was hold in Bangalore India and the most important conclusions were:

- Changes in the environment have been dramatic during the last fifteen years.
- We have seen a decline in business participation in many of our awards.
- We have to define what gives success today to organizations and reflect it in our Models.
- Unintentionally Models are becoming a sort of standard, this is required to grant recognition.
- There is an absence of interest in the models and awards form the media and academia.
- A new challenge, how does the assessment process generate more value to the participant organizations?
- New competencies will be required to form the assessors.

- We have to act proactively if we want to add value with the award process to the participant organizations.

II. - MQA MODEL REVISION AND REDESIGN PROJECT

PHASE 1

Senior executive's interviews and GEM 2005 conclusions illustrated a misalignment between MQA Model design and the challenges faced by Mexican organizations, because the factors that gave success to organizations and the economic environment have evolved. According with this information the Technical Board identified the need to open a MQA Model revision and redesign project, which was considered to be executed in four phases: Start Up, Solution Development, Model Review Process and Launch Changes. Phase one was completed with project team nomination and a plan to ensure efficient and effective progress and on going control.

PHASE 2

It started with the question: Does MQA Model respond to the requirements of new realities that confront Mexican organizations today? In order to answer this question, an intervention model was defined with the purpose of explore from different perspectives, the challenger's nature that Mexican organizations deal with. The following information sources were considered: a) A workshop with MQA Technical Board members for identify main factors that support success and competitiveness in Mexico, analyze the response capability of 2005 MQA Model and identify main characteristics to be considered in the new MQA Model and assessment methodology changes; b) The World Economic Forum (WEF) index of global competitiveness, which analysis the capacity to compete of each country based on WEF key competitiveness factors performance; c) The senior executives interviews conclusions mentioned before; d) A workshop with senior MQA assessors to identify their points of view about Model and assessment process' change requirements; e) The Above the Clouds study from EFQM focused on the future of work to visualize the more critical changes and tendencies in the work world at global level, due to globalization process and the revolution of technology; f) A benchmarking study with Australia, Canada, EFQM, the United States of North America, Brazil, Japan and Singapore Quality Awards Models in order to situate the MQA Model in the world-wide context; g) A study on the position of global companies about Excellence Models implementation; h) American Society for Quality 2005 report on the future of Quality, where main change drivers and their implications for the Quality field were identified; i) Finally, we analyzed several diagnosis methodologies used by global consultant companies, specially the Mckinsey approach to observe the way they focus their evaluation and diagnosis processes. These findings allowed us to evaluate the response capability of the MQA Model to complex and sophisticated internal and external economic environment challenges.

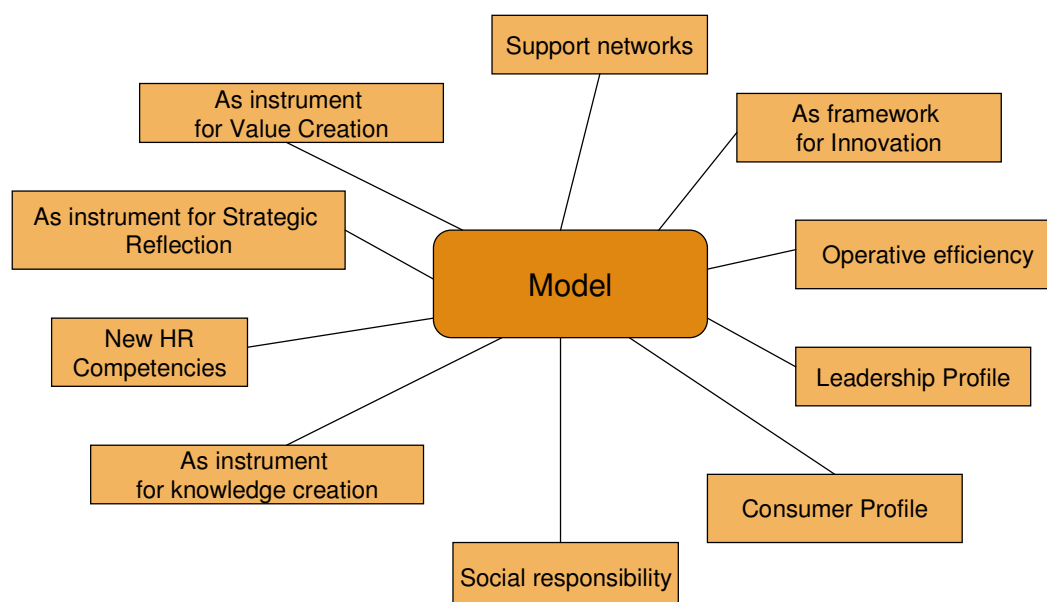
With this information, it was possible to establish main topics to be considered in the new MQA Model, they were:

- Main competitive factors have changed radically in the last 10 years.
- Consider the MQA Model an instrument for strategic and competitive reflection, characterized by be focused in key organization elements for competitive advantages development such as: flexibility, innovation, operative efficiency, strategic alliances, to mention some of them.

- The WEF scheme allows us to situate under a single global perspective the competitiveness factors. Businesses Sofisticación and Innovation should be considered, because they affect directly the development of organization internal capabilities as a prerequisite to compete.
- Derived from senior assessors' comments, we had as important subjects: innovation, agility, personnel competences development, value creation, social responsibility and operative efficiency. Also the necessity to redesign assessment methodology was identified, to do it more objective and rigorous in relation with organizations approach to their strategic challenges.
- From the study on Future of the Work developed by EFQM, we had significant coincidences with the points of view of senior executives of Mexican organizations and senior assessors of MQA, aspects like: more sophisticated and informed consumers, development of personnel new competences and knowledge management illustrate these perceptions.
- The benchmarking with other models has allowed us to compare different forms of structure in each model. The comparison of Baldrige and EFQM permitted to contrast the way it is reflected the organization philosophy of the United States of North America and the European Community; also important differences in the score weight of Results Orientation criteria was identified.
- The ASQ report on the Future of Quality where main change drivers as: agility, business system development, anticipation, innovation, sophistication of the consumer and outsourcing and their implications were identified.
- Finally consulting firm intervention methodologies, which allowed us to observe the importance of understanding the context and the analysis process that they perform in the organization diagnosis.

In conclusion the new MQA Model required integrating a series of key concepts for the success of Mexican organizations in the actual economic context. The most important were: Strategic Reflection, Innovation, Agility, The Concept of Value Creation, Development of New Competences, Knowledge Management, Strategic Vision in the organizations, Sustainable Development and Operative Efficiency. Next figure shows the synthesis of concepts integrated in the 2008 MQA Model.

Key Issues for 2008 MQA Model Design



Phase two second step considered Michael Porter, Resource Base and Delta Model Competitive Strategy Schools analysis.

Michael Porter: considers there are five forces that describe the success or failure of an industrial sector or company that should be considered for strategy formulation. These forces are: new competitor entrance threat, competitor rivalry, product substitutes' entrance threat and supplier and buyer negotiation strength. The central focus for strategy formulation is industry and business environment.

Resources Based View: It considers critical for strategy formulation to think about internal resources such as tangible and intangible assets, to develop and robust key organizational capabilities, which are defined as a unique combination of knowledge, abilities, processes, human competences and technology that differentiate an organization and establish the basis for sustainable competitive advantages development of the firm.

Delta Model: It considers key for the strategy formulation, deep customer and consumer understanding. This understanding should be extended to critical suppliers and complementary partners. The implementation of the new business model is realizable mostly because the opportunities and potentials offered by the Internet and its associated technologies: e-business, e-commerce, e-systems. The appropriation of this skill is essential.

We can see in the following table main characteristics of each school according with our research interest.

Competitive Strategy Schools	Porter	Resource Based View	Delta Model
Focus of strategic attention	Industry/business environment	Corporation	Extended enterprise (the firm, the customer, the supplier)
Types of competitive advantage	Low cost or differentiation	Resources, Capabilities Core competencies	Best product, total customer solution, system lock-in
Basic unit of competitive advantage	Activities	Core products, strategic architecture	Adaptive process: operational effectiveness, customer targeting, innovation

We also wanted to understand the business basics (avoided tools and “fads”), and its relationship to superior business performance. We found a report from Harvard University Evergreen project that carry out a multiyear research effort in which it was examined more than 200 well-established management practices as they were employed over a ten-year period by 160 companies. The report established: “Most of the management tools and techniques studied had no direct causal relationship to superior business performance. What does matter, it turns out, is having a strong grasp of the business basics. Without exception, companies that outperformed their industry peers excelled at

what we call the four primary management practices - strategy, execution, culture, and structure. And they supplemented their great skill in those areas with a mastery of any two out of four secondary management practices - talent, innovation, leadership, and mergers and partnerships”.

These findings about Competitive Strategy Schools and High Performance factors complemented and validated the proposed 2008 MQA structure developed in step one of phase two, especially factors such as strategic reflection, strategy execution and economic environment effect.

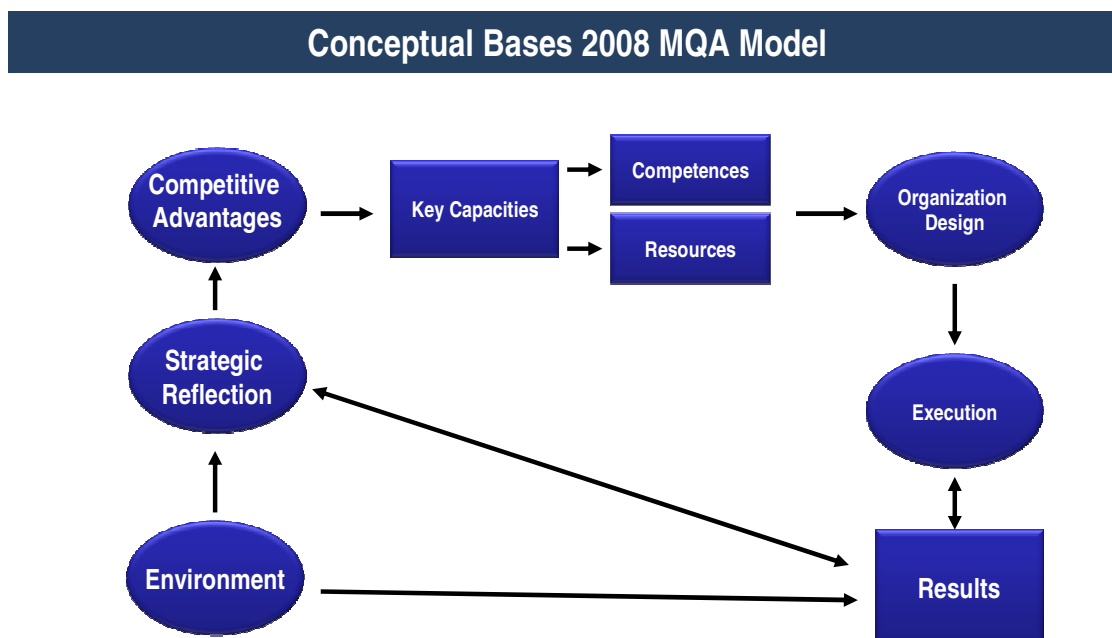
The following step was to define the 2008 MQA Model conceptual bases.

2008 MQA Conceptual Bases: The purpose of 2008 MQA Model was defined as: “Impulse organization’s performance, competitive position and sustainability level, through a deep reflection for strategy creation that fortifies and develops competitive advantages and a faultless strategy execution”. It was also conceptualized, the main actions that we expect the model implementation will generate in the organizations. They are commented in the following paragraphs.

Organization’s competitiveness and sustainability result levels should be the starting point for strategic reflection and analysis. They provide organization competitive position.

Strategic reflection purpose is to pose the following questions: 1) Who am I as organization?, 2) What can I do?, 3) What could come in the future?, 4) What am I going to do?, 5) How am I going to do?; trying to motivate a profound analysis for organization’s direction.

Strategy will emerge from last step and its main purpose is to generate competitive advantages, understanding them as the ability to offer a better value proposal through greater benefits or minors costs to customers. The strategy implies a set of capabilities in which an organization must be excellent to achieve its strategic objectives.



Organization key capabilities are defined as a unique combination of knowledge, abilities, processes, technology and human competences that differentiate an organization and provide it competitive

advantages. They are created internally and they are difficult to imitate by others. The strategy definition determines the more important organization's key capabilities.

The strategy execution initiates with organization design alignment to strategy. Structure, Processes, Personnel Competences and Reward Practices are the main elements considered to be in line with it. This step continues with the organization always looking for changes, to identify strategy alignment or contingency actions, derived from the economical environment dynamics and the speed of change that characterizes actual times.

Finally we have performance and sustainability result levels evaluation to identify competitiveness and sustainability as a consequence of strategy creation and execution. We understand sustainability as the capability to assure organization's permanence in the future.

In synthesis 2008 MQA was conceptualized as a reflection tool to stimulate the Mexican organizations to have a clear picture about their present situation, as a starting point to carry out: a) A strategic definition of its direction, which considers how they will compete and in consequence clarify the competitive advantages to develop; b) The strategy construction process that considers key capabilities and how they will be developed and strengthen; c) The strategy execution; and d) Evaluation of their competitive position and sustainability level.

2008 MQA Model structure design: Once defined the model conceptual bases, next step was to integrate them with the key design factors previously identified, to put together the final structure.

To incorporate the key design factors that complement model structure design, they were grouped in seven value drivers. We can see a summary of each one in the following paragraphs:

Leadership: This driver defines the way leaders set a direction and how they take on the external challenges of the organization by establishing innovative strategies that respond with an execution focused on priorities. It is responsibility of the leaders of the organization to ensure the present through an execution that delivers positive operational results and to guarantee the future through an innovative strategic planning that addresses the organization's priorities.

Planning: This driver proposes the approach on how the organization develops its business strategy regarding what it seeks to be in the future, considering the dynamics of the environment and its challenges, setting, and prioritizing objectives and goals as well as the capabilities and competences needed to reach them.

Customers: This driver promotes a strategic thinking around the markets and market segments in which the organization participates or it is interested in. The strategic thinking must covers the way markets are identified as well as the needs and requirements of current and potential customers, the characteristics of the associated value chain, the need to establish strategic alliances with customers, a deep knowledge of competitors and the development of new products and services. Additionally, the "Customers" driver considers how does the organization launch, promote and support its products and services, as well as the programs and systems it has for formal relation and contact with customers to respond to their needs and requirements, and at the same time this relationship supported on innovation stimulate sales growth.

Processes: This driver focuses on how the organizational processes are aligned with the business strategy and stakeholders' needs, and on the way the organization develops competences different than those of its competitors in terms of agility, flexibility, and on-time delivery, among others. It includes as well issues regarding innovation of products, services, processes, and management

systems, and the establishment of strategic alliances to strengthen those competences. It also addresses process management and business relation with suppliers and subcontractors seeking a high operational performance.

Human Resources: This driver concentrates on how the organization achieves high performance by aligning the competences of its employees and the work systems to the business strategy. The capacity of the organization for being competitive highly depends on the individual competences and motivation of its employees and on their involvement on operational decisions; for these reasons, it is necessary to develop a strategy for human resources management congruent with the business strategy.

Information and knowledge: This driver considers the alignment and projection of the information system and knowledge creation processes with the objectives and priorities of the organization, its structure, and operational mode. Furthermore, it proposes a strategic reflection on the relevant knowledge needed by the organization to be and remain competitive, and on the formation of intellectual capital.

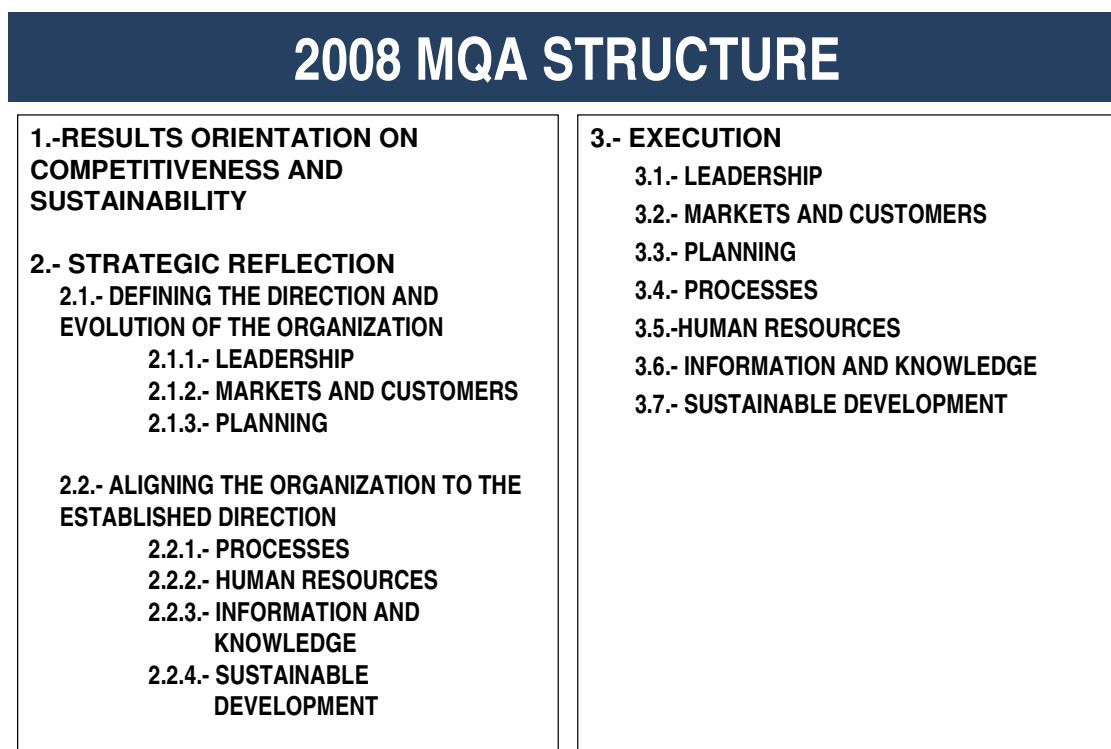
Sustainable Development: This driver rests on four aspects: economic growth, ecological balance, social/human development, and on the interaction between business and governmental organizations with the society. Organizations, in collaboration with their employees and families, the local community and the society as a whole, support sustainable development through their commitment, contribution, and permanent interest on the improvement of their welfare, well-being, and the quality of life. This commitment is executed through community involvement, organization's respect for its employees and their families, as well as by the development of trusty relationships with consumers and suppliers. After several discussions inside the MQA Technical Board three model main components were defined: Results Orientation, Strategic Reflection and Execution in line with the conceptual bases.

The seven value drivers had topics related with the Strategic Reflection and with the Strategy Execution, taking in consideration this point, they were considered in both components. Additionally the Strategic Reflection was segmented in two sections: Organization Direction Definition and Alignment with the Strategy. The Strategic Reflection segment "Organization Direction Definition" has topics of Leadership, Customers and Planning value drivers; the "Alignment with Strategy" segment has topics of Processes, Human Resources, Information and Knowledge and Sustainable Development value drivers; Execution component has topics of all the seven value drivers. We can see the final model conceptualization in the following figure and model structure:



The figure wording is in Spanish but “Resultados de Competitividad y Sustentabilidad” corresponds to “Competitiveness and Sustainability Results Orientation”; “Reflexión Estratégica” to “Strategic Reflection”; “Definición del Rumbo” to “Organization Direction Definition”; “Alineación” to “Alignment”; “Capacidades Clave” to “Key Organization Capabilities”; and “Ejecución” to Execution.

Once defined the general structure of the model and value driver scope and content, next step was to structure MQA guide for implementation. As it was commented previously, one of the new model objectives was to be an organization reflection tool. In consequence, every one of the value drivers was structured around several topics and a series of questions tied to them were included to facilitate deepen in the subject.



Once it was fully structured 2008 MQA Model had several revisions inside the Technical Board and with numerous senior executives groups. It was also discussed in Sao Paulo GEM annual meeting in November 2007 where it was well accepted and comments from the participants were encouraging.

The MQA Technical Board finally had consensus for launching the model for 2008 Mexican Quality Award cycle.

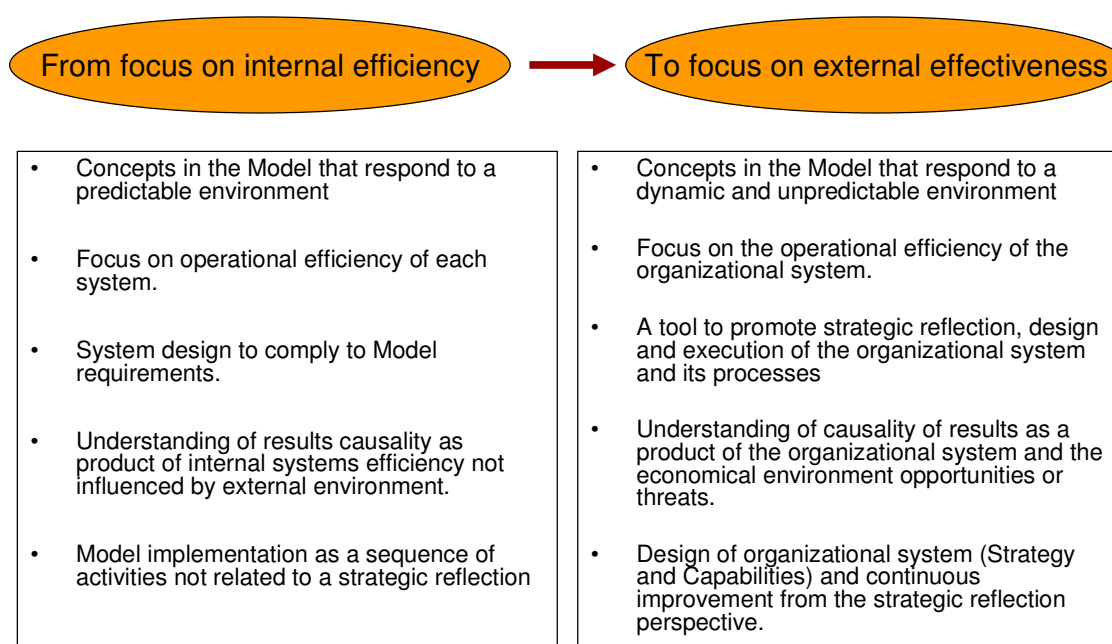
III. - MQA MODEL EVOLUTION

As we can see 2008 MQA Model had had an evolution driven by Mexican organization needs and global tendencies present in the actual economic environment. The actual model is focused in the organization system innovation and improvement versus the precedent one that was focused in management systems improvement.

Another important point considered for MQA redesign was a tendency to use it as a standard, where the assessment methodology reinforced this perception. The 2008 version is focused to support the strategy formulation in each organization that decides to use it, considering their specific characteristics. Additionally the assessment methodology has been adequate for be congruent with this effort.

Next table shows main evolution issues between 2008 MQA Model and the precedent.

Evolution of the MQA Model



IV. - CONCLUSIONS

In an integrated world, economic competitiveness has become a central concern for both developed and emerging economies. When talking about competitiveness we often focus our attention on the macroeconomic, political, legal, and social circumstances of a country. These factors are important, but not sufficient. _“They provide the opportunity to create wealth but do not themselves create wealth”. _“Wealth is actually created at the microeconomic level of the economy, rooted in the sophistication of actual companies”, according with The World Economic Forum.

Business sophistication plays a key role in country competitiveness. If we measure Mexico performance against an international standard like WEF, we can see a big gap against leading countries. Mexico was in position 48, 55 and 52 from 2005 to 2007 for Total Competitiveness; in position 52 and 54 for Business Sophistication and 58 and 71 for Innovation in 2006 and 2007 respectively.

Mexico is subject of strong pressures to improve its competitive position, because we are one of the most open countries for commerce and investment with free trade agreements with the USA, EU, Asia Pacific Countries and most of the Latin American Countries.

This information showed us that Mexico's ranking in world competitiveness is unimpressive and declining and also participation in the award process, as an indicator of interest in the implementation of the MQA Model is not encouraging, overall participation and large private industry is down, also we can say that industry has little interest in model use, and along with little attention from media and academia.

Taking into consideration these facts MQA Technical Board considered the Model doesn't have all the answers for improving the country competitiveness, but it could play an important role. Mexican organizations to be more competitive, must work in the sophistication of their operations and innovation. The MQA could be a key initiative to support organizations in this process but it was necessary to review and redesign it.

We consider 2008 MQA Model meet Mexican organization needs and global economic tendencies challengers. It is a semi radical change for a business or organization's model reference but Mexico competitive conditions demand this kind of challengers.

We had started 2008 cycle for Mexican Quality Award, the comments and feed back that we have been receiving generally speaking are positive, specially from several senior executives that say in their comments: "I understand now the model language but I'm living worried, because we don't have answers for many questions in our organization, we should work on them".

We are in the initial phase of 2008 MQA Model use by different organizations in sectors such as: private large industry, services and government. We have a sample of about 80, which participate in the Mexico Quality Award this year. They have been receptive about the model new concepts and scope. We will be in touch with them to analyze their experiences in model implementation and achievements.

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SUPPLY CHAIN AND QUALITY MANAGEMENT

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1 INTRODUCTION

With the globalisation of business, firms are sourcing and distributing products across the globe; accordingly, since the 1980s the strategic benefits of production planning and inventory management have become obvious. These subjects are provided to students in several University courses: a problem arises, formulas are given to students without any scientific proof; therefore the students learn like parrots! We will provide a case used in many Universities, learned all over the world through the formula $\text{average cost rate} = A\lambda/Q + h(R + Q/2 - \lambda LT) + (1 - F_{LT}(R))p\lambda/Q$: this "logistic" formula is not proved in the books listed in the references (one can not read all the books!), it is only "intuitively suggested", or "heuristically derived"!!

What we are going to show is certainly "contrary to popular notions": unfortunately, "it is difficult to see what one does not expect to see". Will professors understand that?

I beg the reader pardon, but I have to start with my experience, telling him a story.

My name is Fausto (from the Latin "Faustus"=lucky), but I am very unlucky: I always was having bloody rotten luck (capability) of being fond of Quality (and Intelligence) and hating stupidity: for at least half a century I have been asking people (my friends when I was a student, my collaborators when I was Quality Manager, my colleagues and students when I was teaching, the readers of my papers and books when I was writing) to use their own brain and not to act as parrots repeating stupid sentences. I had limited success, in spite of my 150 papers on the scientific way of dealing with Quality matters. A scientific way of dealing the problem "*inventory management with demand and lead time stochastic*" was provided by F. Galetto in the reliability context, in 1975 with the paper "A general model for system cost-effectiveness, *EOQC & IAQ Joint Conf.*" and in 1977 with the paper "CLAUDIA (Cost Life Analysis), *21st EOQC Conf.*, Varna". AITEM attendees were given the same ideas in 1997 with the paper "Reliability model of costs in a production unit, *AITEM 1997*, Salerno".

Unfortunately, in the Universities generally there are not "Quality experts" and professors do not know the *ISO 9001:2000, Quality management systems – Requirements*; **any Good Quality Manager knows very well that making Quality involves prevention of potential nonconformities and correction of actual nonconformities (problems)** [while many professors and referees do not]; we provide here some excerpts of *ISO 9001:2000*:

8.5.3 Preventive action The organization shall determine action to eliminate the causes of potential nonconformities in order to prevent occurrence. Preventive actions shall be appropriate to the effects of potential problems. A documented procedure shall be established to define requirements for

- a) determining potential nonconformities and their causes,
- b) evaluating the need for action to prevent occurrence of nonconformities,
- c) records of the results of action taken (see 4.2.4) and,
- d) reviewing preventive action taken.

IF universities should have applied this idea of "preventive actions" they never had provided the

students with that wrong "logistic" formula

average cost rate = $A\lambda/Q + h(R + Q/2 - \lambda LT) + (1 - F_{LT}(R))p\lambda/Q$ in Logistics courses.

Human beings evolved because they were able to develop their knowledge from inside (the *deductive* logic, with analytic statements) and from outside, the external world, (the *inductive* logic, with synthetic statements), in any case using their own intelligence; the *inductive* logic is such that the premises are evidence for the conclusion, but the truth of the conclusion follows from the truth of the evidence only with a certain probability, provided the way of reasoning is correct.

The scientific knowledge is such that any valid knowledge claim must be verifiable in experience and built up both through the *inductive* logic (with its synthetic statements) and the *deductive* logic (with its analytic statements); in any case a clear distinction must be maintained between analytic and synthetic statements.

This was the attitude of Galileo in his studies of falling bodies. At first time he formulated the tentative hypothesis that "the speed attained by a falling body is directly proportional to the distance traversed"; then he deduced from his hypothesis the conclusion that objects falling equal distances require the same amount of elapsed time. After a "Gedanken Experiment", Designed Experiments made clear that this was a false conclusion: hence, logically, the first hypothesis had to be false. Therefore Galileo framed a new hypothesis: "the speed attained is directly proportional to the time elapsed". From this he was able to deduce that the distance traversed by a falling object was proportional to the square of the time elapsed; through Designed Experiments, by rolling balls down an inclined plane, he was able to verify experimentally his thesis.

Such agreement of a conclusion with an actual observation does not itself prove the correctness of the hypothesis from which the conclusion is derived. It simply renders that premise much more plausible.

Proposing the criterion of testability, or falsifiability, for scientific validity, Popper emphasized the *hypothetico-deductive character of science*. Scientific theories are hypotheses from which can be deduced statements testable by observation; if the appropriate experimental observations falsify these statements, the hypothesis is refused. If a hypothesis survives efforts to falsify it, it may be tentatively accepted. No scientific theory, however, can be conclusively established. A good example of that is Bell's Inequality. In physics, this inequality was used to show that a class of theories that were intended to "complete" quantum mechanics, namely local hidden variable theories, are in fact inconsistent with quantum mechanics; quantum mechanics typically predicts probabilities, not certainties, for the outcomes of measurements. Albert Einstein stated that quantum mechanics was incomplete, and that there must exist "hidden" variables that would make possible definite predictions. But in 1964, J. S. Bell proved that all local hidden variable theories are inconsistent with quantum mechanics, through "Gedanken Experiment" and Logic, and through Designed Experiments.

The ultimate test of the validity of a scientific hypothesis is its *consistency* with the totality of other aspects of the scientific framework. This inner consistency constitutes the basis for the concept of causality in science, according to which every effect is assumed to be linked with a cause. The scientific community as a whole, however, shall judge the work of its members by the ***objectivity and rigor*** with which that work has been conducted; in this way the scientific method should prevail.

To prove that a formula is wrong, one needs only intelligence; to find the right formula, that substitutes the wrong one, you need both intelligence and ingenuity and Intellectual Honesty. I will use only intelligence and I will not give any proof of my ingenuity: this paper is for intelligence ... For example, it's well known (from Algebra) that the coefficients and the roots of any algebraic equation are related: it's easy to prove that $\pm\sqrt{-c/a}$ is not the solution (also if you do not know the right solution) of the parabolic equation $ax^2 + bx + c = 0$, because the system $x_1 + x_2 = -b/a$, $x_1x_2 = c/a$ is not satisfied.

The literature on "Quality" matters is rapidly expanding. Unfortunately, nobody, but me, as far as I know, [I thank any person that will send me names of people who take care ...], takes care of the Quality of Quality Methods used for making Quality (of product, processes, services and Methods). I am eager to meet one of them, fond of Quality like I am.

If this person existed he would have agreed that "*facts and figures are useless, if not dangerous, without a sound theory*" (F. Galetto), "Management need to grow-up their knowledge because experience alone, without theory, teaches nothing what to do to make Quality" (Deming) because he had seen, like Deming and myself "*The result is that hundreds of people are learning what is wrong. I make this statement on the basis of experience, seeing every day the devastating effects of incompetent teaching and faulty applications.*" [Deming (1986)]. Many times F. Galetto spoiled his time and enthusiasm at conferences, in University and in Company courses, trying to provide good ideas on Quality and showing many cases of wrong applications of stupid methods [see references]. He will try to do it again ... by showing, step by step, very few cases (out of the hundreds he could document), where we show that data and their scientific analysis is fundamental for Quality achievement.

2 INVENTORY AND LOGISTIC; THE GENESIS OF THE WRONG FORMULA

We consider here the case of inventories. There are many courses on Logistics, Production Planning, Inventory Planning, ...; there are many books on these matters. I will consider only a few, I found by chance: it's a "sampling plan".

Inventories are stockpiles of raw material, supplies, components, work in progress and finished goods that appear at numerous points throughout a firm's production and logistic channel. Inventories on hand cost at least 20% of their value per year. Therefore, carefully managing inventory levels makes good economic sense: in recent years, the holding of inventories has been criticised as unnecessary and wasteful. Actually, good management of inventories improves customer service and reduces costs. Inventory plays a key role in the logistic behaviour of all manufacturing systems. The classical inventory results are central to more modern techniques of manufacturing management, such as material requirement planning (MRP), just-in-time (JIT) and time based competition (TBC).

Let's consider first the oldest, and simplest, model – the Economic Order Quantity – in order to work our way to the more sophisticated ReOrder Point (ROP) model.

One of the earliest applications of mathematics to factory management was the work of F. W. Harris (1913) on the problem of setting manufacturing lot sizes. He made the following assumptions about the manufacturing system; production is instantaneous, delivery is immediate, demand is deterministic, the demand rate is constant over time, any production run incurs a fixed setup cost, there is no interaction between different products.

Let's consider now the problem of establishing the order quantity Q [lot size] for an inventory system, dealt in "Logistics courses" and related books. In this field the assumptions are very similar to Harris: a single item is subject to "constant" demand " λ " [demand rate, in units per year], there is a fixed cost A [ordering cost, in euro] of placing an order and a carrying charge " h " [holding cost, in euro per unit per unit time allotted (often year) to each item in inventory]. If no stockouts are permitted and lead time is zero (orders arrive immediately) there is a quantity Q (named EOQ: Economic Order Quantity), that minimise the "total cost per year", given by the famous Wilson lot-size formula $Q = \sqrt{2A\lambda/h}$. The production cost does not influence the solution and therefore is not considered in the "total cost per year" $Y(Q) = hQ/2 + A\lambda/Q$. Taking the derivative of $Y(Q)$, and using elementary concepts of calculus, one gets easily the Wilson formula $Q = \sqrt{2A\lambda/h}$. In this particular case, we repeat, in this particular case, the number of lots ordered per year is perfectly known to be $N = \lambda/Q$ and the optimal time between orders is $T = Q/\lambda$, i.e. $T = 1/N$.

F. Galetto met this formula in 1967 when he was student in the course "Economy and

Company Organisation" [1, 35].

Let's now see what happened (2006 and 2007) in two MASTER Courses (dealt after 5 years of Engineering courses) on Maintenance and Reliability, in the lessons for RCM [Reliability Centred Maintenance]: Wilson formula $Q = \sqrt{2A\lambda/h}$, which holds only in the hypotheses we said before, was provided to student for buying the spare parts, which *obviously depend* on the number of failures, which *obviously depend* on the unreliability, which *obviously depend* on the time failure, which *obviously is* a random variable!!! *A serious teacher should have proved that the formula holds true, before showing it to students !!!!*

So we see that many are the situations where professors provide wrong formulas.

If delivery is not immediate as assumed before (second model), one can consider delivery times (LT, lead Time) as known and fixed: $LT = \text{constant}$; the order is placed when the on-hand inventory is $R = \lambda LT$ and the lot is received exactly after the time LT, when the inventory is zero; the Wilson formula is still valid, in this case.

If delivery times are uncertain, as "random variables", then a different approach is required. There is, however, a more important source of randomness: the demand. In this case we enter the "Statistical Reorder Point" model (third model) developed by Wilson (1934). *Probability concepts are needed* because demand is random.

The third model is named (Q, R) model [2, 3, 4, 5, 6] and works this way: inventory is monitored continuously; when the inventory level reaches (or goes below) R, an order of size Q is placed; after a "fixed" lead time LT, during which a stockout might occur, the order is received: the problem is to determine appropriate values of Q and R.

Now the demand D (in units), at any instant t, is a random variable; D(t) is a stochastic process; for convenience it is considered as continuous, with cumulative distribution F(d) [CD] and probability density function f(d) [pdf]: μ is the mean demand and σ is the standard deviation of demand: all these "quantities" depend on the time t. the inventory X(t) is a stochastic process, as well. In the third model the replenishment lead time LT is assumed constant. Since we place an order when there are R units in stock (including a Safety Stock) and we expect to incur demand while we wait for the replenishment order to arrive, we face the case where we can go out-of-stock: we do not have any more units to sell, we are in stockout. Two cases can happen causing bad Service Level and consequent losses: either customers are willing to wait until the order arrives [we name it "back-order" model, or "type II Service" model], or customers do not wait and buy the product from another supplier [we name it "stockout" model, or "type I Service" model]. For both the models it is important to consider the IP (Inventory Position) which takes into account the on-hand inventory (the physical inventory in stock) the backorders and the replenishment orders: $IP = \text{on-hand inventory} - \text{backorders} + \text{orders}$.

In the third model a replenishment order of size Q is placed any "first-time" the IP becomes $\leq R$; after a constant LT the order is received: unfortunately, in the meantime a stockout might occur.

To show his ideas F. Galetto considers here only the "lost sale" model, or "type I Service" model, as it is found it in books and papers published by "...serious international editors that will submit them to a serious peer review before publishing it." The cost involved are [symbols unified for all the documents]: $\bullet A\lambda/Q$, "average" order cost per year, $\bullet [1 - F_{LT}(R)]p\lambda/Q$, cost of stockout [p cost per stockout, in euro] $F_{LT}(R)$ CD of demand during the lead time LT, $\bullet h(R+Q/2-\lambda LT)$, "average" inventory cost per year, being λ the rate of demand. It is important to highlight the hypotheses of the third model, the so called "lost sale" case: 1) the rate of demand λ is constant, 2) the Lead Time LT is constant, 3) the ordered lot of size Q arrives exactly after the time LT, 4) every order costs A, 5) every item costs h per unit time, 6) every stockout costs p, 7) the demand during LT is a random variable with CD $F_{LT}(R)$.

When the Lead Time LT is a random variable we get the forth model, with the hypotheses in

For the third model $T^{**}=LT=\text{constant}$, the difference $R - \lambda LT = SS$ is named Safety Stock, in order to set the type I service level $> 50\%$, let's say $F_{LT}(R)$, being $F_{LT}(x)$ the probability of selling less than R products during the lead time LT ; the average cost rate $= A\lambda/Q + h(R + Q/2 - \lambda LT) + (1 - F_{LT}(R))p\lambda/Q$ is "the formula to be minimised if stockouts are permitted and lead time is $LT > 0$, if demand is random, (where R is the trigger quantity for placing the order of size Q , p is the penalty for stockouts and $F_{LT}(d)$ is the probability distribution of the demand d , during the lead time LT ". Actually the formula is inconsistent, because it is based on an **intuitive [not proved] extension** of the formula for <<"constant" demand, no stockouts permitted and lead time zero>>. Notice that this formula is the same as that in case of "everything known" and constant!!!!!!!!!!!!!! No scientific proof of the formula is ever provided!!! It is only an application of BAD knowledge of probability...

The justification of the formula is the following [4, pag. 276]: "... the number of stockouts depends on two factors: • the number of chances to experience a stockout, that is the number of planning cycles, when we wait for the delivery of the Q units of the product and inventories might fall short of demand; • the probability that in each planning cycle the demand actually exceeds the stocking quantity R and we face a stockout." λ/Q is the number of lots ordered per year. Understanding that the formula is wrong is very easy.

The quantity $[1 - F_{LT}(R)]$ is the probability that the demanded quantity D_{LT} , during the lead time LT , is larger than R : $P[D_{LT} > R]$. That does not take into account that stockout occurs only if the replenishment order arrives LATE, later than all R units are sold!!!!!!!!!! The probability of stockout depends on the competition of two stochastic processes: the demand $D(t)$ versus the replenishment $U(t)$.

A point deserves attention: the mean of the on-hand inventory, $R + Q/2 - \lambda LT$. In [4, pag. 274] they say: "... the inventory position fluctuates between the minimum level R and the maximum level $R + Q$ and thus the average inventory position is $R + Q/2$ ", because "... the inventory level over time is, in a sense, uniformly distributed between the maximum and the minimum". This is wrong, because the mean of the inventory is $\int_{t_0}^{t_0+\Delta} E[X(t)]dt / \Delta$, being Δ the period for selling Q products and t_0 any instant, and the distribution is

So we see that, actually, average cost rate $= A\lambda/Q + h(R + Q/2 - \lambda LT) + (1 - F_{LT}(R))p\lambda/Q$ is a formula inconsistent, because it is based on an **intuitive [not proved] extension** of the formula for <<"constant" demand, no stockouts permitted and lead time zero>>.

In [4, pag. 274] they provide the

conditions for optimality:

$$Q^* = \sqrt{\frac{2E(d) \cdot [A + p \cdot (1 - F_{d_{LT}}(R^*))]}{h}}$$

$$f_{d_{LT}}(R^*) = \frac{Q^* \cdot h}{p \cdot E(d)}$$

where they set $\lambda = E(d)$. Is that sensible?

Just before sending the paper I received by e-mail an advertisement from Factory Physics (see Appendix), suggesting a course on **Supply Chain Management**; Factory Physics is a book [32] for Higher Education with the same errors as the others [2, 3, 4, 5, 6]: Higher Education????

3 INVENTORY; THE "NORMAL CASE"

In all the books F. Galetto read, the Cumulative Distribution $F_{LT}(R)$ of demand during the lead time LT is assumed to be the Normal distribution.

IF the Normal distribution is valid, then the pdf y of $X(t)$, given $X(t_0)$, is $y = y(x, t | X(t_0) = x_0) = 1/\sqrt{2\pi\gamma(t-t_0)} \exp\left\{-[x-x_0-\lambda(t-t_0)]^2/[2\gamma(t-t_0)]\right\}$ [F. Galetto knew that since he was a student (40 years ago [35])]. The probability density function y satisfies the partial differential equation [35] $y_t + \lambda y_x - (\gamma/2)y_{xx} = 0$: this equation rules the stochastic process $X(t)$ of the inventory (due to the random nature of the demand): λ is the demand rate [i.e. the demanded quantity per unit time] and γ the "variance rate" [i.e. the variability of the demanded quantity per unit time] of the demand. The partial differential equation is important because it shows that there are two important random variables, T_Q (the time to sell Q products) and T_R (the time to stockout, i.e. R products sold, while waiting for the replenishment lot): the inventory starts at the state $R+Q$, then after T_Q enters the state R and then, if no lot arrive during LT , after T_R enters the state "stockout"; the pdf of the "time to sell x products" T is $f(t) = \sqrt{\eta/2\pi^3} \exp\left\{-\eta(t-\mu)^2/(2\mu^2t)\right\}$ where $\eta=x^2/\gamma$ and $\mu=x/\lambda$; it follows $E(T)=\mu$ and $Var(T)=\mu^3/\eta$.

The system faces stockout if $T_R < LT$; if, on the contrary, if $T_R > LT$, then the inventory, expired the time LT , raises its quantity by Q , and a new cycle starts. [see Fig. 1]

One can view the problem as a "two players game": one player is the Market [**M**] that demands the products, and the other player is the Company [**C**] that supplies the products; the game ends when the stockout happens: at this point there is a loser (the company) that suffers a payoff (payoff is a game-theory term referring to what happens at the end of a game). A game is characterized by a set of rules that determines the possible moves at each step, indicating which player is to move: in our case **M** moves asking as many products as needed, and **C** looks at the IP and pays h (for any product and interval); when $IP \leq R$, **C** moves (places the order, paying A , and knowing that he will get "probably" the ordered products at LT), in such a way that the risk of stockout is "probably" as stated; the game ends when the stockout happens: **C** pays p . The length [i.e. the cost] of the game depends on the "probable" speed of the replenishment.

The formula average cost rate = $A\lambda/Q + h(R+Q/2-\lambda LT) + (1-F_{LT}(R))p\lambda/Q$ does not "agree" with figure 1 and with the game, and therefore is **wrong**, *even though I did not provide the right one*: you can get all that using F. Galetto ideas, as given in his books and papers. [10, 11, 12, 13, 16, 28, 31] (notice the dates ...)

The formula of the average cost rate can be transformed into the cost formula $A+h\mu(R+Q/2-\lambda LT)+[1-F_{LT}(R)]p$: we see then that $h\mu$, the holding cost of one product for the mean time to sell Q products, is multiplied by $R+Q/2-\lambda LT$: therefore $A+h\mu(R+Q/2-\lambda LT)$ is related to $E(T_Q)$, while $[1-F_{LT}(R)]p$ is related to $E(T_R)$, two different intervals; it is clear that the computed cost is related to the sole interval "*interarrival of two consecutive lots*"!

The partial differential equation [35] $y_t + \lambda y_x - (\gamma/2)y_{xx} = 0$ does not contain any item that rules the replenishment; so modification are needed for a correct description of the system. In any case it is useful for proving the falseness of the statement [4, pag. 274] "... *the inventory level over time is, in a sense, uniformly distributed between the maximum and the minimum*". Let's consider for a while $\lambda=0$ and $\gamma=2$; we have $\int_0^t f(\tau)d\tau/\sqrt{\pi(t-\tau)} = 2y(t)$; it follows that the pdf of the "time of maximum in the interval $0-t$ " is $1/[\pi\sqrt{\tau(t-\tau)}]$ which shows that the points of maximum and minimum are more probable near 0 and near t in the interval $0-t$ (arcsine law) [most people may feel surprised by this idea certainly "contrary to popular notions": this is

startling due to faulty intuition: unfortunately "it is difficult to see what one does not expect to see"].

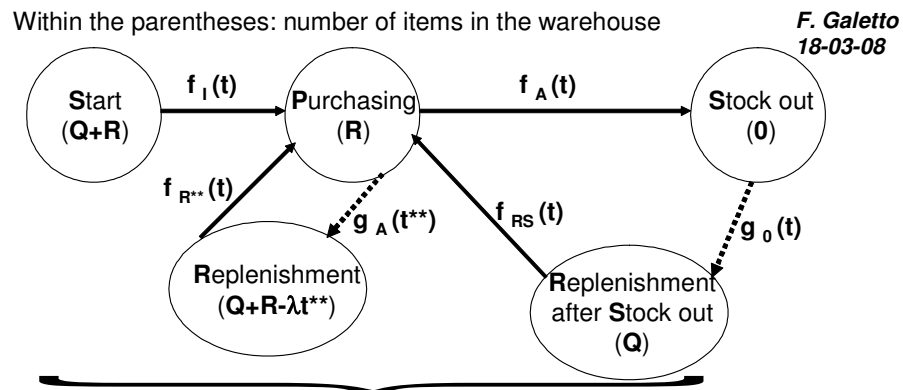
If the Lead Time LT is a random variable, the books suggest the same formula (we showed it wrong) where $F_{LT}(R)$ is **again assumed** Normal, with mean $\mu = \lambda \mu_{LT}$ and standard deviation $\sigma = \sqrt{\mu_{LT} \gamma + \lambda^2 \sigma_{LT}^2}$; they say [2] (we use here the symbols of this paper) "A common hypothesis is that the quantities follow a normal distribution. Let λ and μ_{LT} the mean of the demand rate and of the Lead Time, and $\gamma^{1/2}$ and σ_{LT} the standard deviations. ... One proves that the demand during the Lead Time has mean $\mu = \lambda \mu_{LT}$ and standard deviation $\sigma = \sqrt{\mu_{LT} \gamma + \lambda^2 \sigma_{LT}^2}$ ". Any good student can easily prove wrong that statement: as a matter of fact, if D and $LT = T^{**}$ are the random variables "demand rate" and "Lead Time" (and are independent) the demand, during the lead time, is the random variable $D * LT$, product of the two random variables: it follows that the standard deviation of $D * LT$ is not $\sigma = \sqrt{\mu_{LT} \gamma + \lambda^2 \sigma_{LT}^2}$: in fact [see 22, or any good book on probability], $\text{Var}[D * LT] = E[D^2 * LT^2] - E^2[D * LT]$. Moreover [22], the combined distribution is no longer Normal!!!

4 INVENTORY; THE "LOGIC MODEL"

In real cases the normal distribution is not adequate; therefore the formulas found in books are not valid.

A better approach is needed; it must take into account the distribution of the time to transition between the various states (we consider here the simple case $Q > R$?????????): when the system enters the state R (in fig. 2), two processes "the demand, with the random variable T_R and pdf $f_A(t)$ " and the "the replenishment, with the random variable T^{**} and pdf $g_A(t^{**})$ " start competing; the winner determines the future of the system: if $T_{LT} < T_R$ then the system is replenished with a lot of size Q and stockout does not happen: this occurs any time the event $T_{LT} < T_R$; when the ordered lot arrives the physical inventory level is either $R + Q - \lambda T^{**}$ for random lead time or $R + Q - \lambda LT$ for constant lead time; after entering the Replenishment state the system takes a random time for the transition to the Purchasing state. Stockout happens only when $T_{LT} > T_R$; and only in this case the penalty p is paid. [see Fig. 1 and Fig. 2]

The trigger signal for the orders is provided by the random variable "time to sell Q product T_Q " [see Fig. 1 and Fig. 2]; the random variable "time to Stockout T_{Sto} (time to enter the state 0)" provides the information for inventory holding cost and for the service level.



t^{**} : duration for transition from state P(urchasing) to state R(eplenishment)

$f_x(t)$ e $g_x(t)$: pdf of time to transition; they allow the computation of

- $1-W_X(t)$: probability of staying in X for the interval $0-t$,
- $b_{XY}(t)dt$ probability of transition from X to Y in the interval $t-t+dt$
- $R_X(t)$: probability of not experiencing Stock out for the interval $0-t$, if the system entered state X, at instant 0
- $MTTS_X$: mean time to Stock out, from state X

□ **probability of not experiencing Stock out are determined by Equations of Reliability Integral Theory**

Figure 2 Transitions between the states

The Reliability Integral Theory (RIT) as given in [10, 11, 13, 17] provides the means for properly dealing the inventory cost and management.

Let's consider the interval $0-t$ [see Fig. 1 and Fig. 2]. The service level, at time t , is $S(t)=P[T_{Sto}>t]$, the probability that the Stock Out occurs after time t : it is a real function stating from 1 and tending to 0 (as the reliability of any system). The order cost for the interval $0-t$ is $A*N(t)$, where $N(t)$ is the random variable "number of orders" (whose probability parameters can be computed as in [13]). The inventory holding cost is given by $h \int_0^t X(t)dt$, in the interval $0-t$. The stockout cost is $p[1-S(t)]$. Let $C(t)$ be the total cost for the interval $0-t$ and $c(t)=C(t)/t$ the cost rate ("cost per unit time"). Using RIT [10, 11, 13, 17] one can prove that $c(t)$ is a transient underdamped function versus time t (like a shock absorber) which tends to a limit g , as $t \rightarrow \infty$. Since the system is renewed after any stockout it follows that $g=C_{Sto}/MTT_{Sto}$, the ratio of the total cost to stockout C_{Sto} and the mean time to stockout MTT_{Sto} : the two quantities of the ratio depend on the competition of the two processes "the demand, with the random variable T_R [pdf $f(t)$]" and the "the replenishment, with the random variable T_{LT} [pdf $g(t)$]".

In order to find the equation for a finite interval $0-t$ we consider the following: letting $C^*(t)$ be the total cost for ordering and holding products over the finite interval $0-t$; if there is no stockout the cost is $C^*(t)$ with probability $S(t)$, while if there is stockout the cost is $[C^*(t)+p]$ with probability $1-S(t)$; then $C(t) = C^*(t)S(t)+[C^*(t)+p][1-S(t)] = C^*(t)+p[1-S(t)]$. Therefore the optimisation problem is finding the couple Q, R minimising $E[C(t)/t]$: obviously the optimum solution depends on the duration of the finite interval $0-t$.

The case $T^{**}=LT=\text{constant}$ implies $g(t) = \delta(t-LT)$, the Dirac "delta function" as a kind of a probability density function. In this case $[1-S(LT)] = [1-F_{LT}(R)]$, a new proof of the inconsistency of the formula $\text{average cost rate} = A\lambda/Q + h(R + Q/2 - \lambda LT) + (1 - F_{LT}(R))p\lambda/Q$, or of the cost

$A+h\mu(R+Q/2-\lambda LT)+[1-F_{LT}(R)]p$: both do not agree with figure 1 and with the game.

A better formula, consistent with probability theory is provided by the following argument: let's consider the interval between the "interarrival of two consecutive lots of size Q "; two mutually exclusive events can happen, either 1) no stockout occurs during this interval [with cost $A+h\mu(R+Q/2-\lambda LT)$ and probability $S(LT)$] or 2) stockout occurs during this interval [with cost $A+h\mu(R+Q-\lambda LT)/2+p$ and probability $1-S(LT)$]; we name this method as "method2".

Only the formula derived by means of figure 2 [Reliability Integral Theory] is the right one: we name this method as "method3". It is easy to understand that the probability $S(t) \neq F_{LT}(R)$: $S(t)$ is related to the interval $0 \dots t$, while $F_{LT}(R)$ is related to the interval $s \dots s+LT$ with s the instant that the system enter the state "Purchasing". The reader knowing Reliability Theory can guess $S(t) \neq F_{LT}(R)$ by considering the reliability of a repairable stand-by system. Let $R_{Start}(t)$ be the probability of not experiencing Stock Out for the interval $0 \dots t$ given that the system entered state "Start" at time 0, $R_{Purchasing}(t)$ be the probability of not experiencing Stock Out for the interval $0 \dots t$ given that the system entered state "Purchasing" at time 0, and $R_{Replenishment}(t)$ be the probability of not experiencing Stock Out for the interval $0 \dots t$ given that the system entered state "Replenishment" at time 0; the Service Level $S(t)$ is $R_{Start}(t)$. We can write the following system of integral equations of the Reliability Integral Theory (RIT) as given in [10, 11, 13, 17]

$$R_{Start}(t) = \int_t^{\infty} f_I(x)dx + \int_0^t f_I(r)R_{Purchasing}(t-r)dr$$

$$R_{Purchasing}(t) = \int_t^{\infty} f_A(x)g_A(x)dx + \int_0^t g_A(r)R_{Replenishment}(t-r)dr$$

$$R_{Replenishment}(t) = \int_t^{\infty} f_{R^{**}}(x)dx + \int_0^t f_{R^{**}}(r)R_{Purchasing}(t-r)dr$$

The solution of this system provides the probability we need for computing $C(t)$ the total cost for ordering, and holding products over the finite interval $0 \dots t$; if there is no stockout. Integrating any function $R_X(t)$, one gets the $MTTF_X$. Therefore

$$MTTF_{Start \Rightarrow StockOut} = \int_0^{\infty} R_{Start}(t)dt$$

$$MTTF_{Purchasing \Rightarrow StockOut} = \int_0^{\infty} R_{Purchasing}(t)dt$$

$$MTTF_{Replenishment \Rightarrow StockOut} = \int_0^{\infty} R_{Replenishment}(t)dt$$

are the mean times to Stock Out.

In the table we present the comparison of the 3 approaches (1: as given in [3, 4], 2: "method2", 3: "method3" with RIT) in the following case [see 3, pag. 195]: $Q=100$, $R=141$, $\lambda=200/\text{year}$, $LT=6$ months [with pdf $N(\mu,\sigma)=N(100, 25)$], $S(LT)=0.95$ [$A=50\text{€}$, $p=500\text{€}$, $h=2\text{€}/(pz*\text{year})$].

The findings, for the three methods, are:

method	1: $Q=100$, $R=141$	2: $Q=100$, $R=133$	3: $Q=100$, $R=121$
cost (6 months)	603,6	567,8	492,50
cost increment	22.6%	15.3%	

The scientific method provides "Lower costs for the same service level"!!!! Many other examples could be provided. How many students, all over the world, are learning wrong methods and will take wrong decisions?

5 CONCLUSIONS

Good Management requires Good Knowledge. Professors must remember that "*Many wrongs don't make a right*". The ideas we provided here show very clearly Deming statements:

"The result is that hundreds of people are learning what is wrong. ... I make this statement on the basis of experience, seeing every day the devastating effects of incompetent teaching and faulty applications." "It is a hazard to copy", "It is necessary to understand the theory of what one wishes to do or to make."

It is important to notice that teachers must apply "metanoia" (change their own mind), with Intellectual Honesty, if they want improve, because one does not need the right formula to understand that a wrong formula is wrong: an example is the following "*The General Triangle is used for practical applications of trigonometry in determining distances that cannot be measured directly. Such a problem may be solved by making the required distance one side of a triangle, measuring other sides or angles of the triangle, and then applying the Carnot Theorem (cosine law): if α, β, γ are the three angles of a triangle, and a, b, c the respective opposite sides, it may be proved that $a^2 = b^2 + c^2 - 2bc \cos \alpha$ [Carnot Theorem (cosine law)]. You need a lot of ingenuity to solve the problem if you know only the Pythagorean Theorem, which states that the square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides. Anyway you do not need the knowledge of the Carnot Theorem (cosine law) to understand that it is wrong to apply the Pythagorean Theorem to General Triangles*".

Any formula that does not consider the processes in fig. 1 is wrong! How many professors do not use the processes (in fig. 1) for their optimisation?

We showed certainly ideas "contrary to popular notions" [provided in university courses]: unfortunately "it is difficult to see what one does not expect to see".

The statement of the Nobel prize M. Gell-Mann is here relevant: "Once that such a misunderstanding has taken place in the publication, it tends to become perpetual, because the various authors simply copy one each other."...>> "The Quark and the Jaguar: Adventures in the Simple and the Complex" [W. Freeman and Company, N. Y., 1994]}}

Papers with errors are not scientific, even though the authors say: "*We thank the referees and the editor for careful reading and helpful comments that improved our paper.*"

Once upon a time A. Einstein said "Surely there are two things infinite in the world: the Universe and the Stupidity of people. But I have some doubt that Universe is infinite".

Brain is the most important asset: let's not forget it, IF we want that our students be better than their professors.

Theory is Logic deduction from premises: our students must learn how to use Logic (see fig. 3)

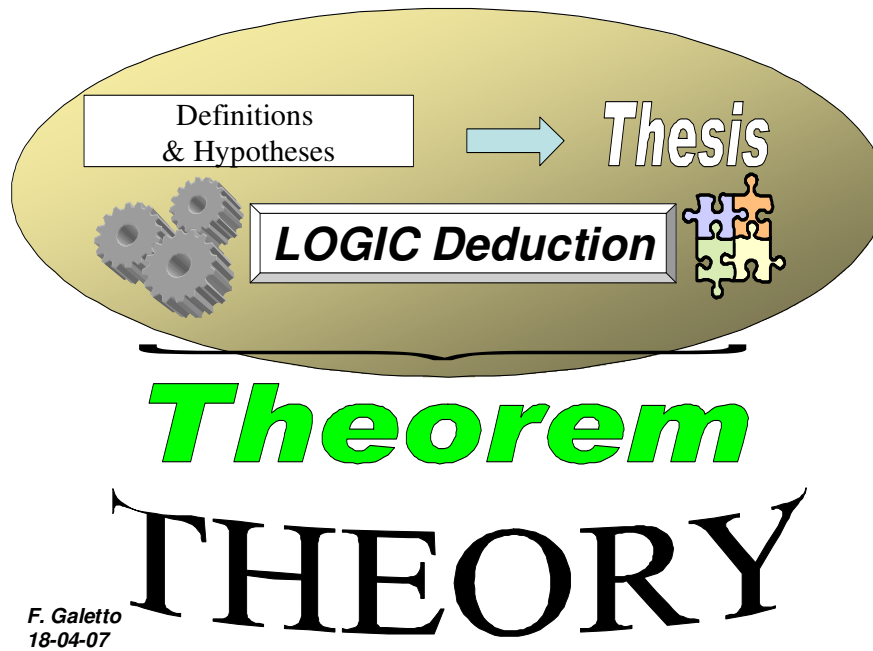


Figure 3 Theory is Logic deduction from premises

We could, at last, paraphrase ST John "And there are also many other things, the which, if they should be written everyone, I suppose that even the world itself could not contain the books that should be written."

Will someone want to see the truth? Only God knows that ...

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MANAGING SUSTAINABLE BUSINESS AND TECHNOLOGY DEVELOPMENT

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KEY WORDS: SUSTAINABILITY, DYNAMIC BALANCE, STRATEGIC FIT

1. Basic concepts of sustainable business and technology management

The broad concept of sustainable development is analysed in terms of basic principles of sustainable business development at the firm level. Furthermore, sustainable firm development is viewed by the basic determinants of sustainable technology innovation management. The main idea developed in this paper is that the concrete dimensions of sustainable business development at the firm level represent the basis for sustainable development of the economy and society, the firms being the key units and agents in the economy responsible for the overall socio-economic development and welfare. It is argued that at the firm level the crucial decisions are made concerning the output to be offered in terms of products and/or services (what business should we be in), which inputs and resources are necessary to be engaged for the business and where should it be located, how to accomplish the business goals and what processes to develop. Crucial responsibility and starting point for sustainable development lies at the firm level, with emphasis on the importance of actions and guidance provided in the external environment - legal, economic, political, social and technological, in achieving sustainability goals. Focus is on the achievement of sustainable business operations that are based on key technologies. Managing technological dynamics in firms lies at the core of sustainable competitiveness of business operations.

Sustainable Business Development (SBD) is a challenging new concept balancing the external and resource-based view¹, reaching for solutions in the domain of balance and right "fit" to be achieved in situations of opposed and conflicting goals and dilemmas present in managing business. "SBD is a holistic management construct that includes the entire value system from the origins of the raw materials to production processes and customer applications to end-of-life (EoL) solutions. It encompasses the full scope of relationships with supply networks, customers and stakeholders, and support service providers for providing business solutions and also handling wastes, residuals, and impacts."²

Transition economies focus on a set of specific aspects of sustainability that are critical to their efficient and effective transformation. The complexity of the transitional change is defined by radical changes occurring in the domain of privatization, intensive technological change, restructuring, business strategy and competitiveness, developing markets and infrastructure with the overall concern for the well being of all the actors, environmental issues, satisfaction of all stakeholders – employees, customers, society, etc. Creating the sustainable and feasible development strategy takes into account the diversified needs and goals and strongly relies on the effort to evaluate the internal strengths and resources from the perspective of their competitive capacity. Traditionally, valuable, rare, non-substitutable and non-imitable resources are the key

¹ Levi-Jakšić, M. (2005), pp. 103-115.

² Rainey, D. L., (2006), pp. 2.

factors that create and maintain an advantageous position with respect to competitors.³ It is pointed out that the sustainable development perspective adds the sustainability as the fifth significant resource attribute.

External factors influencing the firm, traditionally related to political, economic, social and technological domains (PEST), are broadened by ecological domains in order to fully appreciate the forces of sustainability – PESTE.

2. Complex goals of sustainable business and technology development

Sustainable business competitiveness means the achievement of a set of different goals – economic and non-economic – of the firm. It is a concept based on quantitative and qualitative performance indicators, namely, the integration of traditional business performance goals measured by traditional economic indicators (e.g. profitability) and a set of new non-economic performance criteria that emphasize the satisfaction of needs of the customers, employees and all other stakeholders. Business performance balanced scorecard approach is based on the efforts to build sustainable competitiveness taking into account multiple factors.⁴ This new approach points to a set of new performance indicators and goals found in qualitative attributes such as culture, fulfillment, mutual understanding, creativity, enhancing mutual trust, etc.

Based on complexity, dependency and contingency theories, much effort is made to identify and select priorities by relevance criteria attributed to factors influencing the concrete business and the specific situation of different firms. The ultimate result of these efforts is: strengths better appreciated and further developed, while the weaknesses reduced and eliminated. At the same time the orientation is at building capacities to grab opportunities and diminish threats in the environment.

Sustainable management is a concept of strategic management oriented at the achievement of sustainable competitiveness. Sustainable competitiveness is based on appreciation of strategic goals emphasizing competitive co-evolution, networking and partnering, long-term perspective, synergies, satisfaction, high quality of life standards. The emphasis on sustainable technology management is related to the role of technology and its position at the core of all the business operations, and with focus on primary operations delivering value in the form of products and services to the customers, but also in satisfying the goals of the society, economy, local community, while simultaneously developing profitable business results. Managing technology plays a significant role in accomplishing sustainable development due to the following:

* technology lies at the core of all the creative effort in the organization aimed at producing new value;

* it plays a dual role in firms: as external force and internal resource;

* it has a high impact on the environment;

* its deep correlation to other firm resources has provided ground for treating technology as the strategic dimension with high impact in respect to sustainable firm competitiveness.

The next table shows the results of the effort to relate the proclaimed principles of sustainable development of society, business sustainability and sustainable technology innovation management.⁵

³ Barney, J. B. (2004), pp. 99-120.

⁴ Meyer, M.(2002), pp. 42.

⁵ Rainey, D. L.(2006), pp.37.

Table 1. Transforming the principles of Sustainable Development (SD) into principles of Sustainable Business Development (SBD) and Sustainable Technology Management & Development (STMD).⁶

SD	SBD	STMD
Coexistence (the right to)	Strategic enterprise thinking, “cradle to grave“ approach, balanced objectives	Strategic technology management – optimizing technological portfolio; broad technology-business perspective; strategies leading to followers approaching leaders; reducing techn. gap; life-cycle thinking; value-chain approach; competency approach.
Recognize interdependence	Inclusiveness, business integration; linkages and relationships	Technological cooperation – vertical and horizontal relations; in-sourcing R&D; R&D consortia; technological fusion; competitive co-evolution.
Respect relationships	Value networks – business environment and natural world	Strategic technological alliances and networking- synergetic effects; technological transfer via partnering; technologies and operations in the broad perspective of supply networks and all the actors linked to the firm.
Accept responsibility	Social responsibility – Integrity, Honesty, Enterprise Management	Leading technological change with environmentally sound options, ecologically conscious innovation - ECI, finding the right measure of technological change in relation to PESTE.
Create long-term value	Value creation	Create operations based

⁶ Levi-Jakšić, M. (2006), pp. 28-38.

		on technologies that offer products and services satisfying the needs of all the stakeholders.
Eliminate wastes	Business innovativeness and creativity	Managing technological innovations based on simultaneous engineering; TQM approach; Life-cycle assessment –LCA; sustainable technological products and processes.
Rely on balanced solutions	Openness, transparency, balanced scorecard thinking	Strategic fit as balancing of strategic and operational technological goals: efficiency vs. innovativeness, competency enhancing (incremental) and (radical) technological innovation.
Design limitations	Risk mitigation; LCA; Risk assessment	Managing technological risks and threats at the same time accepting the chances and challenges; technological forecasting; probability assessment; managing technological portfolio for risk mitigation; reliance on emerging, base and key technologies in the portfolio.
Continuous improvement	Leadership short-term/long-term plans	Technological operativeness and long-term competitiveness; evolutive, continuous technological innovation and improvement; creativity enhancement, managing technological competencies, technological strategies, etc.

3. Dynamic fit of complex sustainability goals

The complexity of forces active externally and inside organizations, the goals and principles of different domains, functions and processes, often generate the background of confronted and conflicting goals demanding solutions and complex managerial decisions. The need to bring the conflicting goals and interests together in relation to the overall, common interests of company survival, development and growth, poses complex tasks of managerial decision making oriented at constant search for the optimal solutions in terms of "trade-offs" and balances. The balances are particularly important for companies to be able to "adapt quickly to an ever-changing business environment, while being able to seize opportunities to shape that very environment".⁷

The complexity of the nature and problems of sustainable business development is found in:

- multiple goals that businesses have to accomplish today in order to be considered successful and in order to "stay alive";
- goals are to be determined according to the multiple needs of the broad set of stakeholders;
- multiple business goals corresponding to various needs of the economy, society, legal environment, technological push opportunities, ecological, political and legal demands, often are opposed, confronted and demand special attention in order that priorities and goal hierarchies are established based on different methods, models- e.g. trade-offs, game theory, the least loss approach, etc.;
- the multiplicity of factors influencing modern business operations;
- various interdependencies and relations of the factors influencing business;
- the very specific nature and various combinations of the influence and relationships of factors towards the achievement of overall business goals;
- the dynamics of change in the established relations meaning that frequently and very often radically, business operations, strategies, goals are to be reconsidered, reengineered and redefined.

The solutions are found in the general principle of managing by dynamically and continuously striving for the right balance or fit between all the relevant influences which in essence, represents the need to harmonize and evaluate all the potential options and select an option that is limited in time and subject to frequent changes as the given circumstances and situation of firms change.

In fulfilling the goal of sustainable development the first step would be to list the crucial dilemmas that businesses are dealing with today. Dynamic balancing of opposed goals is primarily aimed at firm survival. Growth and sustainable development as the next step adds a new perspective: not only should the company survive and grow, but it is to enable the environment and the stakeholders to achieve a high quality and level of satisfaction and to fulfill the task of future generations not only to survive but to achieve the goals of high quality standards in all aspects of their lives.

The primary dilemma of sustainable business development is that companies need not only to be adaptive, flexible and responsive to external factors and influences, but that they should be proactively creating and changing the environment by their own efforts and actions – proactive, innovative role. It is the dilemma of adapt vs. shape and the core balance is to develop competencies to adapt to external challenges while at the same time developing new ventures and entrepreneurial creative business activities that will shape the environment, directly

⁷ Oliver, D. et al. (2000), pp. 3.

influencing all the stakeholders and actors in the value chain.⁸ Responding and adapting to the environment on the one hand, and shaping it on the other, is at the core of the need of continuous balancing. The need to establish the right “balance, fit, harmony” between opposed demands, open dilemmas with multiple paradoxes is the core problem of sustainability.

This crucial dilemma is further analyzed as the following dilemmas of business management strategies:

1. The dilemma of external/internal oriented strategy, often cited as the marketing/competency dilemma. Based on complexity theory, the main task for the company is to be well adapted and flexible, while simultaneously recognizing the opportunities in the environment and acting accordingly. The balanced strategy based on the right fit between the need to be responsive to external demands and influences and/or to proactively push forward the products and services of the company is translated into functional strategies and concrete actions.

2. The dilemma of how diversified, broad, should the scope of our business be in comparison to the focused business alternative is often cited as the “mono”, “multi” and “balanced multi” business strategy. The advantages and drawbacks of each alternative point to the more precise analysis of the trade-offs between strategic vs. operational dimensions being given more stress at certain points of time. Business diversification is considered to have more strategic impact while business focus gives more stress to accomplishment of high operations performance results in core business area.

3. Networks and business integration vs. organization efficiency is the dilemma of more networking and partnership relations bringing significant positive synergy of strengthening competencies and innovative capacities, while at the same time generating more problems of a complex nature in the domain of management and organizational efficiency. Balancing the trade-offs is the continuous effort and need to manage the dynamics of partnerships, networks, associations, alliances and other cooperative arrangements by constantly evaluating the benefits gained by the partnering organizations and stakeholders against the level of managerial and business excellence accomplished.

4. Operations efficiency vs. change and innovativeness is the continuous balancing between the need to introduce change and innovation and the need to be highly efficient in performing operations. The right measure of change and innovation is introduced according to the equilibrium defined for the specific company doing business in the specific area, dependent on multiple dimensions defining the equilibrium state.

5. Commitment to organizational culture values vs. the need to continuously reconsider and re-examine the basic values according to the external changes. Dynamic balancing is required between developing stable relations within the company, value systems and the need to be adaptive and open for changes in this domain due to the changes taking place in the global business environment, social, cultural and other intangibles shaping our mainstream corporate culture.

6. The need to achieve corporate creativity and innovativeness vs. strict control and division of tasks and responsibilities with standardized procedures with built in high efficiency standards in standardized operations. This dilemma is viewed in relation to different aspects and issues that need to be solved in organization – strategies, technologies, structure, processes and operations, management styles, skills. One of the general dilemmas of optimizing the organizational structure is viewed in the options to choose more rigid forms enabling better control or to decide upon more fluid, open structures enabling informal relations leading to idea communication,

⁸ Oliver, D. et al. (2000), pp. 68.

more creativity and innovativeness. It is typically viewed in the question of how many hierarchical levels to introduce, whether to decide upon flat organizational structure, and new solutions emerge in the form of matrix or project organizations.

The accomplishment of balance and equilibrium state, often defined as the right fit at different points of time are the continuous concern of management at all levels in the company.

4. Dynamic Balance Approach for Sustainable Technology Management

"Strategic technology management, technological innovation, and product development play vital roles in developing solutions to social, economic, environmental and market-related problems and in creating new opportunities."⁹

The main dilemma of sustainable technology management in the form of two opposed, controversial demands is viewed in:

1. the need to stimulate and give full support to innovative and entrepreneurial actions as a strategy leading to more intensive creation of new technologies based on new ideas and creativity as the source of competitiveness and leadership strategies in the global markets,
2. the need to establish more control over all technological actions, starting from the idea generation phases and operations to developing of products and processes, their commercialization, diffusion and exploitation, to the end of the life-cycle and their eventual drawing back from the market and practical use.

The strategic technology goals are determined at two global management levels:

- a) effectivity goals at strategic levels;
- b) efficiency goals at operational levels.

Technology goals can be determined depending on the type of industry a firm is doing business in, firm size, specific characteristics, and one of the approaches is to identify the goals in the following way:

1. technology profitability goals;
2. product technology growth and development goals in product innovations;
3. process technology growth and development goals - process innovations;
4. ecological goals;
5. goals of invulnerability and flexibility which become dominant when:
 - * new technologies penetrate markets where the firm does business in;
 - * material or energy crisis emerge for the technologies that are part of the firm portfolio (oil crisis meant shock and destruction for multiple firms whose technologies depend solely on that energy source);
 - * unpredictable regional and state characteristics that hinder successful technology implementation;
 - * political revolutions, government rule changes, nationalization of firms, change of state and administration attitude that could prevent the success of certain STA.
6. Synergetic goals are recognized at corporate level when the technological portfolio is well balanced according to different strategic technological areas related to business units leading to positive, wanted synergetic effects.
7. Social goals comprise of philanthropic activities that are outside the profit oriented behaviour and they take away one part of the profit firms are making (ecological demands are one part of these goals although they have been classified under separate topic).

⁹ Rainey, D. R. (2006), pp. 387.

The main paradoxes, dilemmas of strategic technology innovation management demanding strategic balance and fit are based on the two approaches: market-pull (external, market) vs. technology-push (internal, competency) based approach.¹⁰ Competitiveness based on competencies gives emphasize to technology and knowledge combined in superior operations as the key competitive weapon of modern firms awarding them with competitive advantages and generating long-term, strategic competitive powers.¹¹ Market orientation stresses the satisfaction of customers and developing technologies that will better satisfy their needs as the driving force of technological innovation and competitiveness in firms. Although strongly related, the two concepts are not identical and the differences arise from the dual character of technology. The balancing of the push-pull approaches is the constant management effort aimed at sustainable technology innovation management.¹²

Efficiency vs. innovativeness poses a set of dilemmas and adds to the complexity of technology innovation management decisions. Innovations, especially radical, are viewed as a threat to organizational efficiency, but, on the other hand, the absence of innovation might jeopardize the mere existence of the firm having in mind the highly competitive environment the firms are doing business in today. This dilemma can also be viewed as the opposed goals of operational - short term vs. strategic-long-term perspective. The considerations of time dimension as the crucial factor in managing business, brings into focus technology innovation management as the key competitive force. Reducing the new product/service time to market as the strategic objective means managing technology innovation based on shortening time- lags as immanent features of the innovation cycle: invention – innovation – diffusion – adoption - modification.

Technological appropriability vs. technological integration and cooperation is viewed as technological rivalry vs. technological partnership. Again, time considerations are dominant in the perspective of achieving and maintaining longer lead-times with high appropriability regimes and rivalry as opposed to technological cooperation and partnerships in joint R&D projects with lower appropriability regimes with expectations of intensive innovativeness for leading positions.¹³

Technological focus vs. technological diversification is the dilemma that is related to the modern approach of better understanding the core elements and dimensions of sustainable business performance. The concept of the multi-technology firm is related to the need to integrate the new technology trends of technological fusion, time and space compression and integration bringing together different technologies and technological fields in the effort to produce complex products and offer more complex services. This trend establishes the need to make distinction between business and technology diversification and to diversify the technological base even if the firm is mono-business.

Technological integration as the strategy of operations in-sourcing vs. operations outsourcing and transferring technologies to others focuses the attention on competencies and knowledge as the key sources of firm competitiveness.

Technology innovation and R&D strategies are the result of responsive vs. proactive business strategy considerations that are related to the dilemma of technological leader vs. technological follower strategies. The crucial aspect of technology innovation strategy is managing projects of

¹⁰ Levi-Jakšić, M. (2004), pp. 17-25.

¹¹ Prahalad, C. K. et al. (2004), pp. 102-113.

¹² Levi-Jakšić, M. (2006b), pp. 456.

¹³ Hagedoorn, J. (1993), pp. 371-385.

vertical technology transfer (intramural, in-house R&D) vs. horizontal technology transfer (external sources and buying of new technologies).

The Dynamic Balance Approach (DBA), as the strategic management method gives support to management of crucial dilemmas, contraversies, paradoxies and confronted goals in striving for performance excellence and sustainable business development. It means that the equilibrium state for the company is found at a certain point of time as the resultant vector of different forces and influences relevant to the determination of the optimal solution. Getting the right measure of the business is interpreted as the identification of the degree of a certain dimension that is to be active at a certain period of time. The equilibrium and balance of the firm is not equivalent to what it means in physics where the equilibrium usually means equal parts of everything present. The harmonized, equilibrium state for sustainable business is accomplished when the right fit, degree or measure is found for the key dimensions shaping our business.

The next table describes the main principles and methods of sustainable technology management and its effect on sustainable business performance results.

Table 2. Sustainable Technology Management and Development goals and methods.

STMD methods	Description	Effects
Strategic fit	Developing and introducing new technologies means high investments and commitment while absence of new technologies and innovation brings the positive effects of the learning curve and stable business in the short run.	Poor fit results in lost opportunity and wasted effort, optimal measure of technological innovativeness means that the short-term perspective of possible profit rising in the absence of innovation is to be measured against the threat of losing competitiveness. Investments in new technology above the optimal rate may potentially be a threat caused by the problems of absorbing new technology internally (efficiency) and externally (market).
Harmonize external influences with internal capabilities by building adaptivity and flexibility (responsiveness)	Develop high sensitivity and flexibility to external factors especially influential in the domain of technological portfolio and the dynamics of technological change.	In the extreme situation when the organization neglects the necessity to closely and continuously follow the relevant external signals, the absence of technology innovation leads to

		profitability decline.
Technological leadership - enhance creativity solutions- innovative, proactive technological strategies	Build internal strengths by adding new technologies in the firm portfolio that will enable technological fusion, synergy at the base of competitive competencies	Technology-push, innovative, proactive, leader strategies are significant when dealing with the threat of losing market due to shortening of product/service life-cycles.
Introduce simultaneous engineering procedures in developing new technologies – product/services and processes	Multifunctional teams working together on solutions simultaneously in relation to different innovation phases – generating new ideas, design products and processes, implement, commercialize.	Simultaneous engineering further contributes to the shortening of the new product/service innovation cycle and enables early market penetration and leader strategy.
Involve senior management early and throughout the process of technology development and change	Strategic management based on technology management solutions affects long-term business performance and competitiveness.	Leaving out senior management in decisions concerning the dynamics of firm technological base leads to unwanted fragmentation and absence of integration of business and technological goals jeopardizing the overall effects of the business in the essential aspects – PESTE.
Use collaborative modes and methods	Develop technological cooperative competencies based on organizational structures, strategies, culture and processes that will contribute to building of partnerships, alliances and networks with relevant actors in the environment	The crucial effect is in strengthening technological potentials of the innovation cycle – from initial idea generation to commercialization based on strategic alliances. Basic motivation behind technological cooperation is found in strengthening critical technological and innovative strengths.
Technology assessment based on life-cycle	The basic models giving an overall perspective on	The main effects are in using assessment and

analysis, value chain analysis and competency models	technological and business relations are essential in strategic technology management.	evaluation criteria and models that rank new technology options in relation to sustainability, profitability and competitiveness goals.
Introduce diversification of the technological portfolio	Broadening the technological base of the firm is considered strategic competitive weapon having in mind modern trends of technological fusion (integration), time and space compression (shorter technological life-cycles) and globalization.	Diversification of technological portfolio strengthens the competitiveness of both multi-business and mono-business (focused) firm.
Introduce diversification of the technological portfolio in relation to LCP (life-cycle position - emerging, base and key)	Technological diversification in relation to LCP is a new way of diversifying the technological portfolio.	Diversification in relation to LCP contributes to continuing technological and business competitiveness
Special attention to intangibles within the technological package	Technological package consists of tangible (hardware) and intangible components (software, brainware, orgware)	The reasons for productivity paradox – investing in new technology which does not generate the expected productivity rise - are found in neglecting the importance of intangibles in technology transfer projects

5. CONCLUSION

Dynamic balancing and dynamic fit at the focus of management activities is especially emphasized when opposed objectives, paradoxes and management dilemmas are encountered. Listing the essential opposed technology and business management goals draws the attention and focus to the situations occurring in practice demanding special attention and special support for managers striving to find optimal solutions and making complex decisions.

The dual perspective of SMTI is viewed through:

a) the need to internalize the influences of the environment by establishing a balanced corporate strategy, with technology innovations strategy as its constituent, recognizing the dynamic interrelations between the organizational competencies and environmental factors leading to complex strategies involving a technology portfolio with elements of i) reactive, responsive attitudes and ii) proactive, aggressive attitudes; and

b) the need to externalize the interrelations between organizations recognizing the close links that enable the acceleration of technology innovation cycles, leading to strategic technology alliances, networks as strategic weapons for reaching higher technology and market levels.

Strategic technology management is an essential part of enterprise thinking and the strategic management of the corporation. It includes managing all of the knowledge, technological capabilities, technologies, technological innovation and development processes for managing change and creating new technologies – product/service and process.

Sustainable technology innovation management is built on the principles and practices of enterprise thinking and sustainable business development - SBD.

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REAL SERVICE QUALITY: EXAMINING THE LINKS BETWEEN VALUE ADDING AND SERVICE QUALITY, AND THE IMPLICATIONS FOR SERVICE IMPROVEMENT.

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Keywords: *Value adding (definition, development, delivery), service quality.*

Introduction

The background for this study is longitudinal research within the financial services industry in the UK. The research has focused on 7 separate business units (SBU) of a major Retail Bank, and follows progress with various quality initiatives over a period of the last 10 years. Whilst a brief summary of past results and experiences is given for context, the historical pathway to where we are now is not the primary purpose of this paper (for a full discussion of these events see Longbottom et al 2006, and Longbottom 2008). The purpose of this paper is to examine current perspectives on quality and the developing of plans for the future. In the late 1990's the bank introduced many systems initiatives based around Total Quality Management principles. It experimented with benchmarking and benchmarking groups and also moved into business process re-engineering in an attempt to employ more radical change methods. The main emphasis 2000 to 2006 was based on implementation of a business excellence programme and the bank followed the European Business Excellence Model (EBEM) which it closely aligned with the Balanced Scorecard. For a variety of reasons the bank has withdrawn from the use of the EBEM. Research conducted by the author (see Longbottom et al 2006) discusses the reasons behind this decision, but in summary for the purposes of this paper three important themes are identified:

- EBEM processes are not well aligned to strategic focus
- EBEM processes are not well aligned to marketing and in particular understanding value from the customers perspective
- EBEM processes are not well designed to be integrated into organisational activity.

Literature Summary

There are many references within the literature on quality presenting that quality and marketing should be closely linked. For example Oakland (2001) has long argued that TQM starts with marketing. Sila and Ebrahimpour (2003) find 76 empirical studies on critical factors in TQM, and show that customer focus is identified in 53, ranking second only behind leadership and commitment (67). Similar positions have been reached in empirical studies by Saraph et al (1989), Bossink et al (1992), Porter and Parker (1993), and Black and Porter (1996).

Within the marketing literature Piercy (1995) and (2002) presents that the role of modern marketing can no longer be confined to the activities of the marketing department, and finds that marketing to employees is a key task in strategic planning which should not be taken for granted. Similar positions are reached by Doyle (2001), and MacDonald (2003). Ahmed and Rafiq (2003) argue that organisations need to better employ marketing techniques internally to staff. Similar arguments can be found within the internal marketing and services literature from Gronroos (1981), Berry and Parasuraman (1991), Sargent and Saadi (1998), Varey and Lewis (1999), and Ballantyne (2003).

However despite the evidence of these endorsements of the need for strong links between quality and marketing we find little empirical evidence to support this happening in practice. Morgan and Piercy (1998) for example, have suggested that marketing was not playing an important role in quality. Part of the reasons for this might lie in roles and organisation structures which continue to separate functions such as quality, operations, and marketing. Some authors have attempted to address this issue by proposing alternative structures, for example Kotler (2003) sees the organisation as a series of rings with marketing at the centre, Piercy (2002) proposes a value adding structure with a central going to market process supported by functions along the way, whilst Macdonald (2003) presents a matrix style organisation. We find however very little empirical work to support such models and conclude that consequently such a shift for organisations may be perceived to represent upheaval and risk, and therefore in practice a barrier to implementation and change.

Mele (2007) reaches a similar position, identifying that whilst TQM represents a platform for marketing potentialities, and that TQM and marketing are complementary and synergistic in enabling value creation, finds there is 'a paucity in the literature on the relationship between the two domains in value creation'.

Some insights into practical and implementation issues are presented by Seddon and Caulkin (2007). They propose that implementing a systems thinking approach starts with understanding customer requirements and they go on to describe a methodology for identifying how this might be achieved, developed and implemented. Similar systems thinking examples can be found in Checkland (1997), Ackoff (1999), Jackson (2003). The routes of such fundamental ideas can also be traced back over many years and are inherent in for example, Ohno (1978) presenting the Toyota Production System (TPS) that is based on customer demand and flow and Womack et al (1990) in the machine that changed the world. Some common characteristics emerge, for example, an emphasis on understanding value from the customer perspective, a focus on the work, aligning roles to manage variety in demand, and the delivery of value. Organisation structure appears to be a consequence of change rather than a pre-determined set of rules. A natural outcome rather than a barrier.

The notion of value and value adding has been prominent within marketing literature over the past decade. In summary we find the emerging key factors include; managing internal relationships; reciprocal relationships; building understanding and intimacy; trust and commitment; (Ahmed and Rafiq 2003), knowledge renewal based on mutual exchanges; learning activity; and market relevance; (Ballantyne 2003), a process by which value is profitably created for internal and external customers; (Varey and Lewis 1999; deChernatony et al 2000; Doyle 2001; Davis 2001; Piercy 2002; MacDonald 2003). Three critical components are commonly identified by Webster (1992), deChernatony (2000), Piercy (2002), and Mele (2007) as; value definition; value development; and value delivery.

Anderson et al (2006) argue that there is little evidence of methodology for identifying value propositions that resonate with customers. They find that managers often construct value propositions by simply listing product / service benefits (all benefits approach) or by identifying strengths against competitors (favourable points of difference). Both methods they contend are flawed and fail to identify value from the customer's perspective, the points of difference that are important to each individual customer (or resonating focus as they call it). This idea of resonating focus has particular relevance we would submit within services industries, where customers have different priorities, and as Seddon and Caulkin (2007) have pointed out, systems need therefore to be able to handle variety in demand. This notion

however is often counter intuitive to the way managers have come to think about organisation structures and systems (and thus implicitly requires a fundamental shift in mindsets and behaviour).

Service quality has been central to service marketing and management literature with strong links made to customer satisfaction, loyalty and profitability, Parasuraman et al (1985), Heskett et al (1997).

The distinctive nature of the service quality literature evolves from the general recognition of the nature of service (heterogeneity, intangibility, perishability and simultaneity) and significance of the interactive nature of the service offering. The importance of the interplay between customer and organisation has given the definitions of service quality a customer focus. Quality is “whatever the customer perceives it to be” Gronroos (2007) p73 moving the service perspective on quality away from the traditional definitions within quality literature. The research has focused on understanding the process the customer goes through in interacting with the organisation. The technical and functional model proposed by Gronroos (1984) identified two aspects of quality but gave particular importance to the functional dimension (the how of being served) because “an excellent service process creates a distinct and sustainable competitive edge” Gronroos (2007) p71.

Much of the literature concentrates on how the customer derives a perception of service quality through the service encounters with the organisation. Indeed Normann (1992) considered there were moments of truth when the consumer perception of service quality might change.

The conceptualisation of customer value is grounded in the widely accepted disconfirmation theory which posits that perceived quality is a function of customer expectation of the service measured against perception of service performance. Whilst not without criticism Carrillat et al 2007 (offer a meta analytical view) the dominant and widely used SERVQUAL Parasuraman et al., (1985) suggests attributes (the quality dimensions) the customer looks for in assessing service quality and has been widely used by large organisations to measure perceived service quality. The quality Gap model Parasuraman et al., (1985) is designed to offer insights into the possible causes of a gap between customer expectation and customer perception of quality.

In a meta analysis Seth et al (2005) review 19 service quality models that are intended to enable management to identify quality problems and thus help in planning for the launching of planning improvement models. They observe that there are several models, Mattson (1992), Sweeney et al (1997), Oh (1999) cited in Seth et al (2005) that incorporate the value construct into quality, as customers don't always buy best quality service but on their assessment of value of service. Most significantly for our purposes they examine all 19 models against the criteria of flexibility to account for the changing nature of customer perceptions and find only 6 models which accommodate that construct.

Walker et al (2008) argue that the widely quoted Service Profit Chain framework Hesketh et al (1970) whilst demonstrating the importance of extrinsic service quality (that perceived by the customer) gives insufficient attention to intrinsic quality (internal quality standards independent of what the customer cannot see). They suggest that the model should be modified to include intrinsic quality and may be particularly important in services high in credence qualities (for example banking). This paper may show a move in current thinking to

align with the perception of quality in the quality literature, suggesting real quality is an alignment of both intrinsic and extrinsic quality.

Svensson (2006) supports the view that there should be a multidisciplinary approach to understanding service encounters and their role in service quality. He argues that the service literature has focused too strongly on the customer perspective and that the construct of service quality is multi dimensional and current methodologies do not address the inherent complexities and dynamics of service encounters.

In summary we conclude that the weight of literature suggests that for real service quality and improvement to be achieved there is a need for integration and interdependence when applying the disciplines and engaging the actors. In practice however there is little evidence to support that this is happening and we find evidence of disparity within the following areas:

- Marketing, Quality, and Operations
- Intrinsic and Extrinsic service development
- Functional and Technical aspects of services
- Value Definition, Value Development, and Value Delivery.

Further we conclude that popular models used in measuring service quality may not well address the important issues of variety, variability, and flexibility that arise at the moment of the service encounter.

Our primary research aims to investigate these issues further and identify what may be critical factors in success and failure for service improvement programmes.

Methodology

The research methodology follows the principles of action research (Bryman and Bell 2006) where researcher and client collaborate in the diagnosis of a problem and the development of solutions. This research is part of an ongoing collaborative project conducted within seven separate business units of a major financial services group.

In January 2007, we conducted a questionnaire survey to managers and staff engaged in quality and change initiatives determined from the implementation of process reviews typically identified from using the EBEM. A total of 550 questionnaires were distributed and 256 responses were received. The design of the questionnaire had been informed from earlier work with managers and staff largely comprising exploratory interviews and observations of working practices. Topics covered included:

- Criteria for project selection
- Key performance indicators
- Customer data and customer focus
- Project links to strategy, marketing and operational activity
- Outcomes
- Project duration and key issues

Subsequently primary research has involved the following activity:

- Interviews and site visits at key stages in planning, implementation and post implementation phases, with managers and front line workers.
- An ethnographic market study of six consumer groups (in collaboration with an external research agency),

- 12 focus group studies with experienced customer groups (in collaboration with an external research agency).

The data for analysis largely comprises of qualitative transcripts which were analysed into repositories using inductive methods. Emerging themes were identified and written up in summary form to assist the analysis and evaluation of results and to engage researchers and respondents to build in rigour.

Analysis and discussion

Results from the survey showed that all of the business units had discontinued following formal EBEM procedures, though some of the projects identified were ongoing. Reasons for discontinuing were:

- Too costly on time and resources (72%)
- Other competitive pressures taking priority (56%)
- Not achieved expected results (56%)
- Processes integrated into company procedures (48%)
- Change of leadership (15%)
- Not sure / other reasons (12%).

From the analysis of the survey data and subsequent qualitative data, we identified 85 separate quality improvement projects over a determined period 2005 to 2007. Of these 60 were considered to be completed with 25 still ongoing. From a careful analysis of transcripts, projects were grouped together into word repositories where similar characteristics were apparent, for example the project was the result of a legal or compliance change, or was concerned with handling customer complaints. Through a process of analysis, discussion and iteration four discrete classifications emerged displaying the following characteristics of processes largely concerned with:

- compliance, legal or technical change, documentation and record keeping (**Maintenance**),
- handling customer complaints, re-work, error correction, and general enquiries, with an emphasis on speed of process, cost reduction, resource reduction (**Waste**),
- developing improved products and services, process improvement and adding value, with an emphasis on improved customer satisfaction and identified links with strategy and marketing development plans (**Value**),
- research, innovation, and networking projects with no clear link to customer requirements, strategy or marketing plans (**Indulgence**).

Table one below shows the breakdown of the 85 projects into the 4 categories:

Category	% of total
Maintenance	45
Waste	35
Value	12
Indulgence	8

The results suggest an imbalance and a lack of strategic focus in project selection with a high emphasis on maintenance and waste projects and little on value adding. Further scrutiny of the projects identifies that 57% of the projects originate from quality or operational areas, whilst only 12% from marketing, the rest from other areas. This result perhaps is partly explained by the emphasis that has been given in recent years to models such as EBEM, Balanced Scorecard, ISO 9000, and latterly lean systems.

The high incidence of projects failing to meet expectations is perhaps surprising. A study of cases reveals some rich insights into why this may be so and we can derive from this some common factors.

Case 1: Home Loans Centre (HLC)

A key component of the banks strategy was to organically increase market share in domestic home loans. Aligned with this was the need to grow processing capacity. HLC employs 1800 staff, and its main operation is to take in loan applications and process them through to completion. Loan applications originate directly from customers (personal callers at the office counter, or via the internet), or from originating high street branch offices located nationally, and a small number from introducing agents (typically small estate agencies). The HLC had been the focus of much consumer complaint over recent years. Under the EBEM process review managers had largely focused their efforts on processing speed; the total elapsed time from the receipt of an enquiry into the issue of a formal offer to lend. Targets and measures concerned time in days from receipt to offer, and increase in overall customer satisfaction ratings. The HLC had successfully over a number of years reduced the average processing time down from 21 days to 95% being processed within 3 working days. This was widely benchmarked within the industry as competitive. Yet it was less successful with customer satisfaction ratings which continued to show disappointing downward trends.

◦ *We just couldn't understand it. Whats going on? We knew we were better, stats proved it. But then we'd get the BBS [a reference to the Balanced Scorecard performance measure for customer satisfaction] down from HQ and we were down again.*

Operations manager

◦ *Customers never complained direct, not to us, not really. That's why we couldn't understand what HQ were going on about. I suppose we didn't really trust the figures. Some research company I think. Maybe just after more business.*

Process worker

Managers conceded at the outset that they had no real evidence of customer requirements and were unable to understand the declining ratings despite the apparent significant gains in processing times. To better understand this a series of actions were undertaken including an initiative involving managers going back to the floor to gain a thorough understanding of the work from end to end, and front line workers going floor to boardroom to present their views to senior management. The bank also commissioned two major customer research projects, an ethnographic study of families going through the home loan process, and a series of focus groups covering a range of customer profiles.

◦ *It was all a bit scary really. Didn't know what to expect. Thought it was a bit of a gimmick.....back to the floor and all that, but it did open my eyes. I could see it wasn't coming together. Not at all. It looked ok on paper but it just wasn't right. Some of the stuff was just plain daft. We'd insist that customers signed a loan acceptance notice.....they'd forget and we wouldn't chase them. Except then when they had the removal van outside. Couldn't complete. Lawyers won't allow it. We'd have a panic on. How daft was that.*

Loan underwriter

◦ *It was 3 weeks before they told us. Buyer had pulled out. Found another house. Agent was on holiday. You'd have thought the bank would have told us.*

Customer

A number of significant findings became apparent. The process was built around speed targets which often worked against the overall quality of the service and the total time that the customer had to engage with the organisation. Examples of this occurred at the front line; making appointments with the customer with inappropriate lending officers; the customer not being well briefed on what essential documents might be necessary (causing a delay and second appointment). Loans initiated by branches were a particular problem; branch managers being largely targeted to achieve volume of business; HLC underwriters being targeted on building a low risk lending portfolio.

° *This was a constant problem. A battle field. Them and us. We knew they had targets but some of the **** they tried to get through. Just had to send it back. Say sorry. But not having my name on this.*

Loan underwriter

° *First we'ze told we could av it then they said no. Rang the number on the letter and all's they could say was that we'd have to go back to the branch to sort it out.*

Customer

However the main issue to emerge was that the central performance target i.e. speed of processing was flawed. Customers were not overly concerned with this. Their main priorities (and these were well known to front line workers) were to be 'well managed and looked after' through the process. Indeed time frames for buying a new house, and completing a house move were accepted as being weeks (possibly months) and not days. Speed of paper work was not an issue. The real problem was knowing what was going on, what happened when and where, and how life arrangements and home moving could be brought together in a sensible plan. The system involved not just the bank and the customer but also, estate agents, solicitors, valuers, insurers, removers, not to mention other families in the inevitable house buying chain. Another key finding was that customers had high expectations that the bank were the key player in managing this process and would consequently tend to apportion most blame to the bank for any failings to warn of a potential problem, even if the problem was largely outside of their control.

Following this review the bank is now looking at addressing the real issues for to the customer, has introduced home arranger roles to guide the customer through the process, and changed the organisation structure to localised teams. They believe that this will add value for customers and workers, and help build better managed teams with a closer feel and knowledge of their areas and markets.

Case two: Share Dealing Services (SDS)

SDS has a relatively small portfolio of clients compared to its main competitors but the business is seen as strategically important to the Group and manages high value customers. Based in the City, London, it employs over 500 staff, of which it has 130 share dealers. Other staff work in support functions, for example financial experts, economists, legal advisors, and other administrative workers. Over the past 3 years the nature of the dealers role has changed significantly, partly driven by advanced communications technology, but also a desire to improve the productivity of high cost operational workers. The business had been slowly dismantling dealer teams, in favour of individual dealers with back up from specialised functional support activities. The result was a functional looking organisation structure with separate reporting responsibilities and with support staff housed in separate locations. The process re-designers claimed more efficient use of high value staff, greater flexibility and

utilisation of front line dealers, and clearer lines of control and accountability. In practice the dealers were unhappy and complained of isolation, losing client knowledge, over burdened with reporting and controls, and being increasingly pressured to meet unrealistic targets.

- *In theory it sounds fine blar de blar, but what these guys don't realise is that you need back up right now. What am I supposed to do when I'm offered a deal and my back up is not picking up his phone, gone off for a fag break, I don't know?*

Dealer

Others complained that the informal discussions within teams were often undervalued, and in fact were a significant part of preparing for dealing.

- *I miss the conversation, the banter. Oh it doesn't sound much, but it's surprising what you would pick up. These jobs all about having your ear to the ground, bits of this and that. You make connections you see. Part of a picture.*

Dealer

- *Not managing a portfolio anymore I don't engage with customers, don't know them personal like or their business. The social sides gone with it. Don't know if their high or dry.*

Dealer

- *Difficult to sense whats really going on sometimes. They won't always say, and if you can't see em, you don't know. You don't really know. You don't know if their solid [a reference to being in control of their situation and generally consolidating] or on heat [a reference to over ambitious trading or risk taking].*

Financial support worker

An incident well known internally was accounted to us, where a particular dealer had 'lost it and gone on a run' [a reference to serious overtrading and risk taking] which had resulted in a substantial loss and some attention from the Regulator.

- *It was like being down the lane on a sat'day afternoon [a reference to White Hart Lane home ground of Premiership football team Tottenham Hotspur], you've just gone 2 down and your chasing [football speak meaning all your players are attacking]. Then you lose it [the ball], it breaks down [you have no defenders]. As AH would say [a reference to BBC football pundit Allen Hansen] your ***** [isolated at the back].*

Over the 3 year period studied SDS has failed to grow its market share and customer portfolios have generally not performed as well as some of its main competitors. At the start of 2008 this has forced a re-think and some return to portfolios and team structures is likely.

Case 3: The Retail Branch Network (RBN)

The bank has an extensive branch network spanning the UK with over 4000 full branch offices and other agency and sub-branch outlets. Within the industry the trend over the past few years has been customer migration away from branches to self service and internet provision. There have been considerable job losses and branch closures, with the trend likely to continue for some while yet.

For the last 3 years RBN has been the subject of research to investigate customer satisfaction levels, with an annual survey based around the use of SERVQUAL assessment criteria. A key concern for customers arises within the 'empathy' category where the RBN consistently shows poor results. Typical issues revolve around trust (do you trust your bank to always act

in your best interest), fair play (do you believe your bank has a fair policy on fees and charges), and relationship building (do you believe your bank rewards you for your loyalty).

- *Basically our response has been to tell the staff to be more sympathetic and engage with the customers. At the same time they must meet scorecard targets [reference to Balanced Scorecard performance measurement system] sell more stuff, and get the customer to use the technology more. At the same time you are wondering if you will still have a job tomorrow.*

Branch Manager

The RBN response has been investment in staff retraining and development days. The results however have not improved and morale amongst front-line workers was described by several managers as very low. Scrutiny of the qualitative data suggests that whilst SERVQUAL has been a useful exploratory method highlighting particular issues, RBN have not developed a depth of understanding (why do customers feel this way), and consequently have developed only shallow none value adding solutions (what do we need to do), or developed the ability to handle variety in demand (how do we respond to individuals, in different circumstances, at the point of delivery).

Discussion

The 3 cases are illustrative of some of the major issues arising which we found in many projects. The first two cases are examples of projects originating from quality/operational areas (quality solutions) and case 3 from marketing (marketing solutions). Distilling the analysis we have identified a number of common factors identified in table two below with a following discussion.

	Quality Solutions	Marketing Solutions
Critical areas:		
Strategic focus	Weak	Strong
Value definition	Weak	Strong/exploratory
Value development	Strong	Weak
Value delivery	Weak	Weak
Sources and tools	Excellence models, Balanced Scorecard, ISO9000, Lean	SERVQUAL, Customer Satisfaction Surveys
Integration	Weak	Weak
Service improvement	Counter intuitive	Counter intuitive
Ability to handle Variety in demand	Weak	Weak

Strategic selection and alignment:

Projects selected were often on a departmental/functional basis with no real alignment with strategic or marketing plans. This has resulted in sub-optimum use of resources. Time and resource allocations were often severely underestimated resulting in long over-runs and none completions. There has been too much emphasis on the maintenance and waste areas and insufficient attention to value based solutions. Strategically the emphasis of projects should shift away from managing failure demand to developing value adding processes.

Customer focus:

Many of the projects failed to define value from the customer's perspective, and there is a lack of understanding of resonating focus (those factors which are critical in the customer's eyes). Value is often defined by marketers using all factors, or favourable points of difference,

which fails to differentiate and identify important service elements. There is a failure to look at value from the perspective of internal as well as external customers. This has resulted in failures to develop value added solutions, or develop individual roles and organisation structures which can handle variety in demand (the ability to respond to individuals in different circumstances at the point of delivery).

Integration

There has been an over reliance on external models and performance measures to such an extent that workers are suffering from overload, and often see the work as additional and not related to day to day priorities. This emphasis seems to have developed into what we describe as 'intuitive' management practices (responses which follow prescribed patterns and behaviours that have become ingrained in organisations, practices, and dominant in management thinking). These intuitive practices may often be further re-enforced by over prescriptive use of models and their associated procedures. We find that developing value based solutions often runs contrary to this thinking and is 'counter intuitive'. This may as others have suggested lead to the conclusion that often achieving real service quality improvement requires a shift in management thinking and a change of mindset and approach from the outset.

Concluding summary

In summary we find that integration and interdependence of disciplines and actors are key issues in determining successful outcomes in service solutions. In practice this often does not happen and is a frequent cause of failure. We find there are critical issues in strategic selection and alignment of projects, understanding and applying the principles of value definition, development and delivery to achieve a better customer focus, and the integration of change processes with organisational activity.

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DEVELOPING QUALITY IN NEW COMMUNICATION STRATEGY: THE 7C MODEL

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Keywords: *systemic communication, engaging vision, involvement strategy.*

INTRODUCTION

Confirming its importance, the art of communication is one of the few metrics used in different scenarios: from a military and political one, where it becomes a true function of propaganda, to an enterprise one, where it holds an informative and/or an exhortative function in order to reach company goals (which, according to a systemic approach is not only profit but also an increase in value), to “social” contexts such as families, schools, etc., where communication plays a purely educational role.

It is the multiple use and the many functions connected to communication items that create the need to further investigate this issue, particularly if enterprise-located.

In the past communication didn't transfer through the different company business units. This view has then generated a “hermetical compartment approach” in corporate management, without energizing strategies, ideas or information sharing. A wider angle and interesting view (of organisational concept) allows the integration of not only operational but also strategic dimensions. Process thinking means to consider the company as an integrated system of knowledge, competencies (at any structural level), considering (corporate) actions cohesive and coordinated towards a common business goal. A basic hypothesis of this paper relies on the consideration that the organizational structure doesn't take care of the knowledge impact and the information transfer on corporate performance. The objective of our paper is the development of an innovative communication model, named “7c”. This new model fosters a company rethinking, with an engaging/captivating logic, definable Systemic Communication.

SYSTEMIC COMMUNICATION

During the last decades, practitioners and academics gave greater relevance to the communication conveyed by a company in order to inform stakeholders of its aims, goals, expectations, business ethic vision, social responsibilities activities, and so on.

Hence, communication, can be defined as the process by which an individual (the one communicating) broadcasts stimuli (usually verbal symbols) to transfer information and knowledge, in order to change the behaviour of other individuals (Hovland, 2003).

Usually the above mentioned corporate values, such as social responsibility or ethics, are included in the product (or in the company flag or in the shop layout): this kind of communication is called “embedded” because the product (flag or shop) incorporates the corporate values.

Concerning classical advertisement channel, such as media, embedded communication has a deep impact on consumer expectations. We can say that the main communication function is to supply information to the “world” from the company.

Furthermore, when we talk about a stakeholder, we mean an employee too! This is the second main function attributed to communication, the so-called internal communication.

Regarding the motivation of personnel, namely the second function of communication, in the '50s a scholar, Frederick Herzberg, took into consideration the factors influencing employees' attitudes towards their work. Some surveys on technical and administrative employees in the

area of Pittsburgh, were able to show that there were two sets of factors positively or negatively influencing attitudes towards work. A combination of factors such as the success, recognition, work itself, responsibility and promotions, positively influenced the attitude towards work. The researchers called them “motivating factors”. A second set of factors such as working conditions, company policies, relations with the leaders, colleagues or employees, salaries, negatively influenced instead the attitude towards work. These factors were called “hygiene factors” (Herzberg, Mausner and Snyderman, 1959).

The theory of the motivating factors and hygiene factors was based on the findings of this study.

Not only advertisement but also human resources and organization are the fields where communication operates. On the stock exchange, for example, periodical communication issues are forced to listed companies in order to inform market and investors of its trend. Stock price volatility is often influenced by those communications.

According to the authors, communication performs and develops in different areas and involves the entire company, at every level, from the Board of Directors to lower-level workers.

The main goal is to monitor each field and market where the company works in, as well as engage, enclose, embrace and take into consideration all the stakeholders.

The aforementioned purpose rests on the hypothesis that, in order to:

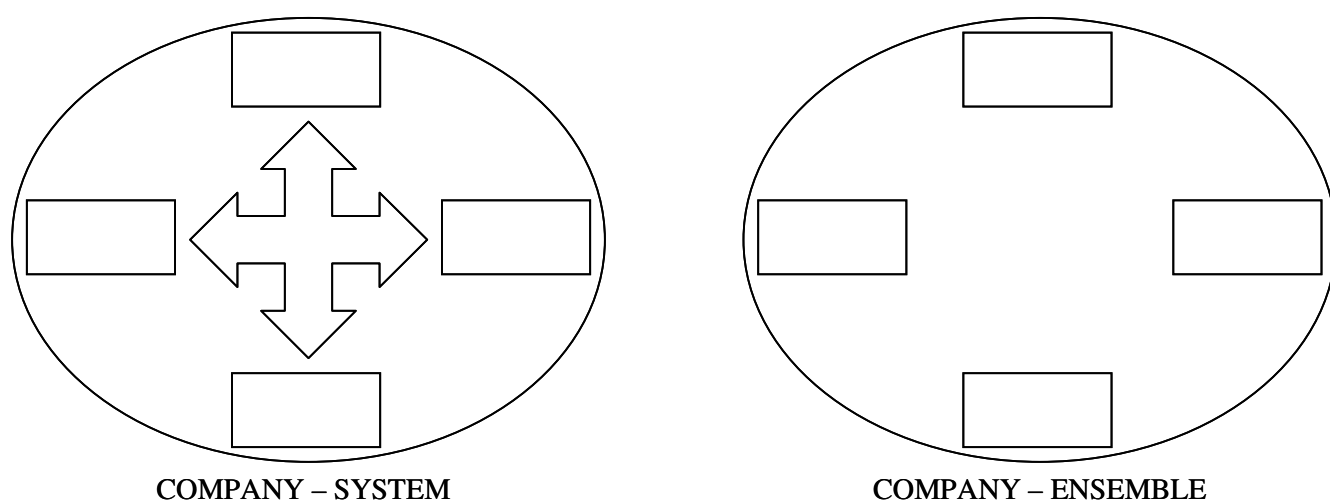
- strengthen competitor bonds (Fang et al., 2008)
- create synergy (Ansoff, 1988)
- influence supplier's commitment (Prahinski and Fan, 2007),

Mainly customer oriented stakeholder-involvement-marketing-strategies are required.

This approach is equal to “systemic governance”, where a company tries to involve customers, employees and competitors in order to increase its value. The systemic approach identifies the most important goal in the increasing of corporate value instead of income.

According to this systemic perspective, we can define a company as "an adaptive system of physical personal and social components that are held together by a network of interpersonal communications and by the will of its members to cooperate in order to achieve a common goal" (Simon, 1947) (figure 1).

Figure 1 – The organization as a system



Source: personal elaboration

Communication theme, according to the authors, can be framed within the wider theme of systemic communication, together with shared and integrated communication, because of the

use of system dynamics logic in the business area.

Systemic Communication includes and overtakes the traditional Integrated Marketing Communication and is strictly connected to the process of knowledge creation performed by firms (Rullani, 2008). According to the systemic approach, Systemic Communication gets companies in touch with other worlds, such as Real/Virtual ones and those connected to the Customers. These often clash.

Often you are afraid of what you don't know, it! This is why communication plays an active role. In fact several studies have drawn, for instance, in order to investigate the phenomenon of employees' resistance to organizational changes and other factors that influences the daily work contexts.

The timely and accurate provision of information, opportunities for participation, and the diffusion of trust in management's vision underlying the change have all been noted as potential alleviators of employees' resistance to change (Bordia et al., 2004; Oreg, 2006). The importance of being informed and reducing resistance to change are important: employees' resistance to change has been associated with negative outcomes such as decreased satisfaction, productivity, and psychological well-being, and increased theft, and absenteeism (Van Dam et al., 2008).

THE 7C MODEL

We like to explain the concept of systemic communication by comparing it with a camera that, like communication, has a specific objective and tries to capture a snapshot of the (corporate) environment.

Following this metaphor, the 7c model can be seen as the lens (objective) of this camera.

The model is composed of seven rings representing the seven levels through which the company can generate value.

Each ring is divided into seven cells that stand for the methodology to reach the company value.

$7 * 7 = 49$ methods used by companies in order to follow the right way (to create value).

Some of the instruments present in the model, that gave the title to the present paper, are also innovative instruments, while others are bound to already known methodologies. For example, the methodology "coffee" exploits the concept of small groups dynamics.

"Cargo/passenger compartment", instead, is a dramatic method that tries to exacerbate, harden and strengthen corporate team and the linkage between employees, enforcing people to launch from a plane with a parachute.

These innovative instruments are necessary to activate a profitable communication (not only internal) and training/coaching activities¹ in order to produce higher performances.

Nowadays, the most important thing is linked to the theme of "turn/change", i.e. the company produces a desired positive breakthrough.

Today, companies, above all Italian ones, can not stop their processes because it would cause a loss of market share.

Therefore each company is engaged in several "turn/change", such as:

1. *change*: the real change is one of the most difficult aims to reach. Italian companies usually have little willingness to change, or they change slowly and often too cautiously. The simple "change declaration" is not sufficient to obtain it;
2. *culturing*: that means "corporate culture". The problem is to trust corporate culture, something that can be obtained in one or two years;
3. *cutting*: to compress the cost or the organizational corporate structure. It doesn't simply

¹ Authors think that communication and coaching are strictly connected activities.

mean downsizing (i.e. drastically reducing costs), it rather means reducing of the incidence of costs (respect of income). Therefore this methodology looks at efficiency and efficacy;

4. *converting*: to convert the company towards new markets and a different mix of business;

5. *contingency*: It involves, dramatically, the company context or sector.

As a camera, the management focuses its attention on a particular “turn” (third circle); it must choose which innovative tools (second circle) it wants to use and which indoor/outdoor training activities (first Circle) can help management achieve the third circle’ breakthrough.

Therefore, consultants must combine the three internal circles in order to define the business strategy that should be adopted.

This model explains the complexity of business and companies, and clears why companies often choose different methods to solve the same problem or to reach the same “turn”. The use of different strategies is not only due to management habit but also because of the different combinations of the model.

The fourth circle provides classical communication activities, such as, conversation with the top management that in some companies can be considered as the most effective internal communication instrument. There is a huge need for information!

HR and Organization deal with issues relating to the consolidation, to the involvement and cohesion of corporate teams, to business climate and careers. Now, more than ever, it is easier to find Human Resources functions and Organizational activities converged in one Manager.

The sixth circle tackle issues more strictly reserved for marketing and strategies managers. According to a systemic approach, the marketing manager supervises and monitors all the business activities: this is why, in the 7c model, this circle is placed outside.

The said level plays an important role and has such a charm that some companies, almost for fashion, analyze issues related to marketing activities without facing the outcome of the results. The authors try to explain that it is not sufficient to take care of a problem if you don’t analyze the problem, identify the goal (turn) and choose the right solution.

For instance, if a company draws up the Charter of Services (airline companies are compelled to do it), it doesn’t mean that automatic services improve! Surely it’s a first step in the right direction, but a simple knowledge of a problem does not allow it to be solved.

Nowadays the line between success or failure is thin: there are companies that see the “wind” changing their results in a short time. In the past, this didn’t happen, or more time was required.

Companies which had a strong and consolidated competitive advantage, lose their market share in a very short time due to factors such as globalization, the improvement of competitors, the change of consumer taste or the rules of the game,

This is why companies have to ride that wind of change and not to suffer from it.

The outer circle recalls the possible systemic components of communication. It is worth stressing the meaning of embedded or un-embedded communication.

Embedded communication incorporates the features of the company in the product, such as values, environment, climate, employees behavior, corporate social responsibility, corporate ethics etc.

A company does not always use the classic channels of communication such as media. Indeed, embedded communication has a deeper impact than traditional forms of advertising.

The model must be used as the objective of a camera. If we compare the external circle (representing the wide-angle lens) to long-term objectives and the most internal circle (representing the focus of the problem) to short-term objectives, by turning the rings, the photographer (i.e. management) can see the corporate environment and the solution to its problem.

All the business units of the company must be directed towards the common and stated objective. In order to reach the corporate goal, it is necessary for top management to

and simplify such a widespread topic. Hence, it may be that some components are not taken into consideration.

Anyway the real problem is the effective application of these instruments. In fact when company things get better, it is not considered necessary to undertake new strategies, vice-versa, when things get worse it is not possible (economically and psychologically) to tackle significant changes.

When do these instruments apply, then? Do companies adopt exclusively the urgent ones? Without a scientific approach to enterprise government, the future of a company is headed towards a sure decline if not even to failure.

Systemic communication is one of the best instruments that can lead a company to success, increasing its value, if correctly used.

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DEVELOPING AN INTEGRATED BUSINESS EXCELLENCE SYSTEM AND PROPOSING ITS IMPLEMENTATION AS THE HELLENIC NATIONAL BUSINESS EXCELLENCE AWARD

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A review of business excellence models in EU-25.

Since the initiation of the Deming Prize in Japan, Malcolm Baldrige National Quality Award (MBNQA) in the USA and the European Quality Award (EFQM) in Western Europe, several national quality awards have been established to stimulate systematic quality improvement and to promote quality awareness in different places of the world. Many countries have modeled their award programs based on these three awards.

Respectively, many quality awards have been developed in Europe within the last 15 years. Their purpose is the improvement of the competitiveness of various types of organizations. Most of the European countries have initially used the ISO quality assurance standards in order to promote development and production procedures. The next stage was the implementation of methods of self-assessment and systems of quality management, basically through quality awards schemes, serving the ultimate goal of the alteration of the quality's philosophy and the improvement of competitiveness of small and medium sized firms.

The European Quality Award is administered by the EFQM. The EFQM has a membership of more than 750 European organizations, all of which are committed to improving efficiency, effectiveness and achieving excellence. Organisations in Europe widely accept that quality management is a way of managing activities to gain efficiency, effectiveness and competitive advantage. Consequently, it aims at ensuring long-term success via meeting the needs of their customers, employees, financial and other shareholders and the community at large.

The driving forces of the development of quality awards are more or less the same in all E.U. countries. Despite the fact that almost all the countries during the last 15 years have developed initiatives and strategies that facilitate the introduction of TQM in their organizations, basically all the decisions that have been made on the creation of various types of awards, are closely related to the political status, the law, the interaction and dependence between state on one hand and private and public sector on the other, and finally the business and administrative philosophy.

As it is noticed, and shown in figure 1, in the published paper [1], EU countries do not have a common framework to address business excellence, however the "European Quality Award" (EQA) based on the "EFQM Excellence Model" was the most widespread in the previous decade. There is a tendency of own developments on national quality awards in the current decade.

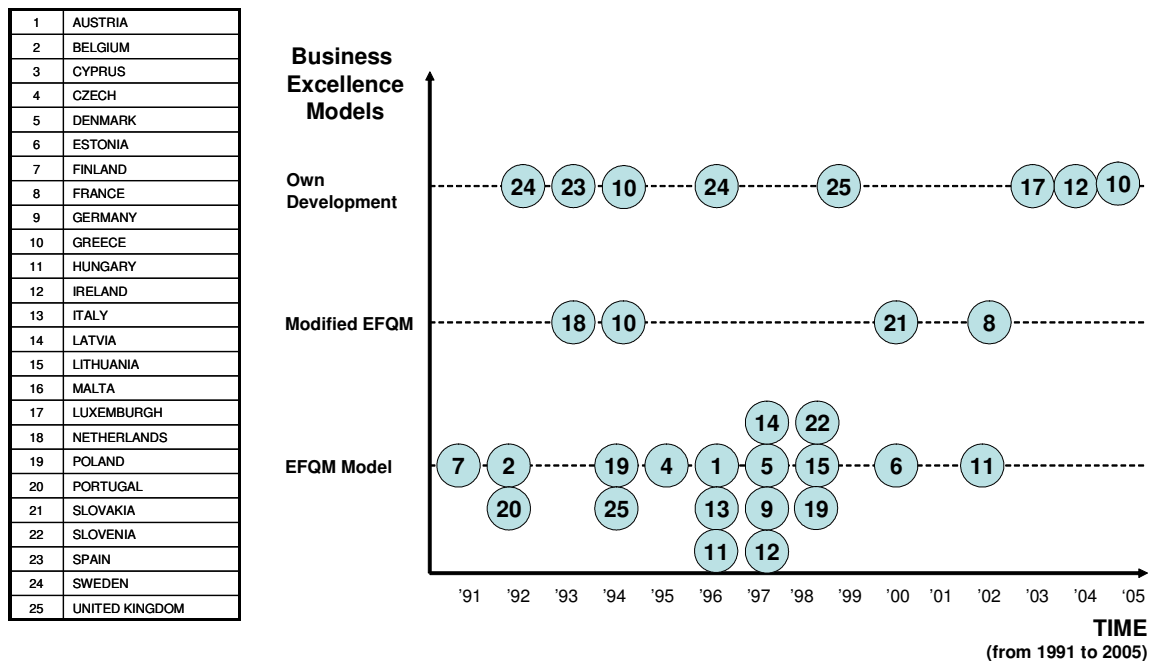


Figure 1: Business Excellence Models distribution in relation to time of establishment (numbers indicate the EU countries respectively) (Source: A comparative analysis and review of national quality awards in Europe”, V. Mavroidis, *The TQM Magazine* Vol 19, No.5, 2007)

Also there is a clear indication of Quality Awards “**nature**” across EU: There are the **national ones** (could be also stated as Government Supported Awards) which are supported by their governments in the sense of financial support to organisations for operating and administrating the award, **or** in the sense of political support (as for example the presence of President or Vice President of the state in the award ceremony) and the **private ones** (could be also stated as Privately Supported Awards) which are supported by associations, chambers, private organisations and non profit organisations.

In bibliography, as national quality awards are referred all those awards which are supported by their governments both in the sense of financial – administrative point of view and in the sense of the content of the relative criteria. It should be noted that the Malcolm Baldrige National Quality Award (MBNQA) in USA is considered as a national quality award whereas the European Quality Award does not belong in the category of “National Quality Awards”.

In the published paper [1], it was found that 17 quality awards out of 31, almost half of them, are supported by their governments (“national” awards), as shown in table I.

EU COUNTRY	NATIONAL	PRIVATE
AUSTRIA		“Austrian Quality Award”
BELGIUM		“K2 Award”
CYPRUS		“ECO-Q recognitions”
CZECH	“Quality Award of the Czech Republic”	
DENMARK		“Danske Kvalitetspris”
ESTONIA	“Estonian Quality Award”	
FINLAND	“Suomen laatupalkinto”	
FRANCE	“Prix Francais pour la Qualite”	
GERMANY		“Ludwig-Erhard-Preis“
GREECE	Hellenic National Business Excellence Award	

EU COUNTRY	NATIONAL	PRIVATE
HUNGARY	"Hungarian Quality Award" "Regional Quality Award" "IIASA SHIBA Award"	
IRELAND	"Q-MARK" National Quality Award	"Irish Business Excellence Awards"
ITALY		"Premio Qualita Italia"
LATVIA	"The Latvian National Quality Award"	
LITHUANIA	"Lithuanian National Quality Prize"	
LUXEMBOURG	"Prix Luxembourgeois de la Qualite"	
NETHERLANDS	"INK Management Model - Dutch Quality Award"	
POLAND		"Polish Quality Award" "Business Fair Play Award"
PORTUGAL		"Premio de Excellencia - Systema Portugues da Qualidade"
SLOVAKIA	"The Slovak Quality Award "	
SLOVENIA	"The Slovenian Business Excellence Prize"	
SPAIN	"Premios Principe Felipe a la Excellencia Empresarial"	
SWEDEN	"Utmarkelsen Svensk Kvalitet"	"Quality in Northern Sweden"
UNITED KINGDOM		"UK Business Excellence Award" "Investors in Excellence", IiE
TOTALS	17 / 30	13 / 30

Table I: Quality Awards in EU: "National vs Private"

Trends

According to the bibliography, it is noticed that the business and social culture of a country or region affects the level and diffusion of Total Quality Management practices, especially in Europe where there are diverse cultures and economies. This consideration shows the need that regional cultures should be taken into account due to the development of a National Quality Award or Business Excellence System.

These national characteristics which define the representative national culture have to do with the national priorities of competitiveness, development, integration of national frameworks regarding Quality, reliability of organisations managing Quality Management issues, the economical and social development, promotion and knowledge society and continuous improvement in general.

The review of the EU National Quality Awards shows the diverse adoption of Quality Management issues in companies. The EFQM Model is applied to almost 56% [1], of the EU National Quality Awards which indicates that although it is the dominant framework of business excellence there is an indication of own developments. According to the above considerations, including the findings in the published article [1] the following trends are revealed:

- Most of the EU models of business excellence which are the representative National Quality Awards follow an open architecture in order to be able to support dynamic changes and market demands.
- Plenty of the EU models of business excellence have been affected by the EFQM Business Excellence Model but they have changed on the needs of the business community they represent.
- There is a definite gap between the enterprises which are certified by ISO 9001 and use it as the means of managing business practices and the enterprises which use the

above standard for marketing reasons only.

- There is a growing demand of sector certification (e.g. education, telecommunications, food industries, etc).
- There is the need to identify and implement best practices in order to make companies more innovative and competitive. The Innobarometer index is a reference point to measure innovation and diffuse good practices per EU country.
- There is the need to integrate activities for Quality Management, in order to provide routes from “Quality” by the product point of view to “Quality” by the business perspective.
- Importance is given to the Managing Organization which implements the National Quality Award or Business Excellence Award for each country. The selection of this organization provides reliability and clarity of the country’s national mechanism.

According to the above trends and EU national quality (or business excellence) awards (NQA) review, a new Business Excellence System is proposed which will encounter the following issues. The proposed system is applied to represent the Hellenic National Business Excellence Model.

1. The development of a National Business Excellence System which will take into consideration the culture, social and business characteristics of the community it represents. EU is formed by countries which have different cultures and economies.
2. The proposed system should reinforce the implementation of ISO 9001 standard as the means of continuous improvement rather than marketing tool.
3. Sector certification and cluster – networking trend is clear and the proposed system shall encounter this market demand.
4. There is the need of systems integration as far as Quality Management practices or business practices to avoid competition between models, systems, or practices.
5. There is the need of a Managing Organization which will manage the representative National Quality Award mechanism and provide companies with reliability and clarity of its processes.
6. SMEs and their characteristics should be encountered, especially those with less than 50 employees.

Proposed System of Business Excellence

The proposed system is based on the above mentioned trends, especially in European Union. It is noticed that a new **system** is proposed rather than a new **model** of Business Excellence. The meaning of “system” is defined, in this research, by the inclusion of several Business Excellence models, initiatives which are related and influence each other and altogether form a “Dynamic Business Excellence System” (using as a theory framework the Dynamic Systems).

It is composed by well-structured levels or fields of excellence, with specific contents per level (as Quality initiatives or Business Excellence Models) which represent, up to a point, the meaning of the Quality, the Management & Organisation, and the Competitiveness-Innovation concepts in an organisation. The six levels are **independent** as to their approaches for Quality improvement, but they **depend on one another** for the total performance score and their consequent influence. The levels are 6, leaving the last level open towards the upper part (i.e. future levels). This approach is equivalent to the familiar level model of Telecommunications Networks (OSI-RM Model) that applies for computer networks and offers a clear description, a modular development and easy future development-enlargement.

This system proposes a dynamic evaluation of the business performance, taking into consideration time, culture and business differences.

The proposed System is not a congregation of initiative models, nor is it a new model. The concept “system” is **characterized** by the dependence of the levels (as to their influence) and by the concept already explained. The proposed system is **dynamic** as to:

- The integration of current and potential tendencies and initiatives,
- The time-relation of “self assessments” of itself or of other levels,
- The relation with the business cultures of the respective geographical areas

The levels should follow the changes occurring dynamically in the models (publications or new models) and refer to the requirements deriving from the current market trends and the differentiation requirements, always focusing on the Greek market (combined with the European directions). These levels of excellence (Mavroidis, 2005) comprise the following areas:

- Level 1, “Organising and Managing Quality Management Systems” as refers to the international standards ISO 9001 and ISO 9004 (latest edition).
- Level 2, “Organising and Managing Sector specific and advanced (Quality) Management Systems” as refers to the international standards ISO 14001, ISO 22000 or other documented national initiatives.
- Level 3, “Managing and Supporting Clusters or Networked Enterprises”,
- Level 4, “Managing Human Resources”, either through a recognized standard or a documented national practice (such as the Investors in People initiative),
- Level 5, “Managing Advanced TQM Tools or Business Excellence Models”, such as the EFQM Model or other national or sector specific initiatives or other recognized TQM initiatives such as 6 sigma where appropriate,
- Level 6, “Managing and supporting Innovation”, as it is appreciated by national or European means of evaluation.

Additionally, the proposed System is open as to:

- The number of levels upwards (ie.7,8..) – Dynamic differentiation,
- The actions for new models implementing specific levels (ie. potential new national model for a quality system in super markets or a new model on level 5 for very small businesses)
- The methodologies for re situating and processing data deriving from internal and external self assessments.

Each level of business excellence represents an integrated and measurable initiative for the “Quality”. The levels structure follows a logic route which encounters:

A. From the **external** environment of a company as far as:

- i. Product processes,
- ii. Knowledge management

Towards the **internal** environment of a company as far as:

- i. design of business processes,
- ii. New product development,
- iii. Knowledge management

B. From the environment of well structured criteria or demands, as expressed in international standards towards to the environment of less demands or defined criteria, as expressed by research results, new programmers or EU activities.

C. From the environment of standards and business administration systems which are well known and applicable to most businesses towards the environment of business initiatives which are less known and applicable.

The following figures (2 – 4) show the level definition, correlation and structure of the proposed business excellence system.

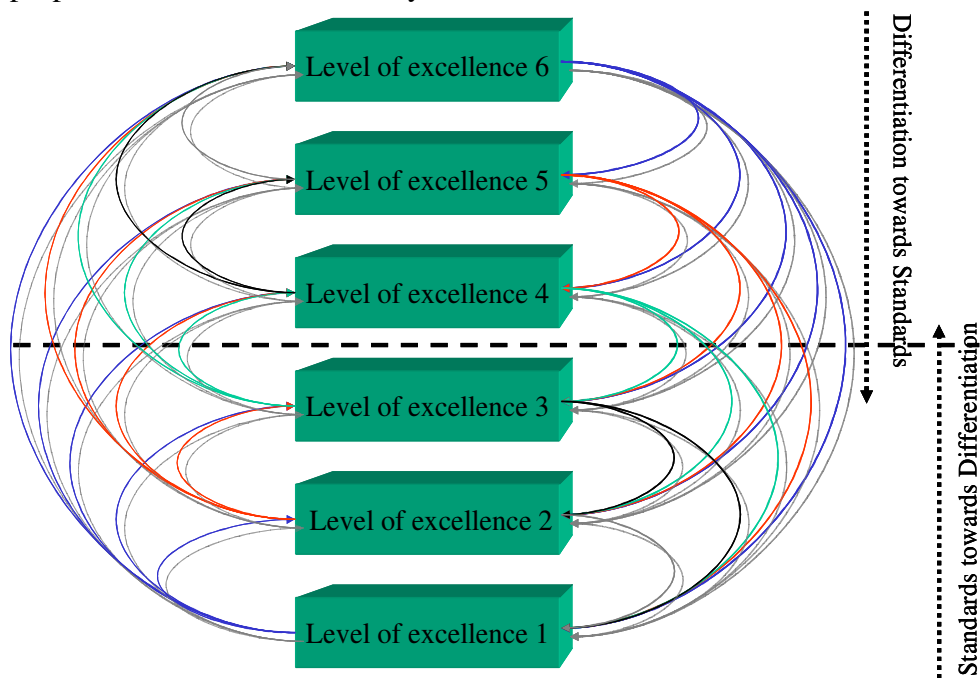


Figure 2: Proposed Business Excellence System as an integration of business practices and levels correlation (source: TEE Chronicle Times, Sept 2005, V. Mavroidis)

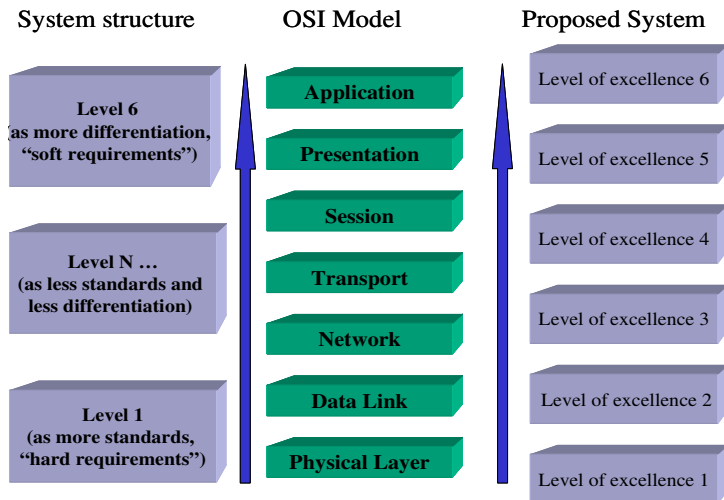


Figure 3: Proposed Business Excellence System structure, levels logic structure and correlation to the OSI-RM model of telecommunications. (Source: TEE Chronicle Times, Sept 2005, V. Mavroidis)

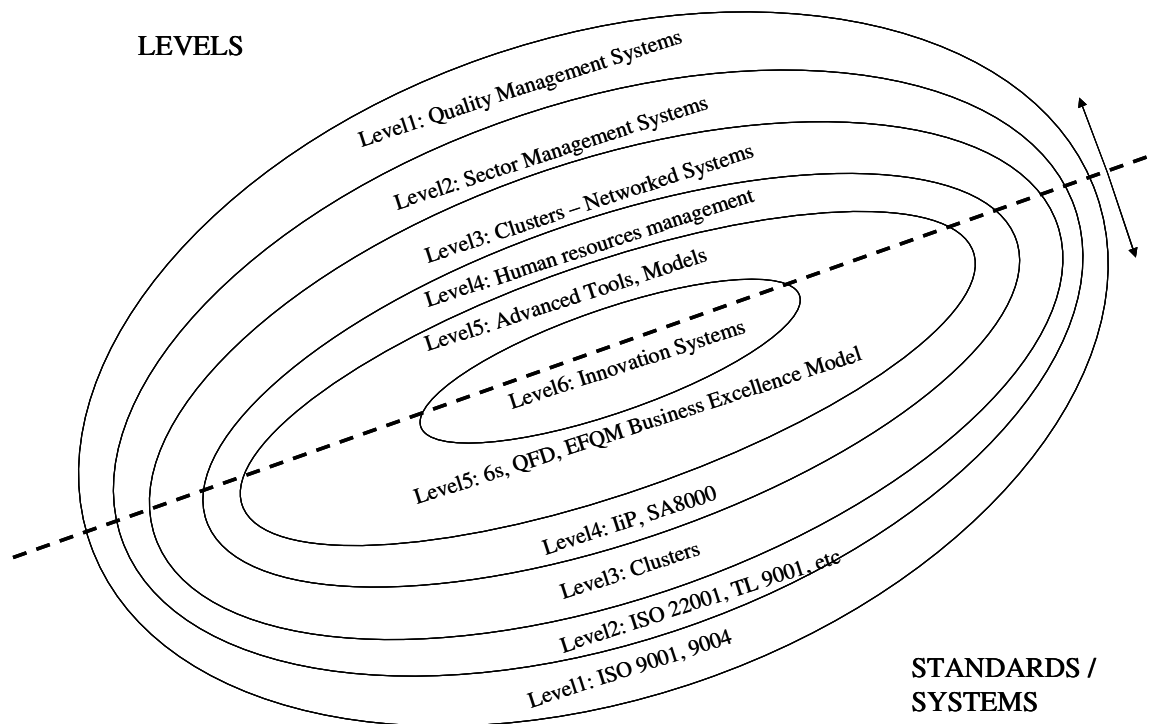


Figure 4: Structure of levels and examples of each level implementation. (Source: TEE Chronicle Times, Sept 2005, V. Mavroidis)

An analysis of the proposed business excellence system is given in a published article [2] of the same author. This article makes reference on the application of Systems Dynamics to support measurement performance and computation of the total score or index of the system variables.

- Etc (current or future standards or sector practices).

Sector or specialized standards adopt the structure of international standards, such as ISO 9001 and add new demands of the sector that represent or adopt good practices.

The logic of level 2 is more open than level 1 since it is less descriptive as far as the sector standards and is flexible regarding the definitions of the sector standards or initiatives.

Level 3, “Managing and Supporting Clusters or Networked Enterprises.

This level implements the demands for an efficient and effective operation of clusters and networked organisations. Up today, there are not specific standards of creating and managing a cluster or networked companies, however there is a clear tendency in EU of forming this kind of business and better managing competition in regional or sector level.

Level 4, “Managing Human Resources”, either through a recognized standard or a documented national practice (such as the Investors in People initiative).

This level implements the demands for an efficient and effective operation of managing the “internal part” of an enterprise which has to do with people, systems, knowledge, relations. This level is close to the demands of a Human Resources Management system. An initiative in EU which has been adopted by some northern countries is the “Investors in People (IiP) standard.

Also this level includes the demands for an efficient and effective operation of corporate social responsibility (CSR) and secure management systems.

Level 5, “Managing Advanced TQM Tools or Business Excellence Models”, such as the EFQM Model or other national or sector specific initiatives or other recognized TQM initiatives such as 6 sigma where appropriate.

This level implements the demands for an efficient and effective operation of TQM Advanced tools or business excellence models (EFQM, sector initiatives). This level is open as far the best tools or models identified by an enterprise.

Level 6, “Managing and supporting Innovation”.

This level assesses the ability of an enterprise to address innovation and differentiation using the plethora of initiatives, tools, systems or models available in market. This ability is measured and assessed for its efficiency and effectiveness.

Innovation is a European Union priority and there are plenty of activities running currently to address it.

The “Business Results” level is defined as the area of measuring the effectiveness of the following sub sectors:

- Customer Satisfaction,
- People Satisfaction,
- Community Satisfaction,
- Financial / Quality Business Results

Development of the Hellenic National Business Excellence Award

The Hellenic National Business Excellence Model is developed on the proposed business excellence system considering the following constraints:

- There were not other National mechanisms of business excellence in Greece apart from private initiatives with limited diffusion.
- Total Quality Management practices and business excellence systems were less known to SMEs especially those with local management (not international business units).
- Most of Greek enterprises are focused on the development of ISO 9001 or other ISO standards, less on the development of efficient and effective ISO 9001 systems.
- Human resources management and satisfaction, clusters / networks management, quality or advanced tools and innovation are not yet developed to assess their effectiveness and efficiency.

Also, the Hellenic National Business Excellence Award was supported by the third EU framework considering the rule of “de Minimis” for financial contribution.

Considering the above constraints, as well as the flexibility of the dynamic proposed business excellence system, the Managing Organisation of the Hellenic National Business Excellence Award (which, in this case, was the Hellenic Ministry of Development) proposed only the first 2 levels of excellence to be applied for the first implementation of the award scheme which are:

- Level 1: “Organising and Managing Quality Management Systems”,
- Level 2, “Organising and Managing Sector specific and advanced (Quality) Management Systems” as well as managing clusters – networks

and the “Business Results” general level.

The rest levels of excellence were noticed to be applied in following cycles of the National Award scheme where more mature systems will arise.

The Hellenic National Business Excellence Model is considered as a national platform to support the development and management of the Greek enterprises and to reinforce the implementation of good practices in the fields of the active levels of excellence. It is considered as the next phase of integrating national and European programs of competitiveness and an Award scheme was implemented to support this new national initiative.

As stated by the Minister of Development, it is expected that this new initiative will:

- Reinforce the competitiveness of the Greek Industry and especially the SMEs,
- Encounter the characteristics and culture of the Greek enterprises and market trends,
- Gain a national point of reference to compare performances and support barometer tools,
- Improve customer and employee satisfaction,
- Contribute to the development of Business Excellence tools or models in local level and in international level.

The Hellenic National Business Excellence Award scheme was first announced in September of 2007 and eligible enterprises for this scheme were only industries which apply the new rule of de Minimis. In these terms, plenty of the Greek businesses were forbidden to apply for the Award scheme, however it was the only way to financially support the Award scheme through the 3rd Framework of EU contribution.

Three (3) Hellenic National Business Excellence Awards are given for each category of an enterprise (Big companies, Medium ones and Small ones). The National Awards are given to these enterprises which gain the best comparative score in both 'levels of excellence' and in 'business results'.

Six (6) Hellenic National Business Excellence Distinctions were to be given for each category of an enterprise and for each level of excellence:

- Big companies, level 1
- Big companies, level 2
- Medium companies, level 1,
- Medium companies, level 2,
- Small companies, level 1,
- Small companies, level 2

Only 5 National Distinctions are given. Those are given to these enterprises which gain the best comparative score in one 'level of excellence' and in 'business results'. Therefore, it is encouraged and supported to improve in one field of excellence (or level) considering the impact on business results.

Twenty-five (25) Hellenic National Business Excellence Recognitions are given to the rest of enterprises to encourage their efforts on the diffusion of good business practices and business excellence.

Taking into consideration the development of a national point of reference for an annual Award scheme which will provide enterprises with reliability and clarity, certain mechanisms were developed to assure this concept, such as:

- The initiation of new activities in the department of Quality Policy, in the Hellenic Ministry of Development which are:
 - Selection and training of Assessors,
 - Management of proposals of the candidate enterprises,
 - Promotion and information of the new initiative
- The establishment of a Commission of Business Excellence with members from market and Public Administration with the leadership of the General Secretary of Industry.
- The establishment of a Commission of pre-assessment of candidate proposals.
- The establishment of a list of assessed Assessors, most of them coming from the European Assessors of the EFQM.
- The obligation of conducting site visits in the candidate enterprises.

- A blind assessment by 2 (or 3 in some cases) assessors for each proposal.

In this year of running the Award scheme, 44 in total, industries made a proposal. Three of them are given an award, five of them are given a distinction and twenty-five are given a recognition. Some interesting statistics are being processed as far as the number of Assessors occupied with this project, the performances of the candidates and the maturity of their systems and readiness to new initiatives.

A concluding proposal

Avoiding a typical conclusion paragraph, a new Business Excellence System is proposed, being based on studying both the bibliography and the European trends. The author's perception is that the new system shall be able to integrate current practices and business excellence models to support the European nations' effort to manage competition and innovation schemes.

This proposed system was implemented as the Hellenic National Business Excellence Award gaining the interest of both the academic and market community.

This new Business Excellence System could be considered as an initial framework to better set business systems or excellence in EU countries considering both dynamic issues and business mentality of EU nations. A challenge arises:

Could this excellence system be considered as a reference point to further develop EU National Quality Awards?

Notes

1. "NQAs" is the abbreviation of national quality awards.
2. Europe of 25 is consisted of: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom.
3. TQM is the abbreviation of Total Quality Management.
4. EQA is the abbreviation of the European Quality Award.

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APPLICATION OF DYNAMIC SYSTEMS THEORY IN THE EVALUATION OF AN INTEGRATED BUSINESS EXCELLENCE SYSTEM

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Introduction

Most Business Excellence Models, by the means of National Quality Awards, attempt to analyze the impact of Total Quality Management (TQM) in the enterprises. Representative examples are the European Model of Business Excellence (EFQM), the American Model (Baldrige) and the Japanese one (Deming). The use of self-assessment technique against the above models has become a powerful tool in plenty of organisations nowadays. A critical phase of self-assessment is the establishment of an improvement plan that must be presented to higher management, linked to business planning, and then communicated to the whole organization. Far too often, organizations fail to do this, and consequently, self-assessment activities do not lead to lasting improvements. It is also vital to ensure that monitoring and implementation of actions become a natural part of the business review process and not a separate activity. A few reports suggest that many of the organizations face problems of accuracy and consistency in scoring during self-assessment, leading the organizations to draw wrong conclusions (Porter and Tanner, 1996).

However, all the above models are used mainly in role of inspection, realizing an evaluation in a given time, exactly as in the usual accountant practice. There are not many models which seek the dynamic influence of Total Quality (Leonard, 2003).

Realising the dynamic characteristics of Total Quality Management (TQM) in the enterprises it will be possible to evaluate and forecast the current and potential advantages by the application of Total Quality Management.

The next paragraph provides a criticism on the current assessment methodology of Business Excellence Models that provide a static picture and less objective evaluation against the need for a more dynamic picture with more argued results. Afterwards, it is presented a description of the principles of Dynamic Systems and how they are used in the proposed system of Business Excellence (Mavroidis, 2005). Finally, the results of the above study will be incorporated in a computer program so that tendencies are recorded.

Current Assessment Methodology

The European Model of Business Excellence and the other three main models (Baldrige, Deming, and Australian) are based on their own framework of Total Quality, which derives from the concept of the organisations they represent. These models use self assessment as a tool for capturing business practices. They are not restricted to products or services, like in the ISO 9000 case, but they rather co-evaluate other business activities. These models are similar to the scoring procedures and are differentiated mainly as far as the evaluation method is concerned (Ghobadian and Woo, 1996).

These models are widely used all over the world by leading businesses and can be used as international evaluation criteria. They have considerably contributed to the development of the Total Quality, by making its philosophy a business practice. The American Award (Baldrige) has been the main catalytic factor of change in the American business society (Garvin 1991, Juran 1994).

However, there is a different approach that concerns the views of the gurus of Quality, around the world. In his last interview Mr. Deming when asked on the benefits for businesses that the American Model achieves, he replied «*No, nothing could be worse. The evil effect of the Baldrige guidelines on American business can never be measured (Deming in Stevens 1994, pp. 21).*

Additionally, Crosby (in Simms, 1991, p. 127) and Mc Adam & O'Neil (1999), Bester (2000), Gallear et al. (2000) have adopted the same critical line that applies also on the European Model of Business Excellence. Ghobadian and Woo (1996, p. 16) state that the European Model has several disadvantages, such as lack of innovative evaluation, of strategic placement, of marketing centred approach and R&D. However, it has assisted the European businesses on a first basis with the implementation of the Total Quality principles.

In addition, Leonard (2003, p.654) argues that the European Model of Business Excellence is revised every 2 years, and consequently does not dispose of the extended analysis of the complex business environment, that is dynamic in principle. The criteria for the European Model of Business Excellence connected to the "Policy and Strategy" do not focus on the effectiveness of the business strategy, or the amount of dynamics of the strategy planning, but they instead evaluate how the Total Quality issues are incorporated in the strategic procedures.

Additionally Van de Wiele (1995, page. 17) underlines that in large businesses, it is the representatives who decide when the self-evaluation will be conducted. Then, the middle ranged executives are activated in order to be aware of self-evaluation and then implement it. The Total Quality has to encourage data collection from the environment continuously in order to provide fast and dynamic strategies in businesses and should not have the passive role, mentioned in the above-mentioned models.

The EFQM model has been criticized for its self assessment mechanism, which provides a subjective score with wide fluctuation in the results, as it is stated in the bibliography by Porter and Tanner (1996), Siow et al. (2001), M. Liters and J.B. Yang (2003). The wide fluctuation in score results is owed to the lack of experience of the evaluators, the criteria complexity and the potential interactions and different scoring methods. The Multiple Attribute Decision Making (MADM) methodology, as a multi-criteria method, attempts to resolve the problem, without however taking into consideration the other dynamic parameters such as time, behaviour and culture as it is argued by Siow, Yang and Dale (2001).

Generally, a Total Quality system is described as a mental model and consequently it is highly possible not to provide the desired results in a more complex situation. The mental models are using the feedback theory, taking into consideration the current situation and interaction (Forrester, 1971). With respect to the complexity of the mental models in the Total Quality Management, Waldman (1994) suggested the application of the System Theory for implementing Total Quality. Bayer et al (2001) also suggested the use of dynamic models for Total Quality Management, so as to provide a more objective evaluation and long lasting decision-making. Leonard et al (2002) explained that Total Quality as a Dynamic System is complex, repetitive and is not adequately approached by the existing international Quality prizes.

According to the Theory of Dynamic Systems it is possible to capture the interactions among a range of system variables and predict the implication of each other over a period of time

(Forrester, 1985). Through this methodology it is possible to have a better understanding of the self assessment process and to better value the business policy and strategy.

Agrawal (1999) in his doctorate thesis uses the Dynamic Systems Theory in order to form models for the Total Quality Management and to define a final index, as the total performance of applying Total Quality (TQM Index), based on the Indian automobile industry.

Consequently, as it is outlined by Leonard (2003, p. 655), the European Model of Business Excellence and other similar models have beneficial applications in businesses. However, it does not offer a complete approach on the business dynamics, and is thus becoming more a tool of a static image – business evaluation on a certain period of time, ignoring that the business itself is subject to dynamic changes and of course to dynamic pressures.

Proposed System of Business Excellence

Understanding the lack of models of Business Excellence – Total Quality, providing a static image and processing of Total Quality issues, the bibliography contains proposals concerning the creation of mechanisms, as models or systems, which represent a dynamic system of Business Excellence. Leonard and Mc Adam (2002) being based on the General Theory of Systems during their research, have reached the following conclusions that express the dynamics of Total Quality in businesses:

- Performance related to time,
- Repeated behaviours,
- Business Culture

Respectively, Mavroidis (2005) proposes a system of Business Excellence taking into consideration the above-mentioned issues consisting of the following, as well:

- Evaluation criteria or parameters expressing the existing European Business practice of the time,
- Focus on the performance and the effectiveness of the approaches (the approaches of the respective results are not evaluated separately),
- Explanation of the interdependence between the criteria or the variables of the system (feedback loops),
- Open architecture.

The proposed system of Business Excellence provides a dynamic approach of the Total Quality issues, which, combined to the application of the Dynamic System theory, aims mainly at the consideration of a more objective plan for an organization in order to provide constant improvement of the performance score.

It should be noted that currently a new **system** is proposed rather than a new **model** of Business Excellence. The system includes several Business Excellence models, initiatives on Quality, Quality Management systems etc. The interrelations and the influence of these models / initiatives are expressed by the performance and the effectiveness measurements, according to the above-mentioned theories (Figure 1):

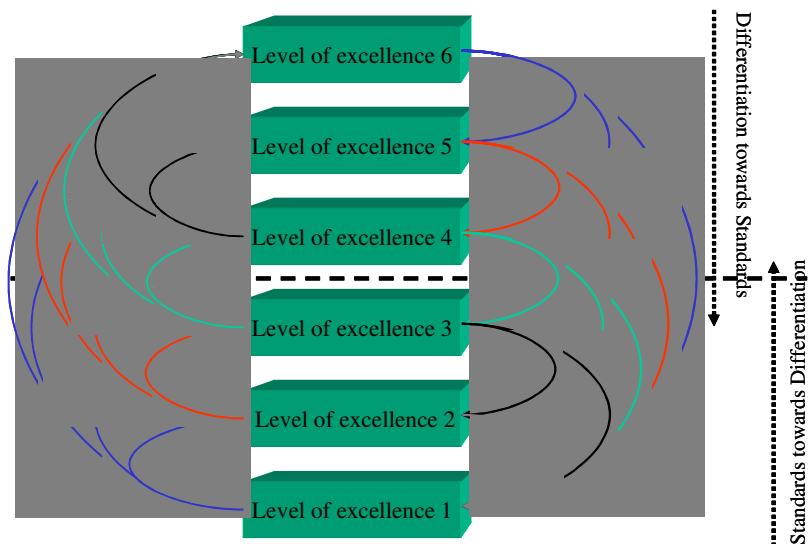


Figure 1: Correlation of levels of excellence formed as a Dynamic System (source: V. Mavroidis, University of Patras, 2004)

The proposed system is composed by well-structured levels or fields of excellence, with specific contents per level (as Quality initiatives or Business Excellence Models) which represent, up to a point, the meaning of the Quality, the Management & Organisation, and the Competitiveness- Innovation concepts in an organization. The six levels are **independent** as far as their approaches for Quality improvement, but they **depend on one another** for the total performance score and their consequent influence. The levels are 6, leaving the last level open towards the upper part (i.e. future levels). This approach is equivalent to the familiar level model of Telecommunication Networks (OSI-RM Model) that is applied to computer networks and offers a clear description, a modular development and easy future development-enlargement (figure 2):

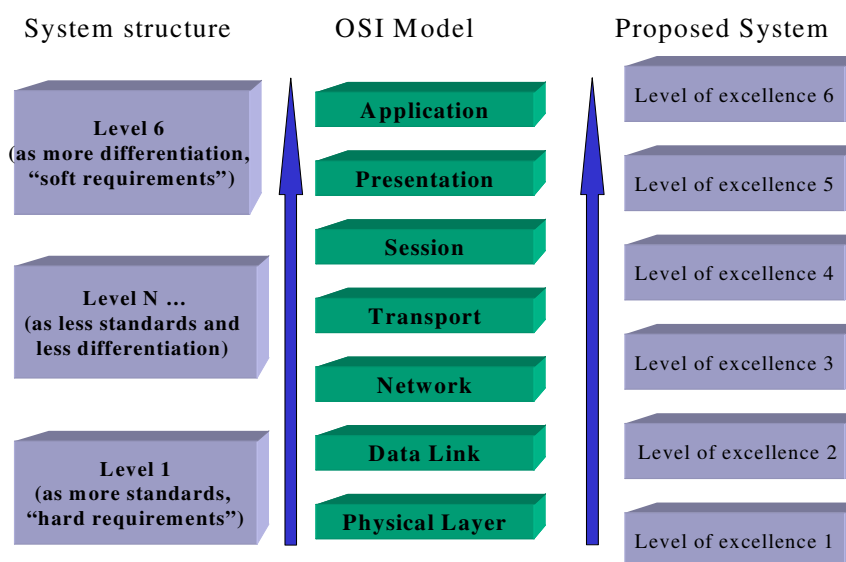


Figure 2: Telecommunication Model OSI-RM correlated to the proposed system of business excellence (source: V. Mavroidis, University of Patras, 2004)

This system proposes a dynamic evaluation of the business performance, taking into consideration time, culture and business differences. Blanas (2006) in his book (“Networking Total Quality” pp. 137-191) analyses the link between Information Systems and Total Quality and illustrates the contribution of developing and managing an Information System to a respective Business Excellence System.

The proposed System is not a congregation of initiative models, nor is it a new model. The concept “system” is **characterized** by the dependence of the levels (regarding their influence) and by the concept already explained.

The proposed system is **dynamic** regarding:

- The integration of current and potential tendencies and initiatives,
- The time-relation of “self assessments” of itself or of other levels,
- The relation to the business cultures of the respective geographical areas

The levels should follow the changes that occur dynamically in the models (publications or new models) and refer to the requirements that derive from the current market trends and the differentiation requirements, focusing always on the Greek market (combined with the European directions). These levels of excellence (Mavroidis, 2005) compose the following areas:

- Level 1, “Organising and Managing Quality Management Systems” as it refers to the international standards ISO 9001 and ISO 9004 (latest edition).
- Level 2, “Organising and Managing Sector specific and advanced (Quality) Management Systems” as it refers to the international standards ISO 14001, ISO 22000 or other documented national initiatives.
- Level 3, “Managing and Supporting Clusters or Networked Enterprises”,
- Level 4, “Managing Human Resources”, either through a recognized standard or a documented national practice (such as the Investors in People initiative),
- Level 5, “Managing Advanced TQM Tools or Business Excellence Models”, such as the EFQM Model or other national or sector specific initiatives or other recognized TQM initiatives such as 6 sigma where appropriate,
- Level 6, “Managing and supporting Innovation”, as it is appreciated by national or European means of evaluation.

Additionally, the proposed **System** is open regarding:

- The number of levels upwards (ie.7,8..) – dynamic differentiation,
- The actions for new models that implement specific levels (ie. potential new national model for a quality system in super markets or a new model on level 5 for very small businesses)
- The methodologies for restituting and processing data that derives from internal and external self assessments.

Review of the Theory of Dynamic Systems

The Dynamic Systems Theory explains the behavior of a complex, dynamic, social, technical, economic and political system (Social, Technological, Economic and Political Systems: S-T-E-P) for improved decision-making. Its roots go approximately 35 years back, to the Industrial Dynamics’ where Forrester (1971) explained the problems that derive from the industrial applications, such as unstable production and labor, unstable business development and market share. This theory expanded in other fields of interest, too, such as the management of a research and development project, the urban development, the management

of energy resources and the chaos theory. The name “Industrial Dynamics” soon became the Theory of Dynamic Systems.

The Dynamic Systems express the interactions of a system’s variables and predict their influence in a certain period of time (Forrester, 1985). The application of Dynamic Systems is a modern tool in the decision-making procedure (Dangerfield, 1979). In the area of Total Quality Management (TQM) the application of the Dynamic Systems theory has been extensively studied in the bibliography. The Total Quality Management is described as a contemplative model and thus does not have a predictable behavior. Consequently, the application of system theories of the dynamic systems is imposed, as it is described in the bibliography by Forrester, 1971, Waldman, 1994, Bauer et al, 2001, Leonard et al, 2002. According to the latter, a Dynamic System is defined in relation to time, culture and repeated behavior.

The Dynamic Systems do not aim at the system; they rather aim at the problem (Forrester, 1985). The problems recognised under the prism of Dynamic Systems have at least two things in common: Firstly, they are dynamic, meaning that they contain variables that change through time, by periodically repeated behaviors and by complex changes (Bauer et al, 2001). The “time” factor includes long-term development, current changes and predictable future directions. The factor “repeated behaviors” includes the non-linear behaviors either with positive or negative influence. The factor “complex changes” goes beyond the concept of cause and effect and includes phenomena that do not follow the predictable development in time. For instance, the local unemployment, the tax raises and the management of life quality could delay the construction of a building, the development of an economy, etc. The correct definition of the problem is the first step in the Dynamic Systems Theory (Richardson and Pugh, 1981).

Secondly, the problems include the concept of feedback, as the servo-mechanic systems in engines and in human systems (Goodman, 1983). The Dynamic Systems focus on the structure and behavior of interconnected feedback. The re-alimentation diagrams demonstrate a real system where the arrow is showing towards the influence’s direction, and the marking (+) or (-) is showing the influence type, i.e. positive or negative influence, or no influence if there is no marking. The re-alimentations with a positive influence are usually human systems, being opposed to the servo-mechanic systems.

The Dynamic Systems have a “holistic” approach, rather than an entry-exit approach. According to this approach, the changes that occur in a space or in a sub-total of the system influence the sub-system itself as well as the rest of the sub-totals, as it is shown in the diagram below:

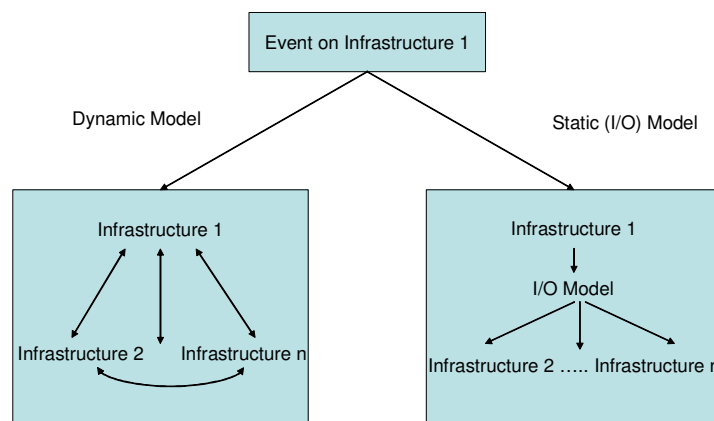


Figure 3: Dynamic Systems approach against Input / output model (I/O).

The modelling of Dynamic Systems contains five types of equations (Forrester, 1985):

- Level or Accumulation,
- Rate or Policy Variable,
- Auxiliary,
- Constant,
- Initial Value conditions, where

Level or Accumulation: Current rate of the variable, deriving from the inflow-outflow difference on a certain period of time (calculated on a distinct time). An example of this would be the balance of an account, the balance of plant production, the number of personnel.

Rate or Policy Variable: Instant flow that raises or diminishes the variables' rates (i.e. the levels). The rates demonstrate the flow movement, whereas the levels show the result as the system's situation, changed due to this movement. In the natural systems the rates follow the rules of nature. In the other systems, the rates reflect the strategic policies that influence the personal choices.

Auxiliary: Auxiliary parameters for rate calculation. Rates and auxiliaries are based on certain constants, unchangeable in time when the Dynamic Systems are studied. Vij (1990) provides the Dynamic Systems with one additional parameter, the "delay".

Concerning the Dynamic Systems model-making, Roberts (1978) and Spencer (1966) propose the following steps:

- 1) Definition of the problems to address and of the objectives to be reached,
- 2) System description with re-alimentation diagrams (causal loop / influence diagram),
- 3) Development of DYNAMO equations.
- 4) Collection of initial value conditions, either from historical sources, or by interviewing experts who are familiar with the system that is under evaluation.
- 5) Ratification of the model for developing its credibility.
- 6) Simulation of the model in order to control the policy and the action that will lead to the achievement of the defined objectives.

Application of the Theory of Dynamic Systems to the proposed system of Business Excellence

Dynamic Systems can be applied to the above proposed system of Business Excellence (Mavroidis, 2005) in order to:

1. Define through an adequate mathematical equation the influence of an **organization performance over time**. Being opposed to the current practice, where a business is evaluated on a precise moment of time, the proposed system would calculate the performances of previous periods of time.
2. Outline the **interactions of the system variables**, through the equations DYNAMO of the Dynamic Systems. As a result, it is possible to calculate which variables are influencing positively, negatively, or neutrally the rest of them and to form a basis for decision-making, as to which improvement actions should be set in the first place concerning the organization's objectives.

Organization performance over time

As it is stated above, the final output or score of an organization that applies a business excellence model takes into consideration the final outputs or scores of the previous years. Consequently, an adequate mathematical equation is needed in order to calculate the quest, as:

Final Output or Score (2006): $A(2006) = fx [A(2005), A(2004), A(2003), \dots]$, where fx is an adequate mathematical equation.

Below, certain assumptions are given so as to utilise the **adequate mathematical equation**. For this aim to each assumption is given numeration. All the possible assumptions could be implemented, depending on the maturity of the Business Excellence system that exists in the organization. It is a **business decision to define** the best assumption of the mathematic equation that could best express the **dynamic** character of Business Excellence.

Assumption 1: f1

This simpler assumption takes into consideration **equally** the output or scores of the current and the previous years (considering that the time periods are measured as years).

The suitable mathematic equation of the first assumption is the **average** of the outputs of all years.

Example:

Outputs or scores	Value	Explanation
X1 (2006)	100	Output of the year 2006 as defined by the assessors' team. It is noted by "X" letter instead of "A" letter since it represents an intermediate result since the final output noted as A(2006) is the output in question.
A1 (2005)	90	Final output of the year 2005.
A1 (2004)	75	Final output of the year 2004.
A1 (2003)	55	Final output of the year 2003.
A1 (2002)	30	Final output of the year 2002.

Thus, the final output of the year 2006 will be:

$$A(2006) = \text{AVERAGE} [100, 90, 75, 55, 30] = 70.$$

It is noted, in this example, that although the result of the assessors' team was 100, what is finally encountered is the score of 70 because the outputs of previous years are taken into account.

The advantage of "assumption 1" is that it is quite easy to identify the final result through the use of a ready to use equation considering the outputs of the previous years as well. However, there is lack of information regarding the effort of the current year output, positive tendencies, continuous improvement tendencies, etc.

Assumption 2: f2

The next assumption takes into consideration the **positive or negative tendencies** of the current and previous years' outputs and the rates of them.

Through a mathematical algorithm, in this assumption, it is given emphasis on both the improvement tendency of all the outputs and on the improvement tendency of the output rates. Therefore, the maximum of the output is given when there is a clear improvement of the scores through the years and also an improvement of the output rates.

The mathematical algorithm could be easily applied to a MS Excel program, as follows:

Let us consider the outputs of the last 5 years which is a considerable period of time for evaluating changes:

A (2002) = A1

A (2003) = A2

A (2004) = A3

A (2005) = A4

A (2006) = X5 (Output of the year 2006 as it is defined by the assessors' team. It is noted by "X" letter instead of "A" letter since it represents an intermediate result as the final output noted as A(2006) is the output in question).

If $A1 > 0 \rightarrow \text{True} = 1, \text{False} = 0$

If $A2 > A1 \rightarrow \text{True} = 1, \text{False} = 0$

If $A3 > A2 \rightarrow \text{True} = 1, \text{False} = 0$

If $A4 > A3 \rightarrow \text{True} = 1, \text{False} = 0$

If $A5 > A4 \rightarrow \text{True} = 1, \text{False} = 0$

Afterwards, the average of the fields "True" is computed:

If AVERAGE [TRUE] = 1, then $A_i(2006) = X5 * 1$

If AVERAGE [TRUE] = 0.8, then $A_i(2006) = X5 * 0.9$

If AVERAGE [TRUE] = 0.6, then $A_i(2006) = X5 * 0.8$

If AVERAGE [TRUE] = 0.4, then $A_i(2006) = X5 * 0.7$

If AVERAGE [TRUE] = 0.2, then $A_i(2006) = X5 * 0.6$

Up to now, continuous improvement over time is taken into account. In case that there is a positive tendency of all scores, then the final score is equal to the better output or else it is a percentage of the intermediate score.

However, there is a certain possibility to have improvement on scores but not on the rates of them. This algorithm goes further on computing equally the rates of the outputs over time, as follows:

Let us consider as "R" the rate of the scores or the outputs:

$R1 = [(A1 - A0)/A0] * 100\%$, where A0 is an initial value less than A1 and is used only for computing the initial value R1. Therefore R1 is always more than 0.

$R2 = [(A2 - A1) / A1] * 100\%$

$R3 = [(A3 - A2) / A2] * 100\%$

$R4 = [(A4 - A3) / A3] * 100\%$

$R5 = [(X5 - A4) / A4] * 100\%$

$R1 \geq 0 \rightarrow \text{True} = 1$

If $R2 > R1 \rightarrow \text{True} = 1, \text{False} = 0$

If $R3 > R2 \rightarrow \text{True} = 1, \text{False} = 0$

If $R4 > R3 \rightarrow \text{True} = 1, \text{False} = 0$

If $R5 > R4 \rightarrow \text{True} = 1, \text{False} = 0$

Afterwards, the average of the fields "True" is computed:

If AVERAGE [TRUE] = 1, then $A_k(2006) = X5 * 1$
 If AVERAGE [TRUE] = 0.8, then $A_k(2006) = X5 * 0.9$
 If AVERAGE [TRUE] = 0.6, then $A_k(2006) = X5 * 0.8$
 If AVERAGE [TRUE] = 0.4, then $A_k(2006) = X5 * 0.7$
 If AVERAGE [TRUE] = 0.2, then $A_k(2006) = X5 * 0.6$

Then, equal weight is given to the $A_i(t)$ and $A_k(t)$ and the average of these two values is taken computing as such the final score:

$A(t) = \text{AVERAGE} [A_i(t), A_k(t)]$.

Example:

Outputs or scores	Value	Explanation
X1 (2006)	100	Output of the year 2006 as defined by the assessors' team. It is noted by "X" letter instead of "A" letter since it represents an intermediate result since the final output noted as A(2006) is the output in question.
A1 (2005)	90	Final output of the year 2005.
A1 (2004)	75	Final output of the year 2004.
A1 (2003)	55	Final output of the year 2003.
A1 (2002)	30	Final output of the year 2002.

By computing (in a MS Excel program) the above algorithm, the final score $A1(2006)$ is equal to "85".

Assumption 3: f3

The next assumption takes into consideration the comparison of the company's own objectives over time.

The company's own objectives could be defined either by the statistical equation "Trend" (as it is defined in the MS Excel program) or by other means of the business itself. In this assumption, own targets are compared against the intermediate performance. If the comparison is positive (i.e. own targets are met at least) then the company gets the maximum score, or else just a percentage of it. The mathematical algorithm could be easily applied to a MS Excel program, as follows:

Let us consider the outputs of the last 5 years which is a considerable period of time for evaluating changes:

$A(2002) = A1$

$A(2003) = A2$

$A(2004) = A3$

$A(2005) = A4$

$A(2006) = X5$ (Output of the year 2006 as defined by the assessors' team. It is noted by "X" letter instead of "A" letter since it represents an intermediate result as the final output noted as A(2006) is the output in question).

Then $T1 = \text{Trend} [A1, A2, A3, A4]$ or defined as a business target.

$T2 = X5$.

If $T1 \leq T2$, then the company has met the own targets or achieved better performance. In this case, $A(2006) = X5$.

If $T1 > T2$, then the company has got its targets. In this case, the final score is a percentage of the intermediate.

Example:

Outputs or scores	Value	Explanation
X1 (2006)	100	Output of the year 2006 as defined by the assessors' team. It is noted by "X" letter instead of "A" letter since it represents an intermediate result since the final output noted as A(2006) is the output in question.
A1 (2005)	90	Final output of the year 2005.
A1 (2004)	75	Final output of the year 2004.
A1 (2003)	55	Final output of the year 2003.
A1 (2002)	30	Final output of the year 2002.

$T1 = \text{Trend } [30, 55, 75, 90]$ or business arbitrary value, such as 85.

$T2 = X1(2006) = 100$.

According to assumption 3, $T1 < T2$, then the final score is equal to 100.

In another case, i.e. $T1 = 120$, $T2 = 100$. Then $A(2006) = X5 * 0,6$ (the percentage given is subjective).

Assumption 4: f4

The next assumption takes into consideration the exterior or better comparatively sector-based objectives of the current and previous years' outputs.

It is a similar case to the one in assumption 3, however the term $T1$ is defined either by barometers or sector comparisons. The Same algorithms are applied to this assumption.

Assumption 5: f5

The next assumption takes into consideration the positive or negative tendencies and/or the own objectives of an enterprise and/or exterior or better comparatively sector-based objectives of the current and previous year's outputs.

All the above assumptions could be applied giving emphasis on those which are less bureaucratic and set the status of the company. The following table judges the pros (+) and cons (-) of all the 5 assumptions:

Assumptions	Pros (+)	Cons (-)	Recommendations
F1 “average”	<ul style="list-style-type: none"> - Easy to use, - Take into consideration equally the performances of previous years. 	<ul style="list-style-type: none"> - No emphasis on the outcome of the last year, - No information on positive tendencies. 	> Use when the performances are quite similar and there is severe reason to consider all performances as equal.
F2 “continuous improvement and rate of it”	<ul style="list-style-type: none"> - Take into consideration the most core principle of the continuous improvement, - Consider the rate of continuous improvement, - Most popular query. 	<ul style="list-style-type: none"> - More complicated algorithm to use, - No consideration of internal and external targets. 	> Use in most cases where continuous improvement is the target and where there is no mature business excellence culture in the company to identify comparisons.
F3 “comparison with internal targets”	<ul style="list-style-type: none"> - Take into consideration the comparison of the current performance against internal target identified either by statistical terms or by business decision, - Easy algorithm to use. 	<ul style="list-style-type: none"> - No information on positive tendencies, - Difficult to decide the internal target objectively. 	> Use when there is a certain gap between performance and business priorities and the company is mature to decide the targets to achieve.
F4 “comparison with external targets”	<ul style="list-style-type: none"> - As in F3 case, the comparison is with benchmarking targets, - Easy algorithm to use. 	<ul style="list-style-type: none"> - Difficult to identify sector benchmarks which apply similar mechanism of assessing business excellence 	> Use when there is mature culture of business excellence in sector companies.
F5 “all or combination of the above”	<ul style="list-style-type: none"> - Easy to use as a combination of the above. 	<ul style="list-style-type: none"> - Maturity level of business excellence systems implemented. 	> Use when there is certain reason to combine the pros of the other categories.

Table 1: Algorithms assumptions.

Interactions of the system variables

“System variable” provides every parameter with a metric value in the proposed system. Consequently, the variables are the performances of each level of the proposed Business Excellence system or the performances of distinct level questions.

Being based on the above, the “Final Score” or “overall performance” of a business in time (t) is defined as:

$$\text{Final Score: } A(t) = \sum_{n=1}^6 [A_n(t) * \sigma_n]$$

Where: $A_n(t)$ is the performance of level n (1 to 6) in the real time of assessment (t), σ_n is a dynamic factor of level that is fixed by the enterprising community (from external environment of enterprise with output from 0-1, and the summary of “ σ_n ” from $n=1$ to 6 is equal to “1”).

Example:

In the initial implementation of the business excellence system, the management organization of the business excellence system takes into consideration the business culture of the area and defines the following values:

Weight factors (σ_n)	σ_1	σ_2	σ_3	σ_4	σ_5	σ_6
Initial values	0,6	0,4	0	0	0	0

If the final score of level 1 in 2006 is 100 then:

$$A_1(2006) = 100.$$

The same for the rest levels:

$$- A_2(2006) = 60.$$

- A_3, A_4, A_5, A_6 (2006) are not assessed due to business decision ($\sigma_n = 0$).

*The final score is $A(2006) = A_1(2006)*0,6 + A_2(2006)*0,4 + 0 + 0 + 0 + 0 = 60 + 24 = 84$.*

The final score of each level is a function of the scores of the same level through the years (as it is described in the previous paragraph) and a function of the interactions of other levels. So,

Score of level n :

$$A_n(t) = \{fx[X_n(t), A_n(t-tx)] + \sum_{n=1}^5 \{fx[X(6-n)(t), A(6-n)(t-tx)] * R(6-n)_n\} / n$$

Where: fx is a function of the evaluations of the same level in older times that could be the AVERAGE or another function that shows the tendencies and the level of self organizing, as it is already analysed in the previous paragraph. $X_n(t)$ is the intermediate score of the same level in the current time (t) as is defined by the assessors team. Same for the intermediate performances $X(6-n)(t)$. As RATE, $R(6-n)_n$ is defined the ratio or the influence (positive of negative) of the variable scored (i.e. n) with the other variables. This ratio is defined as $R(6-n)_n$ with $n \neq (6-n)$ and it has a rate varying from “-1” to “+1”. Inversely, $R_n(6-n)$ concerns the influence of level n on level $(6-n)$. $A_n(t-tx)$ are the performances of the level n in previous years, as many as it is defined as by the variable “ x ”.

Example:

Considering the previous example, the final output is defined as:

$$A1(2006) = \{fx [X1(2006), A1(2005), A1(2004), A1(2003), A1(2002)] + \{fx [X2(2006), A2(2005), A2(2004), A2(2003), A2(2002)]\} * R21\} / 2$$

Where there are only 2 levels of assessment.

The ratio $R_n(6-n)$ or generally, R_{xy} shows the relation between 2 “variables” or ‘agents’ of a system. More specifically it shows the influence or the relation of variable X to variable Y. The variables could be either levels, or level questions, or question groups (i.e. Criteria). Consequently, the ratio R_{xy} is defined as follows:

R_{xy} = If we CHANGE (improve [+], or decrease [-]) performance and effectiveness of variable X, how will it affect the effectiveness of variable Y?

These relations can be defined, either by a) external factors for example, questionnaire processing for businesses, providing that level X influences level Y, and so the demanded formula is derived from this procedure, or b) by internal factors for the business itself, where using simulation on PC will lead to the best value.

Initially, the relation R_{xy} acquires a rate of empirical estimation. Then, the two previously described methods result in a more documented rate. In the framework of a complex theory this relation is variable and is affected by the system itself (self-organizing).

Consequently in the effort of improving a level, it is not only sufficient to improve the effectiveness of the level itself or the performance of the other levels, but also the influence (through procedures) of the feedback procedure (Brodback, 2002). For example, education, change of culture, management changes, related to the implementation of level 1 could seriously affect level 6. Also:

$$R(6-n)_n = R_{zn} = \sum_{k=1}^{\omega} [R(z.k)_n * \sigma(z.k)]$$

Where:

- n declares the level in question (evaluation level),
- z ,(6-n) declare the remaining levels (z = 1 to 6, z ≠ n),
- $\sigma_{z.k}$ declares the weight of question (z.κ) of level z,
- κ declares the particular question of level z,
- ω declares the number of questions k in the level z,
- Summary of “ $\sigma_{z.k}$ ” from k=1 to ω is equally to “1”.

Validation

As it is stated in the previous paragraphs, the organization’s final output or score takes into consideration the outputs or scores of the same set of criteria of previous periods of time. This time correlation is calculated by an adequate mathematical equation “F_x”, or algorithm already described. These algorithms or assumptions may be validated as far as their usefulness against the defined business aims. It is the business’s decision to define which algorithm will reveal the status of excellence.

As a validation methodology of the described algorithms, the author proposes the use of an array of random numbers disposing the scores of five consistent years taking values from “0” (minimum) to “99” (maximum). By applying the algorithm F_x to these random set of numbers, it is possible to validate the aims of the relative function.

Considering that the most common business requirement is to identify paths of continuous improvement, function F₂ (as it is shown in table 1) will be validated in the next paragraph.

The following table is a usual array of random numbers. Each column represents the set of data required to validate the function F2 hypothesis:

03	47	43	73	86	36	96	47	86	61
97	47	70	91	42	05	96	45	10	09
16	76	29	26	66	55	48	18	34	32
12	56	69	30	58	02	69	56	51	47
55	59	53	34	51	06	80	97	20	42
16	22	98	19	08	13	88	37	39	83
84	42	64	02	36	87	70	71	01	29
63	01	94	46	11	60	42	55	73	78
33	21	51	75	73	16	62	00	74	07
57	60	56	64	71	77	54	52	88	43

Table 2: Array of random numbers.

In table 2 each set of data in columns represents the scores of 5 equivalent years providing as such 20 cases:

Case 1: Set [03, 97, 16, 12, and 55],

Case 2: Set [47, 47, 76, 56, and 59],

...

Case 5: Set [86, 42, 66, 58, and 51],

Case 6: Set [36, 05, 55, 02, and 06],

...

Case 20: Set [83, 29, 78, 07, and 43].

The following hypotheses are defined:

H1: Function F2 computes scores of 5 consistent years, considering that the final score is the maximum of those defined in the range of the 5 consistent years, if there are both continuous score improvement and continuous score rate improvement.

H0: Function F2 does not provide information on the tendency for continuous improvement and rate of it.

The array of random numbers is incorporated in a computer program (MS Excel) which implements an algorithm as it is described in the previous paragraphs, and shown in tables 3a, 3b. It is noticed that the term "Az" (z = 1 to 5) shows the final score of that year, whereas the term "Xz" shows the results of the assessment score of that year. Therefore the "Xz" output is the intermediate result of the year out of which we would like to extract the final score.

Years	Outputs	Random	Outputs	Random	Outputs	Random	Outputs	Random	Outputs	Random
2003	A1	3	A1	47	A1	43	A1	73	A1	86
2004	A2	97	A2	47	A2	70	A2	91	A2	42
2005	A3	16	A3	76	A3	29	A3	26	A3	66
2006	A4	12	A4	56	A4	69	A4	30	A4	58
2007	X5	55	X5	59	X5	53	X5	34	X5	51
2007	A5	46,75	A5	47,2	A5	42,4	A5	28,9	A5	38,25
	RateX5-A5	-15		-20		-20		-15		-25
	F2	CASE 1	F2	CASE 2	F2	CASE 3	F2	CASE 4	F2	CASE 5
2003	A1	16	A1	22	A1	98	A1	19	A1	8
2004	A2	84	A2	42	A2	64	A2	2	A2	36
2005	A3	63	A3	1	A3	94	A3	46	A3	11
2006	A4	33	A4	21	A4	51	A4	75	A4	73
2007	X5	57	X5	60	X5	56	X5	64	X5	71
2007	A5	45,6	A5	51	A5	44,8	A5	48	A5	56,8
	RateX5-A5	-20		-15		-20		-25		-20
	F2	CASE 11	F2	CASE 12	F2	CASE 13	F2	CASE 14	F2	CASE 15

Table 3a: Validation of algorithm F2 by random numbers (Cases 1-5, 11-15).

Outputs	Random	Outputs	Random	Outputs	Random	Outputs	Random	Outputs	Random
A1	36	A1	96	A1	47	A1	86	A1	61
A2	5	A2	96	A2	45	A2	10	A2	9
A3	55	A3	48	A3	18	A3	34	A3	32
A4	2	A4	69	A4	56	A4	51	A4	47
X5	6	X5	80	X5	97	X5	20	X5	42
A5	4,8	A5	60	A5	72,75	A5	15	A5	31,5
	-20		-25		-25		-25		-25
F2	CASE 6	F2	CASE 7	F2	CASE 8	F2	CASE 9	F2	CASE 10
A1	13	A1	88	A1	37	A1	39	A1	83
A2	87	A2	70	A2	71	A2	1	A2	29
A3	60	A3	42	A3	55	A3	73	A3	78
A4	16	A4	62	A4	0,1*	A4	74	A4	7
X5	77	X5	54	X5	52	X5	88	X5	43
A5	61,6	A5	37,8	A5	41,6	A5	70,4	A5	34,4
	-20		-30		-20		-20		-20
F2	CASE 16	F2	CASE 17	F2	CASE 18	F2	CASE 19	F2	CASE 20

Table 3b: Validation of algorithm F2 by random numbers (Cases 6-10, 16-20).

Let us consider a few cases out of the 20 presented above which may be of interest. As a tool of comparison between the final score (A5) and the intermediate score of that level of excellence (X5) is used the “Rate X5-A5” defined as:

$$\text{Rate X5-A5} = [(A5-X5)/X5]*100\%$$

The rate “X5-A5” shows the gap between scores X5 and A5.

In case 1, the final output A5 (2007) is less than X5(2007) which is the intermediate score as it is found by the assessment team. This is because there is not a steadily continuous improvement, although there is a wide range of improvement variations between the scores of the years 2007 and 2006. This case could be applied to a business where they still lack of a tuned methodology of assessing business excellence or there are critical business changes.

In case 2, the final output A5 (2007) is still less than X5(2007). It is shown that there was great improvement in the year 2005; however there is a slightly continuous improvement in the other periods of time. The final score A5 (2007) is adequately less than X5 because there is not a tendency for continuous improvement rate.

Cases 1, 4, 12 have the minimum value of |Rate X5-A5| (equal to 15) which clarifies the fact that these organisations have more steady tendencies of continuous improvement.

In contrary, case 17 has the maximum value of $|Rate\ X5-A5|$ (equal to 30) which shows that these organisations do not have steady tendencies for continuous improvement.

In case 18, the score A4 year should be changed from “0” to “0.1” so as to be possible to implement the algorithm. Score “0” is equal to score “0.1” and signifies an organisation that has not a score of that year.

Simulation

Assumptions

The features of the Dynamic System studied in the previous paragraphs, will be incorporated in a Business Excellence system, bearing a structure as described in the relevant published article by Mavroidis (2005). The aim of the simulation is to validate the usefulness of the proposed system by understanding the system variables' interrelations or influences.

A set of questions or criteria are defined in each level. The content of these questions are subjective including the assessment methodology. It should be clarified that it is not our aim to define the most suitable questions or criteria per level.

A simplification of this Business Excellence System has been proposed to represent the *Hellenic National Quality Award*. Due to its dynamic nature, this system has activated only those levels which match the current business culture: Level 1 -“Organising and Managing Quality Management Systems” as it refers to the international standards ISO 9001 and ISO 9004 and level 2 –“Organizing and Managing Sector specific and advanced Management Systems” as it refers to the international standards or other documented national initiatives.

To be able to do the simulation on the proposed Dynamic Business Excellence System the following issues are taken into account:

- The Business Excellence System, which will be used, is a simplification of the one that is proposed by Mavroidis (2005), activating only 2 levels of excellence: Level 1 and 2.
- Questions or criteria defined per level are described in the Hellenic National Quality Award. They are not described in this paper.
- Function “f2” is used to compute time correlation as it has already been validated in the previous paragraph.

Definition of Level 1: This level assesses the effectiveness and efficiency of a Quality Management System which is mainly based on the principles of the ISO 9004 and the requirements of the ISO 9001:2000 standards. This level is composed of 6 questions or criteria of excellence. The table 4a indicates the weight factor, and the interactions with other levels per question code.

Definition of Level 2: This level assesses the effectiveness and efficiency of sector Quality Management Systems that is applied to specific business areas (such as Telecommunications, Education, Food, etc) as well as to advanced management systems (such as CSR, Health and Safety, etc). This level is composed of 4 questions or criteria of excellence. The table 4b indicates per question code the weight factor, and the interactions with other levels.

Level 1 (n=1)						
Question Code	Weight factor %	Question interaction to LEVEL 2	Question interaction to LEVEL 3	Question interaction to LEVEL 4	Question interaction to LEVEL 5	Question interaction to LEVEL 6
1.1	$\sigma_{1.1}$	R1.1_2 = A	R1.1_3 = B	R1.1_4 = B	R1.1_5 = B	R1.1_6 = B
1.2	$\sigma_{1.2}$	R1.2_2 = A	R1.2_3 = B	R1.2_4 = B	R1.2_5 = B	R1.2_6 = B
1.3	$\sigma_{1.3}$	R1.3_2 = A	R1.3_3 = B	R1.3_4 = B	R1.3_5 = B	R1.3_6 = B
1.4	$\sigma_{1.4}$	R1.4_2 = A	R1.4_3 = B	R1.4_4 = B	R1.4_5 = B	R1.4_6 = B
1.5	$\sigma_{1.5}$	R1.5_2 = A	R1.5_3 = B	R1.5_4 = B	R1.5_5 = B	R1.5_6 = B
1.6	$\sigma_{1.6}$	R1.6_2 = A	R1.6_3 = B	R1.6_4 = B	R1.6_5 = B	R1.6_6 = B

Table 4a: Level 1 correlation

Level 2 (n=2)						
Question Code	Weight factor %	Question interaction to LEVEL 1	Question interaction to LEVEL 3	Question interaction to LEVEL 4	Question interaction to LEVEL 5	Question interaction to LEVEL 6
2.1	$\sigma_{2.1}$	R2.1_1 = C	R2.1_3 = B	R2.1_4 = B	R2.1_5 = B	R2.1_6 = B
2.2	$\sigma_{2.2}$	R2.2_1 = C	R2.2_3 = B	R2.2_4 = B	R2.2_5 = B	R2.2_6 = B
2.3	$\sigma_{2.3}$	R2.3_1 = C	R2.3_3 = B	R2.3_4 = B	R2.3_5 = B	R2.3_6 = B
2.4	$\sigma_{2.4}$	R2.4_1 = C	R2.4_3 = B	R2.4_4 = B	R2.4_5 = B	R2.4_6 = B

Table 4b: Level 2 correlation

Where, A, C: Initial values, defined empirically for the first time or defined by business community itself. It takes a value from -1 (totally negative), to +1 (totally positive), defined as a one-digit decimal number (e.g. +0,3). Value “0” shows a neutral value.

B: This value is equal to “0” since it is anticipated as an assumption (only level 1, 2 are activated).

To be able to do the simulation, initial values are presented in tables 4a, 4b and are applied to cases 1-20 that were already mentioned in the previous paragraph. It is noticed that the final score is computed by considering:

- Outputs of all the levels of excellence, considering time and
- Interrelations of levels.

The following equations are also taken into account:

Suitable algorithm is the second case “Algorithm F2 (Time correlation)” - (1)

$$\text{Final Score: } A(t) = \sum_{n=1}^2 [An(t) * \sigma_n] - (2)$$

Score of level n:

$$An(t) = \{fx[Xn(t), An(t-tx)] + \sum_{n=1}^1 \{fx[X(6-n)(t), A(6-n)(t-tx)] * R(6-n)n\} / n - (3)$$

Relation of level z to level n:

$$R(6-n)n = Rz_n = \sum_{k=1}^{\omega} [R(z.k)n * \sigma(z.k)] - (4)$$

Implementation

Initial values are given to the variables in tables 4a, 4b which represent an empirical view of the author; however these values could be more objectively set by the business community itself by carrying out a survey. It is not an aim of this research to identify the most representative values but to validate the usefulness of the proposed methodology.

Level 1 (n=1)						
Question Code	Weight factor %	Question interaction to LEVEL 2	Question interaction to LEVEL 3	Question interaction to LEVEL 4	Question interaction to LEVEL 5	Question interaction to LEVEL 6
1.1	$\sigma_{1.1} = 0.2$	$R_{1.1_2} = 1$	$R_{1.1_3} = 0$	$R_{1.1_4} = 0$	$R_{1.1_5} = 0$	$R_{1.1_6} = 0$
1.2	$\sigma_{1.2} = 0.2$	$R_{1.2_2} = 0.6$	$R_{1.2_3} = 0$	$R_{1.2_4} = 0$	$R_{1.2_5} = 0$	$R_{1.2_6} = 0$
1.3	$\sigma_{1.3} = 0.2$	$R_{1.3_2} = 0.5$	$R_{1.3_3} = 0$	$R_{1.3_4} = 0$	$R_{1.3_5} = 0$	$R_{1.3_6} = 0$
1.4	$\sigma_{1.4} = 0.2$	$R_{1.4_2} = 0$	$R_{1.4_3} = 0$	$R_{1.4_4} = 0$	$R_{1.4_5} = 0$	$R_{1.4_6} = 0$
1.5	$\sigma_{1.5} = 0.1$	$R_{1.5_2} = -0.4$	$R_{1.5_3} = 0$	$R_{1.5_4} = 0$	$R_{1.5_5} = 0$	$R_{1.5_6} = 0$
1.6	$\sigma_{1.6} = 0.1$	$R_{1.6_2} = -1$	$R_{1.6_3} = 0$	$R_{1.6_4} = 0$	$R_{1.6_5} = 0$	$R_{1.6_6} = 0$

Table 5a: Level 1 correlation

Level 2 (n=2)						
Question Code	Weight factor %	Question interaction to LEVEL 1	Question interaction to LEVEL 3	Question interaction to LEVEL 4	Question interaction to LEVEL 5	Question interaction to LEVEL 6
2.1	$\sigma_{2.1} = 0.3$	$R_{2.1_1} = 1$	$R_{2.1_3} = 0$	$R_{2.1_4} = 0$	$R_{2.1_5} = 0$	$R_{2.1_6} = 0$
2.2	$\sigma_{2.2} = 0.3$	$R_{2.2_1} = 0.2$	$R_{2.2_3} = 0$	$R_{2.2_4} = 0$	$R_{2.2_5} = 0$	$R_{2.2_6} = 0$
2.3	$\sigma_{2.3} = 0.2$	$R_{2.3_1} = 0$	$R_{2.3_3} = 0$	$R_{2.3_4} = 0$	$R_{2.3_5} = 0$	$R_{2.3_6} = 0$
2.4	$\sigma_{2.4} = 0.2$	$R_{2.4_1} = -0.1$	$R_{2.4_3} = 0$	$R_{2.4_4} = 0$	$R_{2.4_5} = 0$	$R_{2.4_6} = 0$

Table 5b: Level 2 correlation

It is noticed that a negative value of the relation R_{xy} indicates a negative relation or influence of the variable “x” on the variable “y”.

To proceed with, the data on tables 5a, 5b are used on the equation (4) that follows to define the relation or influence of “level 1” on “level 2”:

$$\begin{aligned}
R12 &= \{R1.1_2 * \sigma 1.1\} + \{R1.2_2 * \sigma 1.2\} + \\
&\quad \{R1.3_2 * \sigma 1.3\} + \{R1.4_2 * \sigma 1.4\} + \\
&\quad \{R1.5_2 * \sigma 1.5\} + \{R1.6_2 * \sigma 1.6\} \\
&= (1*0,2) + (0,6*0,2) + (0,5*0,2) + (0*0,2) + (-0,4*0,1) + (-1*0,1) \\
&= 0,28
\end{aligned}$$

$$R12 = 0,28 \text{ (5)}$$

Similarly to the above, the relation or influence of “level 2” to “level 1” is defined as follows:

$$\begin{aligned}
R21 &= \{R2.1_1 * \sigma 2.1\} + \{R2.2_1 * \sigma 2.2\} + \\
&\quad \{R2.3_1 * \sigma 2.3\} + \{R2.4_1 * \sigma 2.4\} \\
&= (1*0,3) + (0,2*0,3) + (0*0,2) + (-0.1*0,2) = 0.34
\end{aligned}$$

$$R21 = 0,34 \text{ (6)}$$

Next, the algorithm F2 is applied in the same way as in equation (1) to identify the balanced score of levels 1, 2 in the range of 5 previous years. In the case of simulation, score data is taken by the cases 1, 5 of the table 3a. Therefore,

Case 1:	Case 5:
Score level 1 (2003) = 3	Score level 2 (2003) = 86
Score level 1 (2004) = 97	Score level 2 (2004) = 42
Score level 1 (2005) = 16	Score level 2 (2005) = 66
Score level 1 (2006) = 12	Score level 2 (2006) = 58
Intermediate score level 1(2007) = 55	Intermediate score level 2(2007) = 51
F2: Balanced Score of level 1 (2007) = 46.75	F2: Balanced Score of level 2 (2007) = 38.25

Then the score of level 1 is computed, by applying equations (3), (5), (6) as well as the functions F2 as it is identified before:

$$\text{Final Score Level 1} = \{46.75 + 38.25*0.34\} / 2 = 29.88 \text{ (7)}$$

$$\text{Final Score Level 2} = \{38.25 + 46.75*0.28\} / 2 = 25.67 \text{ (8)}$$

Finally, applying equations (2), (7), (8) and considering that the weight factor of level 1 is 70% and level 2 is 30%, the final score is defined as:

$$\text{Final Score (2007)} = 29.88*0.7 + 25.67*0.3 = 28.62$$

Conclusions

Summarizing, the proposed system of Business Excellence (Mavroidis, 2005) is modelised according to the principles of the Dynamic Systems, aiming at:

1. Defining the final balanced result of the Business Excellence of an organization in relation to **time** evaluation. Contrary to the current practices, where an organization is evaluated on a precise moment of time, the proposed system is calculating through an adequate mathematic equation the results of the previous evaluations of the same variables.

2. Outlining the **interactions** of the system variables, with an ultimate goal to find the influences, through the equations DYNAMO of the Dynamic Systems. As a result, it can be calculated which variables are influencing positively, negatively, or neutrally the rest of the variables, and form the basis for decision-making, as far as the action that should be routed in the first place considering the achievements of the organization's objectives.

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APPLYING IDEA GENERATION METHOD IN SERVICE ORGANIZATION

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1. INTRODUCTION

Speed, efficiency and quality of innovating products, processes and services are becoming an imperative of contemporary way of doing business. Because of that, it is necessary to use all available potentials for determination of future course of development and directing process of innovating in adequate way, quickly and efficiently. These potentials are knowledge and experience of both experts, working for the firm or not, and employees at different levels, who are more and more appreciated by successful companies as originators of innovation and development activities.

Firms that set ambitious growth goals must have well organized and planned idea generation of new products. Because of that, sources of ideas for new products should be researched first and systematically. Those researches often lead to new ways of finding fresh ideas. In that case, it would be possible to create new ideas for new products systematically, using different techniques of creative thinking.

This paper shows application of Brainwriting 6-3-5 method in service providing company Energoprojekt-Entel. Above all, firm does its best to keep up with world trends so that it can improve business and that's exactly what this research is based on.

2. IDEA GENERATION METHOD

Firms which want to keep up and improve their flexibility and competitive advantage must be creative in problem solving and idea generation of product, process and service innovation. Sessions for creative problem solving imply communication that develops new possibilities for research and learning, as well as the possibilities for creating important ideas which will be foundation for firm's future development. The best known methods available for management today are: Brainstorming, Brainwriting, Object simulation, Nominal group technique, Metaphors, Wishful thinking, Rich pictures etc. [1]

2.1. Brainwriting

Creator of Thought writing technique is Rohrback. Method is suitable for solving problems which are not too narrow or closed. It is applied to small groups of 4-7 people and requires heterogeneity of group in order to have more creative atmosphere. Written communication is, when needed, expended on oral communication. Use of this method has many similarities with Brainstorming method, such as performance stages: [2]

- Problem definition;
- Writing down ideas;
- Circling of a piece of paper;
- Problem redefinition;
- Evaluation and assessment of ideas.

There are various applications of Brainwriting method: Brainwriting Pool, Brainwriting 6-3-5, Idea cards method, Brainwriting Game, Limited brainwriting.

2.1.1. Brainwriting 6-3-5

Variation Brainwriting 6-3-5 got its name thanks to 6 participants who write down 3 ideas in 5 minutes. Worksheet that every participant gets (6-3-5 Worksheet) is in table 1:

Problem description			
Participant	Idea 1	Idea 2	Idea 3
1			
2			
3			
4			
5			
6			

Table 1. Worksheet for Brainwriting method 6-3-5 [3]

Each participant takes 5 minutes to write down 3 ideas in the first row of a worksheet. Ideas should be brief sentences of 6-10 words. After 5 minutes (or when all participants finish writing), worksheet is handed to the person on the right. Three new ideas are added to the sheet. They can be related to previous three ideas or completely different. It goes on until the worksheets are complete. In the end 6 worksheets produce 108 ideas which can be evaluated.

3. EP-ENTEL COMPANY

Energoprojekt Entel is a joint-stock company for planning, consulting and engineering of thermo energetic, nuclear, electro energetic and telecommunication objects and systems. It is a daughter company of ENERGOPROJEKT HOLDING AD. [4]

Company does business in the country and abroad. It provides services of planning, consulting and engineering for thermo and nuclear power stations, electric power facilities, telecommunication systems and neighbourhood facilities. It applies modern techniques for planning development, spending and producing all forms of energy, space planning of energetic facilities, creating strategies for development of energetics, as well as directing of energetic systems and facilities. Modern systems for environment protection, up-to-date techniques of waste processing and disposal are applied in all the stages.

Information system at all levels of Energoprojekt follows and updates development of business activities which are in a constant touch with scientific and business achievements both in the country and abroad. Since the first computer generations, Energoprojekt has been developing its own information system which provides its users with the most modern computer techniques. It also develops software packages that market demands. In cooperation with well-known companies, it is a significant producer of computer equipment, system and application software and complete info systems in the fields of banking, postal and business systems and government organs.

3.1. System for access control in ENERGOPROJEKT business premises

Entis KP (access control) is informational system for access control and keeping records of working hours. It is developed as an internet service in Energoprojekt Entel as an addition to information generated by uniform system for accessing control in Energoprojekt business premises. It is in compliance with “ Technical instructions for application of system for access control in Energoprojekt business premises” which were prepared and delivered to companies in question by Energoprojekt AD in March 2005.

Entis KP enables system users, according to their level of security clearance, instant insights of people’s presence or absence from the premises, all movements at the entrance to the building, as well as data analysis at single or collective level of people’s presence/absence with their right character, assigned by authorised personnel.



4. DESCRIBING PROBLEM AND APPLICATION OF BRAINWRITING 6-3-5 METHOD IN EP-ENTEL

Problem definition: New chip cards were introduced as employees' IDs. Experts¹¹ were asked to think about their purpose, information they would contain and their features. After detailed introduction of the problem, experts were given 5 minutes to write down their ideas on worksheets. Worksheets circled from one participant to another, following the rule of accepting worksheet from the left and handing it to the right. Meeting was over when everyone had got their original sheets.

Example of a filled worksheet is given in table 2.

These are ideas selected from Brainwriting 6-3-5 method worksheets:

Access to network, defined clearance for use of network, access to computer from both external and internal location, phone access: In view of the fact that computer is often used in the company, it is necessary to remember and use different codes. In that case, chip card would make it easier for employees and reduce time spent on those activities. In Entel telephones are used after entering a code, which shows a high level of access control. As far as external computer access is concerned, most of participants find this idea excellent. There is a question of necessity of internal control and what happens when employee is unexpectedly absent and therefore his data can not be accessed without his chip card.

Electronic signature and access control to Entis (Entel Information System) prevailed and give impression of best accepted and developed ideas.

Keeping CV (expanded to scanned degrees, licences...), office and private phone numbers and health data: There is a trend formed around the idea of replacing business and ID cards with a chip card which would contain both of these cards data.

Access to bank account: Very attractive idea that would be useful, but there is a question of jurisdiction and feasibility.

Use of benefits: This idea is about the use of company cars and kitchen/cafeteria only by employees. In that way it is possible to control access and time. For example, employee could spend some time in the kitchen with time limit of let's say, half an hour as a determined break.

Possibility of storing and reading data (USB memory): Possibility that card contains some kind of reminder. These features are considered to be desirable, but there is a question of uncontrolled modification of content.

¹ Authors are familiar with the names of experts

Problem: Think about purpose of chip cards, information they would contain and their features.		
1. Entel executive director		
1.1. Should contain occupation, office phone number	1.2. Should contain CV	1.3. For use of phone (without code)
2. Manager of telecommunication bureau		
2.1. CV with additional info (licence, office phone number, information from personnel...)	2.2. Personal planner, time organizer	2.3. I think it's unpractical for phoning, especially when one has a lot of calls
3. Information system engineer		
3.1. Authorisation of communication, electronic signature with CD	3.2. Access to telephone, computer...	3.3. Access to a bank account
4. Technician		
4.1. ID card available for reading from mobile phone	4.2. Use of company car, recording times of departures and arrivals	4.3. Updating all important data on an individual
5. Electrical engineer		
5.1. Authorization-electronic signature is preferable	5.2. Access to the computer network and telephone	5.3. External access to a bank account
6. Manager of electronic data processing center		
6.1. Authorization-electronic signature is preferable	6.2. Access to Entel information system	6.3. Possibility of reading data from the card, similar to USB memory

Table 2. Sheet with ideas according to Brainwriting 6-3-5

These worksheets point to several very interesting groups of ideas accepted in full. In the same way some ideas opened questions such as necessity, feasibility, practicality... It can be concluded that method was used efficiently and that employees took the problem seriously. Time limits given in general features of method were respected.

5. CONCLUSIONS

Nowadays, development of companies and innovative work are more and more results of systematic, organised and directed work with use of available methods, techniques and potentials in and outside of organisation. It is very important to see and understand early warning signs and act upon them with desired results. After idea or innovation generation, multidimensional and

multidisciplinary approach is needed. It implies suitable managing of innovation and development process in order to achieve commercial success of innovation and total development of a company. Suitable training programs for managers in different fields and levels are much needed in domestic business practice. They should teach well known methods and techniques and ways of strengthening creative potentials and innovation spirit in an organisation.

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A TOOL FOR MANAGING INFORMATION TO IMPROVE SERVICES: PROBABILISTIC EXPERT SYSTEMS.

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Decisions and evidences

In the later years, factors such as growing attention for service sector, increasing well-being level, more qualified and well informed stakeholders and consumer safeguard, have strongly influenced organizations management system. Private and public organizations have to face the new challenge of quality, that has now assumed a complex and dynamic meaning. Quality management is a competitive strategy, oriented to raise stakeholders' satisfaction and to improve whole organization performance through waste and costs cut. In particular, in the public sector the citizen's attention is characterized not only by service availability and cheapness but also by supply personalization. For Service quality control systems are necessary to ensure uniformity and transparency and to verify the coherence with citizens' expectation. Measuring service quality is a complex activity because of the contextual client presence in services delivery. In particular, different kinds of features can be surveyed to get a service state of art such as measurable characteristics (*i.e.* timing, cost and price, mistakes and production), observable behaviour and attitude (*i.e.* customer and personnel behaviour), etc.

Achievement of process effectiveness and efficiency in services has become a crucial competitive factor. To this aim it is necessary to implement a systematic approach to measure, monitor and control process performance. To measure process performance is functional to develop continuous improvement and it is the most important step to build knowledge.

Every organization should be able to monitor process quality in order to keep it under control and intervene if necessary. Additionally, according to continuous improvement and as suggested by the Deming cycle (Plan, do, check, act), an organization has to plan data collection and analysis to measure process output quality. In this way, useful information can be gathered helping to suggest favouring process performance improvement.

Decisions should not rely on decision-maker subject matter knowledge only but should take into account all the available evidence about the process of interest, in order to have a clear, objective and possibly complete picture of the organization. Evidence-based decision is a methodological approach and it is a paradigm of Total Quality Management. Statistical methods can help management developing continuous improvement and obtaining competitive advantage. So, the change from an "impression thinking" to a "statistical thinking" is a key factor for strategic decision-making. Statistical data analysis has the aim to extract the greatest informative contribute from data that has to be coherent with the aim of data gathering. As a first step, data analysis can highlight eventual process critical areas; their possible causes can then be identified by means of more advanced statistical techniques. It is useful to measure the trouble impact on general process performance and to develop potential solution for problem solving. So, decisions effectiveness is achieved taking into consideration data, statistical analysis and logical reading.

The quality statistical tools to monitor and control processes, in TQM represent a valid and well established help for managing; nevertheless they are not exhaustive. Among them, cause-and-effect diagram is a pictorial representation of the relations between an effect, say a quality

aspect, and its possible causes (an example is shown in Figure 1). The diagram is constituted by: a straight directed line pointing towards the effect of interest; oblique lines linked to the straight horizontal line (also called “fish-bones”) representing the possible direct causes; short lines, connected to the oblique one, representing possible indirect causes.

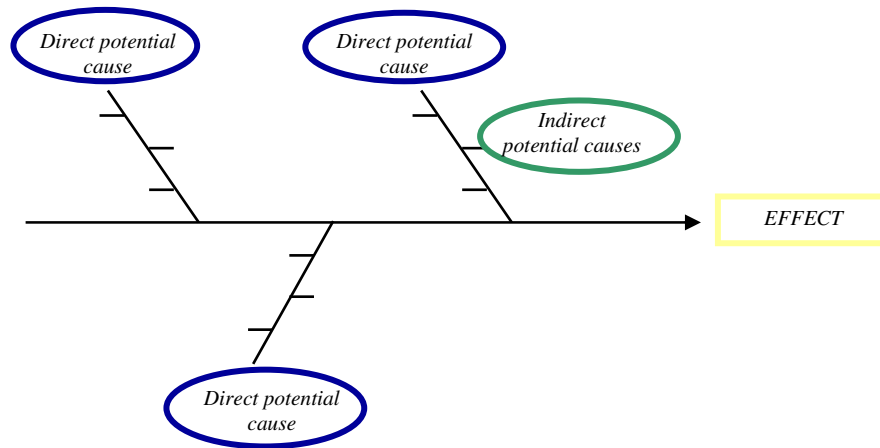


Figure 1: A causal-end-effect diagram

The cause-and-effect diagram provides a qualitative eventually redundant graphical scheme of the effect generating process. This diagram is also a fundamental managerial tool that can become a strategic and decision supporting tool if the statistical (direct and indirect) dependencies between potential causes and the effect are appropriately measured and verified. So, it could be possible to select those causes that actually affect the quality aspect. In this way a corrective action could be easily proposed, by intervening on the factor(s) that more strongly determines the effect.

Here, we propose to use a particular multivariate statistical model, the Probabilistic Expert System (PES henceforth, see Cowell *et al.* (1999)), as a statistical pruned version of the cause-and-effect diagram. Pruning is performed by eliminating all those possible causes that do not result as actually affecting the quality aspect of interest and that therefore should not be taken into account in planning improvement strategies. Thanks to the graphical representation, a PES is also a structured and an easy tool to be interpreted. Therefore, we believe it is an appropriate instrument to model and manage complex aspects such as customer satisfaction.

Survey of customer satisfaction with questionnaire

Data useful for quality improvement can have different sources such as process markers, performance results, people surveys, customer satisfaction surveys, audit, etc.

In particular, customer satisfaction analysis is a strategic methodological approach that, combined with process efficacy and efficiency, can increase competitiveness by enabling process simplification and continuous improvement (if carried out systematically). Customers express their opinion about general and aspect-specific quality perception level.

Actually, also public organization has to systematically plan and conduct citizens' satisfaction surveys in order to get feedback about the delivered service and suggestions for future improvements. Hence, citizens' satisfaction survey represents an input to start process improvement and to increase competitiveness in the country system. According to the methodology used to survey satisfaction, we can extract two different kinds of information:

on quantity if a questionnaire is submitted to a sample of citizens; on quality if deeper interviews or focus groups are used. Here, we consider questionnaire based surveys. This kind of survey has to follow an accurate plan in relation to quality drivers' identification, method and scaling choice, kind of administration, sampling design and statistical techniques for data analysis.

Usually, a questionnaire is composed by a set of items that could be organized in dimensions (multi-item scale) or simple (single-item scale). Once data are collected, they must be organized in a database where variables correspond to items (and are represented in columns) and observations are the interviewed people (*i.e.* the sampled units and are represented by row).

In addition, we deal with following steps that an organization should carry out in order to acquire information from a dataset.

Statistical data analysis

Statistical analysis usually starts with basic descriptions of the surveyed phenomenon and is then carried out by using more sophisticated methods particularly suitable to investigate the problem at hand. Descriptive statistic is used to get an initial representation of the main features of our data and helps the analyst decide further more specific techniques to be used.

In customer satisfaction analysis average rates relative to the different items of the questionnaire are generally computed at first. Although the information provided by the average is very important, it is only partial being relative to each variable central tendency only.

For instance, consider a customer satisfaction survey, based on a seven level scale (where 1 is the lowest and 7 the highest rate). Suppose (for illustrative purposes) also that the average of a specific item is computed and is equal to 5. At a first sight we could conclude that there is a good satisfaction level with respect to the analysed aspect. However, this value could result from either rather homogenous opinions (all rates around 4, 5 and 6) or heterogeneous opinions (all possible rates having been used). Therefore we cannot make any conclusion on the basis of the average only. Variability must be taken into account and measured as well.

Data variability could be interpreted easily: not much variability stands for a homogeneous opinion perception, while much variability says that there are a lot of improvement queries and corrective actions are essential. In services quality framework, variability measurement gives a first idea of quality perception heterogeneity and therefore of the improving margins. Variability reduction becomes in this way an important and strategic task and in this sense it is crucial to understand and explain the possible sources of it.

When a phenomenon is complex due to the large number of different aspects defining it, a complete and clear picture can be obtained by studying the relation structure among the various aspects. Customer satisfaction is a complex variable. To measure it several items, assumed to be elements defining satisfaction, are observed on a sample, often together with the overall satisfaction. In order to understand as much as possible the generating process of citizen satisfaction, it can be important to properly model the dependency structure among the items. This gives important insights about both the variability of the items and their eventual (direct or indirect) influence on the overall satisfaction variable. Probabilistic expert systems are statistical models able to represent the dependence relation structure among variables. They can be estimated (learned) on the basis of a sample of data (in our case, the customer satisfaction questionnaires). Once the model (*i.e.* the PES) is estimated, we have a model helping to transform all the information collected from the interviewed citizens into a

knowledge-based machine that, by means of computationally efficient propagation algorithms, can be also used as support to take decisions.

Before seeing how PES can be applied to customer satisfaction analysis, we introduce some basic elements of graph and probabilistic expert systems.

Basics on probabilistic expert systems

PES belong the family of multivariate statistical models, namely graphical models (see Lauritzen, 1996) using graphs to represent statistical dependencies among variables. The graphical representation allows an easy and straightforward statistical model interpretation; therefore it facilitates communication and interaction among experts with different backgrounds. Graphical models verifies many important and useful properties; among them modularity enabling complex problem specification by a combination of simpler subproblems (with no information loss).

A graph G is a pair $G=(V, E)$, where V is a finite set of nodes or vertices and E is a subset of the set $V \times V$ of ordered pairs of different nodes. In the graphical model framework, nodes represent the variables of interest and links (edges) between nodes represent conditional dependence relations among the variables.

The edges of a graph can be of two different types: directed, represented by arrows; undirected, represented by lines. A graph having only undirected edges is called *undirected* graph; a graph with directed edges is called *directed* graph. An example of both types of graphs is in Figure 2 below. PES are graphical models based on graphs with directed edges; therefore from now on we focus attention on directed graphs only. For definitions and properties of undirected graphs the reader can see Lauritzen (1996).



Figure 2: examples of *a*) a directed graph; *b*) an undirected graph

Consider Figure 2a) and an arrow connecting two nodes, say 1 and 3, pointing from 1 to 3. We say that 1 is a *parent* of 3 and that 3 is a *child* of 1. Vertices with no parents (1, 2 and 4 in Figure 2a)) are called founder nodes or roots of the graph (network). A sequence of distinct nodes connected by an arrow called a *path*. Two nodes linked by a path are said connected: in Figure 2a) for example 1 and 5 are connected by a path constituted by two edges, $1 \rightarrow 3$ and $3 \rightarrow 5$. When two nodes are connected by a path whose edges have the same direction, the path is said to be directed (or direction preserving); path from 1 to 5 is an example. When a path allows to start from a node and to go back to it following the direction of edges, is named a cycle. An example of graph containing a cycle is given in Figure 3 below, where the cycle involves the vertices 2, 3, 5 and 4.

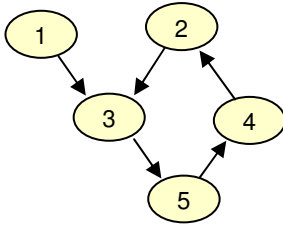


Figure 3: example of a directed graph with a cycle (2,3,5,4)

Notice that the network a) in Figure 2 does not contain any cycles. A directed graph with no cycles is called *directed acyclic graph* (from now on DAG).

A crucial point in the use of graphical models is the possibility to describe and to read independencies (marginal and conditional) from the graph itself. The absence of an edge between two nodes (variables) might be read as a conditional independence statement. For example in Figure 2a) we see that nodes 2 and 5 are separated by the remaining nodes (in particular to go from node 2 to node 5 it is necessary to pass by node 3). In this case we can conclude that variables 2 and 5 are independent conditionally on variable 3 (*i.e.* when we know the observed value of variable 3, variable 2 becomes uninformative for variable 5). In general in a graph configuration such as $x \rightarrow y \rightarrow z$, we have that variables x and z are independent given y . As another, consider nodes 5 and 6 in Figure 2a); they are separated by node 4 and therefore they are independent conditionally on 4 (*i.e.* when variable 4 is observed, variable 5 becomes irrelevant for variable 6 and vice versa). In general in a graph configuration such as $x \leftarrow y \rightarrow z$, we have that variables x and z are independent given y . Differently, if we consider nodes 1 and 2 of graph a) of Figure 2, they are not independent given node 3 (*i.e.* having information about variable 3 makes its two parents, variable 1 and 2, dependent). In general in a graph configuration such as $x \rightarrow y \leftarrow z$, we have that variables x and z are dependent given y .

Two equivalent methods have been proposed to verify whether an arrow missing between two variables denotes independence between them conditionally on all the other variables (nodes) of the graph:

- d-separation (Pearl, 1986) based on the analysis of all the possible paths connecting two unlinked nodes
- an approach based on construction of the moral graph (Frydenberg and Lauritzen, 1989).

For a detailed and rigorous account on this, refer to Lauritzen (1996).

PES combine features of graph theory and probability theory. They are, in fact, formed by two parts: a knowledge base and the inference engine. The knowledge base is represented by a DAG, *i.e.* the network and its conditional distributions; the inference engine provides efficient algorithms for processing and propagating partial and fragmentary evidences (information) through the network. Given a network, each variable (node), say X , is associated with the conditional probability distribution of the variable given its parents $p(X|pa(X))$ where $pa(X)$ denotes the parent set of variable X , *i.e.* the set of nodes connected to X by an arrow pointing from them to X . If X is a founder, then it is associated with its marginal probability. It is possible to factorise the joint probability distribution according to the graph as follows

$$p(V) = \prod_{X \in V} p(X | pa(X))$$

For the DAG in Figure 2 we have:

$$p(V) = p(1) p(2) p(3|1;2) p(4) p(5|3;4) p(6|4)$$

When willing to use PES, we first have to learn the network. This can be built a “causal” network by the experts of the problem of interest. In this case, the construction can be an intensive and complex task to perform. The network can be also learnt directly from data. Efficient algorithms have been proposed: some of these are supported by a constraint-based approach, and others by a score and search approach (for details see Cooper *et al.*, 1992).

For our application we have used the software Hugin (www.hugin.com) that performs two kinds of PC-algorithm (Spirtes *et al.*, 2001). As implemented in Hugin, the PC-algorithm also allows to learn a graphical structure from data once dependence/independence constraints have been fixed for the variables of interest.

Improving service quality with PES

We can now see how PES can be applied to the problem of improving service quality.

In 2004, the Italian Department of the Treasury, in cooperation with University of Roma Tre, carried out a research project with the aim of testing the Common Assessment Framework (CAF-www.eipa.eu) in local offices of four Italian regions (Lombardia, Sardegna, Veneto, Lazio) representing the study panel. In this research, information was then given to us about aggregated data from a citizens’ satisfaction survey carried out in 2004. The citizens’ opinions were collected using a questionnaire organized in dimensions and items with a five level scale going from 1 (very low satisfaction) to 5 (very high satisfaction).

The questionnaire investigated the following areas:

- *Tangible aspects*: facility to get information in the office, external signs clarity, office hours adequacy, cleanliness and comfort of the premises.
- *Functionality*: internal signs clarity; clarity of the necessary steps to use the services; ease of accessibility to services; waiting time; answers clarity; answers correctness; answers completeness; answers quickness.
- *Relationships*: staff courtesy; staff competency; staff willingness
- *Overall satisfaction*

From a qualitative viewpoint, we represented relations between the quality drivers (the causes) and overall satisfaction (the effect) by a cause-and-effect diagram (see Figure 4)

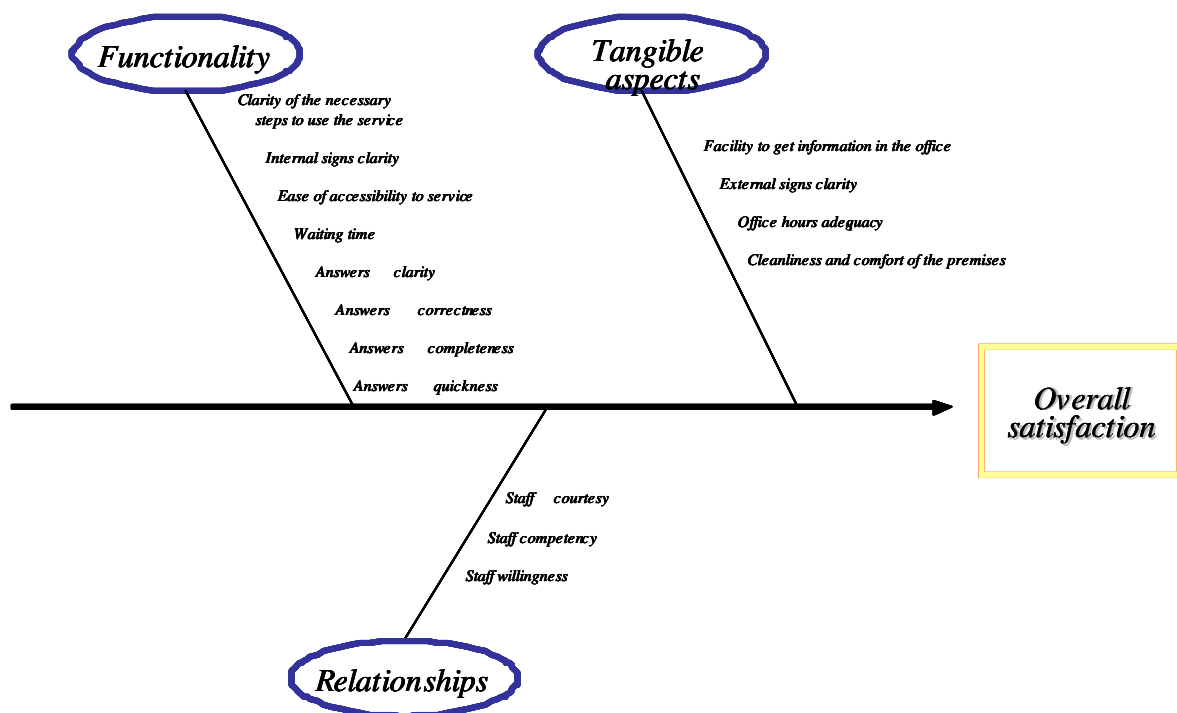


Figure 4: The cause-and-effect diagram for a citizens' satisfaction survey

This tool was also very useful to represent dimensions and items of the questionnaire.

Here we probabilistic expert system in order to derive a quantitative pruned version of the diagram in Figure 4. There are several reasons why we think this statistical model can help in quality improvement framework:

- PES representative structure is similar to that of cause and effect diagrams. Therefore they are easy to be interpreted;
- they summarise subject-matter knowledge and data derived information (different contributions merge can be done both when learning the relation structure and, eventually, when assigning the conditional distribution to the variables);
- they allow using easy and computationally efficient algorithms for evidence propagation. This means that various possible improvement scenarios can be easily simulated and evaluated.

We were given aggregated data for each questionnaire item and for the overall satisfaction. The aggregation level was that of local offices. The sample is made up of 124 local offices belonging to the study panel. For each variable we had the average of the grades of the interviewed citizens.

The average rates have then been divided in the following four classes:

- 1,00-2,99=class 1;
- 3,00-3,49=class 2;
- 3,50-3,99=class 3;
- 4,00-5,00=class 4.

The dependence relations in the network were learnt directly from our data using the PC algorithm¹. Some constraint have been fixed to forbid eventual illogical link directions between variables: in particular edges oriented from the overall satisfaction to any of the other variable were forbidden.

The network in Figure 5 represents the learnt dependence structure.

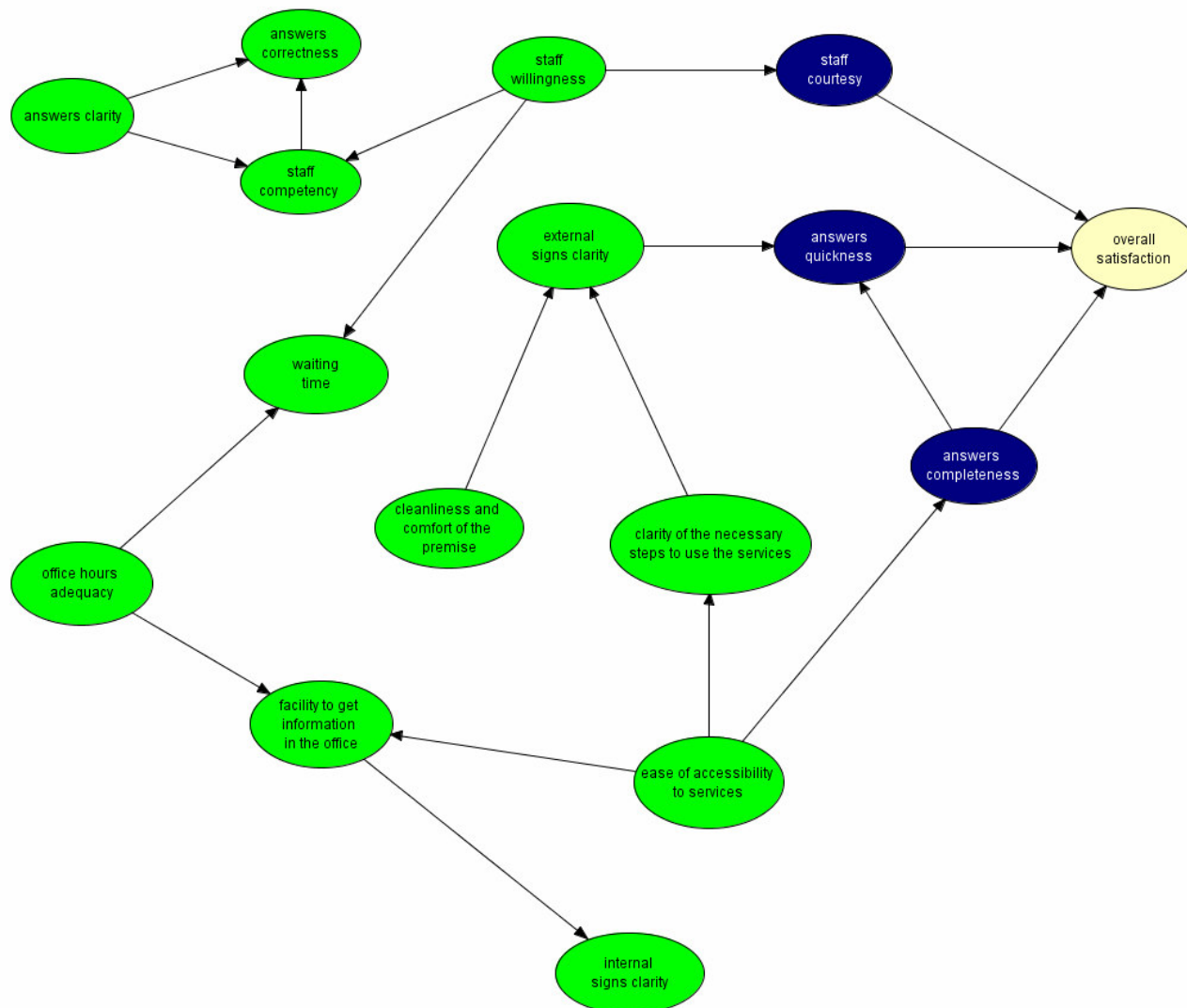


Figure 5: The network structure for citizens' satisfaction

We can see that “overall satisfaction” has three direct causes, dark coloured in the graph, (“staff courtesy”, “answers quickness” and “answer completeness”) and several indirect causes. Following the paths (not necessarily according to the arrows directions) of the graph we can have an idea of the way the overall satisfaction judgement is generated in the citizens' mind. For example we see that “ease of accessibility to services” is an indirect cause of overall satisfaction since is linked to it by two paths (one going via “answer completeness” and the other via “clarity of the necessary steps to use the services” and “external signs clarity”).

Before simulating any possible action, the marginal probability tables associated to the nodes are shown in Figure 6. The node tables show, for each variable (item), the percentage of local

¹ We implemented the algorithm using a significance level $\alpha=0,05$.

offices that got the different possible rates. This information is the base to start, simulate and eventually implement improvement actions.

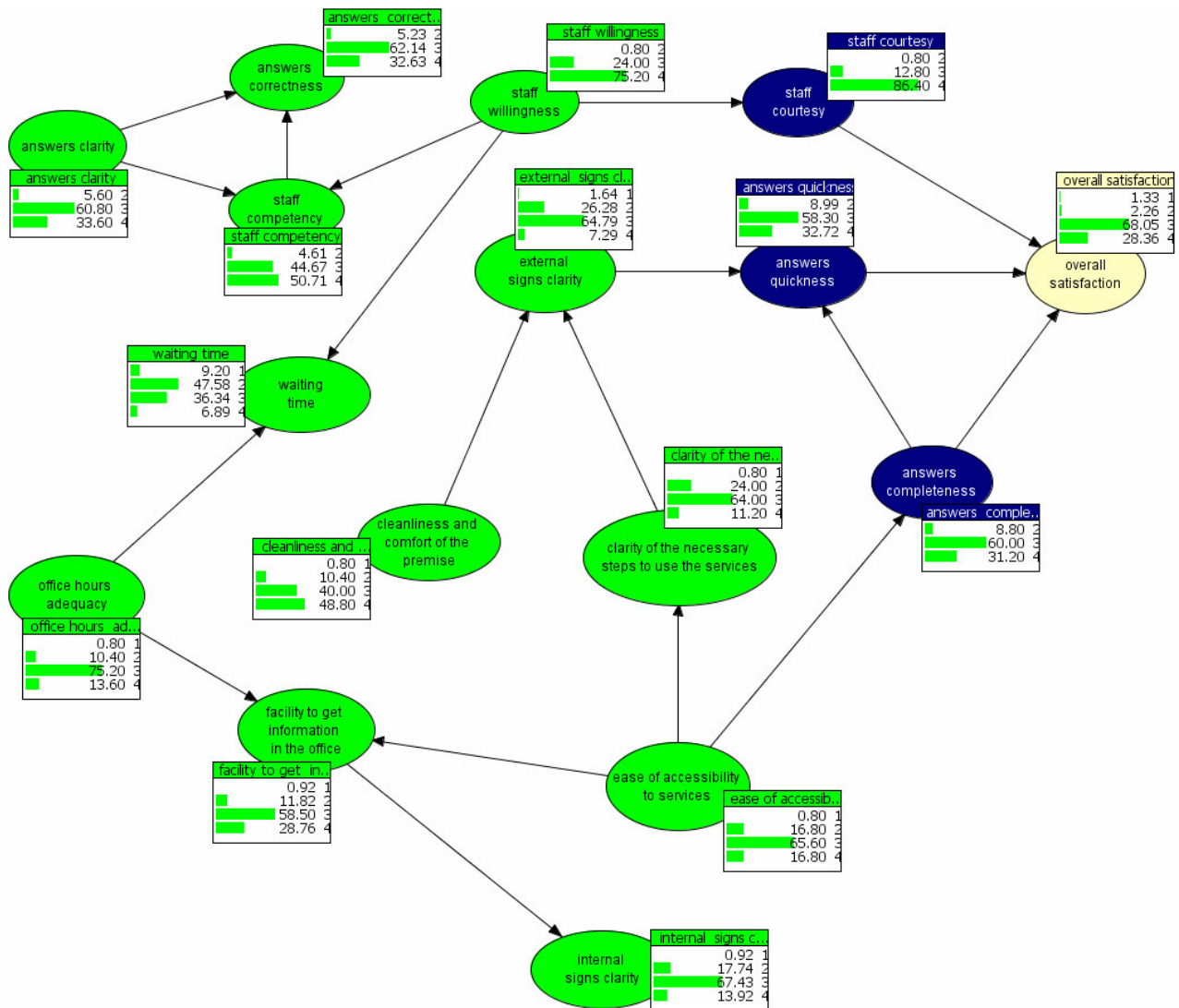


Figure 6: The node tables as observed in the sample, *i.e.* before simulating any improvement action.

If we simulate an improvement action on a variable we can obtain in a mouse-click time, by evidence propagation, the estimate of its impact on the overall satisfaction. For instance suppose that 100% of local offices obtain the highest mark for “quickness of answers”. We can insert this evidence in the network by double clicking on state 4 of “quickness of answers” (see Figure 7). The evidence is then propagated in the network and the probability tables of the variables are modified according to it.

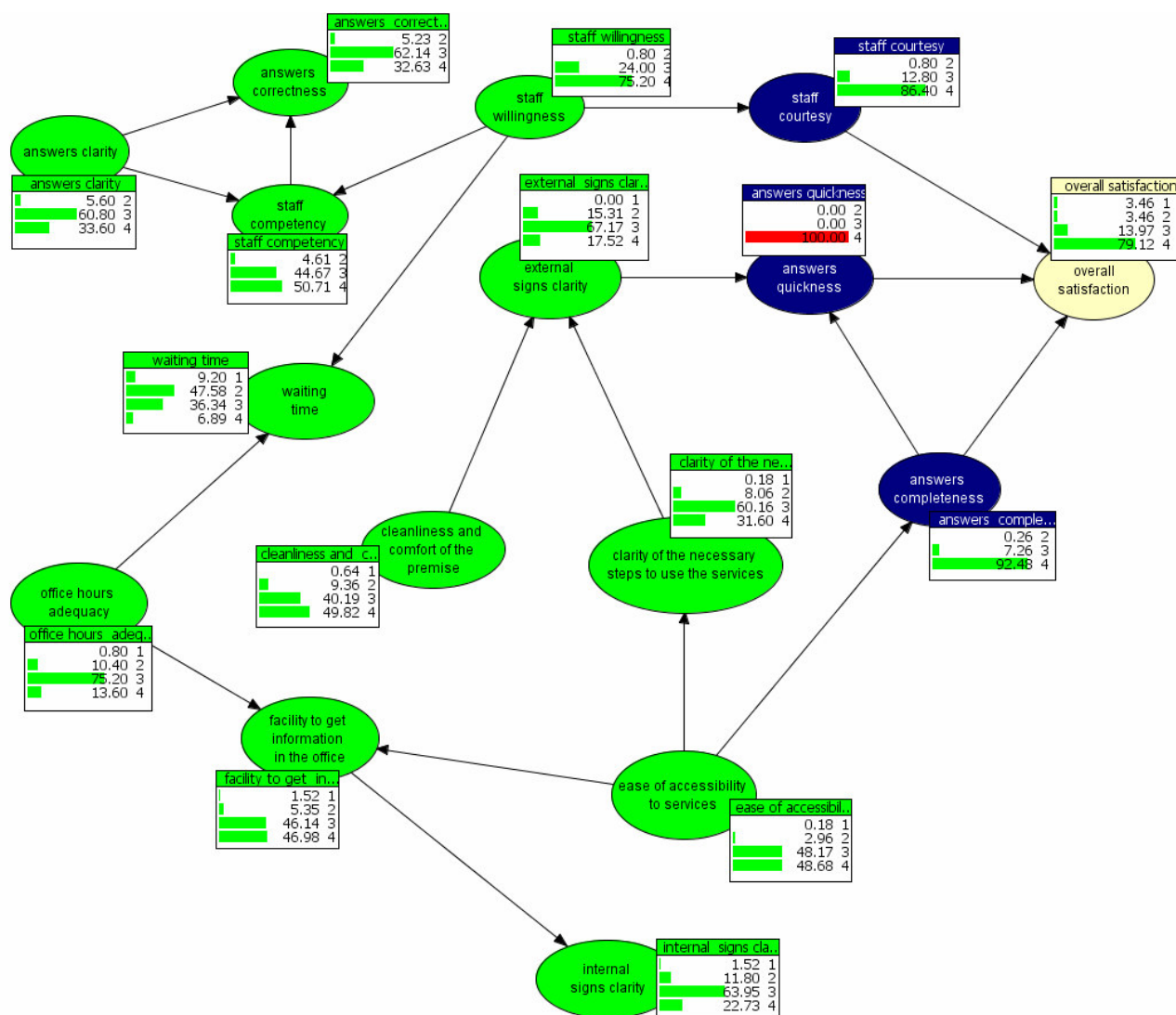


Figure 7: The node tables according to a specific improvement scenario involving a direct “cause” of the overall satisfaction

Therefore we see that if we implement an improvement action increasing the satisfaction level with respect to the “quickness of answers”, the percentage of offices that have the highest mark in overall satisfaction raises from 26.36% to 79.12%. So, we are able to know improvement margins of a possible action. We can also simulate interventions on indirect causes. For instance, we can imagine to intervene on the variable “clarity of the necessary steps to use the service”. We can simulate that 100% of local offices obtain the highest mark with respect to this item. This means that evidence can be inserted and after propagation we find that the percentage of office having the highest mark for overall satisfaction goes from 26.36% to 79.30% (see Figure 8).

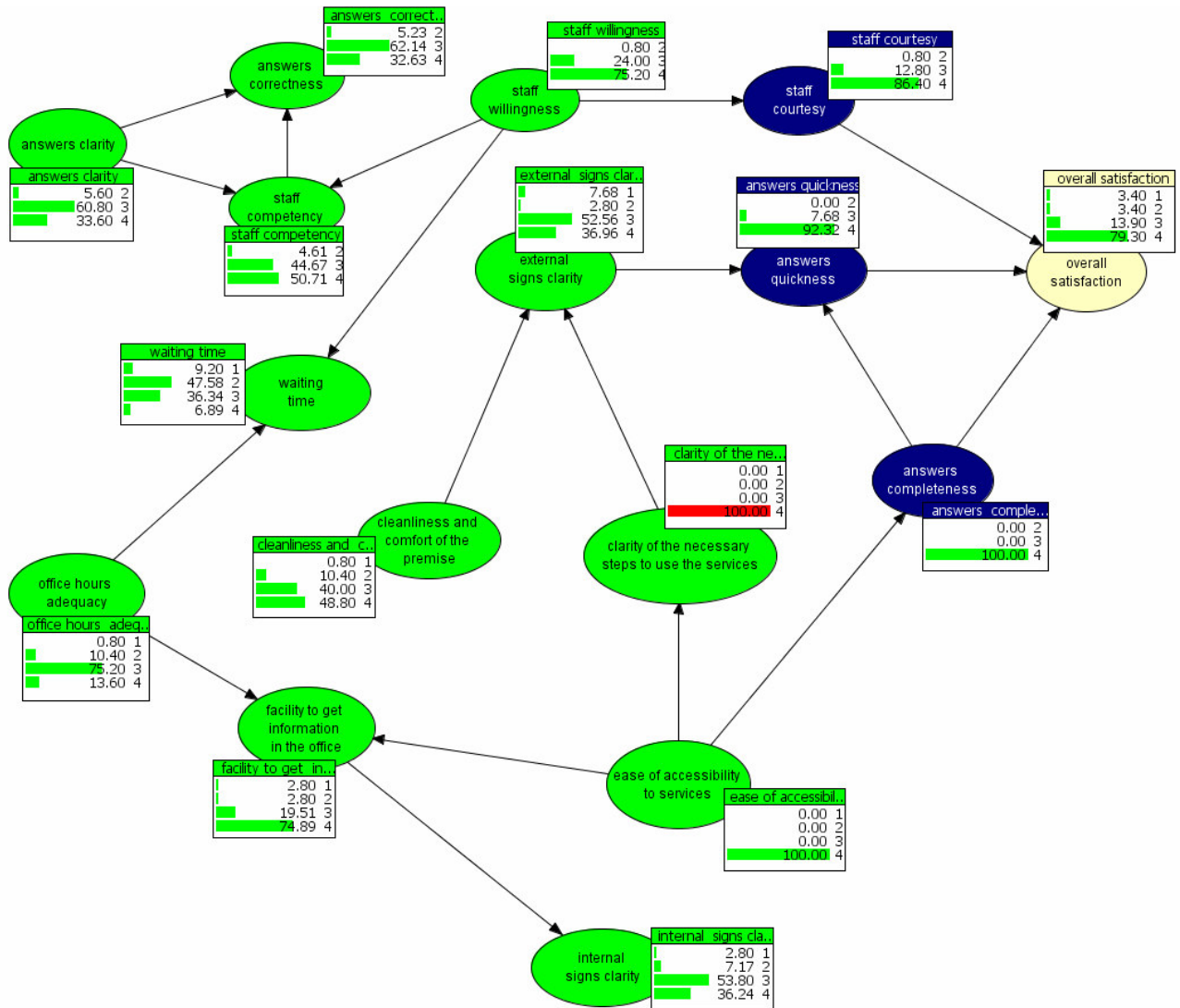


Figure 8: The table nodes after the improved action on an undirected cause

Conclusions

The aim of this paper is to verify PES effective potentiality in quality management. PES can be considered as an innovative and valid way to orient strategic decisions. We presented the results of an experimental application of PES to a citizens' satisfaction survey. In the application we identified the key factors that have an impact on overall satisfaction, suggesting potential improvement areas in processes. In particular, using the information enclosed in PES and the know-how concerning the organization, the decision-maker can take decisions supported by a scientific and objective tool. The results of this experiment showed that probabilistic expert systems are a promising for service improvement analysis, considering customer perceptions. However, it is necessary to verify how a customer satisfaction survey and its questionnaire have to be appropriately planned and designed in order to analysed the collected data by means of PES.

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THE RELATIONSHIP BETWEEN CUSTOMER SATISFACTION AND CUSTOMER LOYALTY: AN EMPIRICAL RESEARCH

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Introduction

The objective of this work is to demonstrate how customer loyalty depends essentially, although not exclusively, by customer satisfaction. The customer satisfaction has been defined over time as a self-discipline management and a style of behaviour that characterises the firm¹, and has a strategic choices for any enterprise. Customer satisfaction is generally associated with positive economic performance and higher levels of productivity², the customer satisfied is probably the best indicator for estimating future revenue³. It is moving from the concept of customer satisfaction to the more advanced customer loyalty, which identifies a relationship between the customer and enterprise enriched by reciprocity, supported by perceptions of equity and fairness and inborn by cooperative attitudes⁴.

Satisfaction and loyalty are characterized by many differences: the satisfaction is a state of mind, fidelity is a behaviour. The satisfied customers can make purchases by competitors and not feel uniquely linked to a company; faithful customers assign a priority in the purchase and in relationships with a company according to a specific brand or brands and are often willing to pay a differential to continue purchasing goods and services of that company.

Oliver (1997 and 1999) has defined the customer loyalty as a condition of strong involvement to repurchase, or reuse of a product or a brand. The transition from customer satisfaction to customer loyalty is not granted, although there is a substantial agreement in the literature that customer satisfaction is the antecedent of trust and fidelity. Consumers can be met more easily consumers faithful (Bloomer and Kasper,

¹ Valdani, E., (1995) *Marketing strategico*, Etas, Libri Milano

² Anderson, E.W., Fornell, C., Lehmann, R.R. (1994), "Customer satisfaction, marker share and profatibility: findings from Sweden", *Journal of Marketing*, Vol.58, January, pp 53-66; Edvardsson, B., Johson, M.D., Gustafsson, A., Strandvik, T. (2000), "The effects of satisfaction and loyalty on profits and growth: products versus services", *Total quality Management*, Vol. 11 No. 7, pp.917-27; Huff, L., Anderson, E.W., Fornell, C., (1996), "Quality and productivity: contradictory and complementary", *Quality Management Journal*, Vol. 4, pp 22-39.

³ Fornell, C., (1992), Reicheld, F.F., Sasser, W.E. Jr (1990), "Zero defections: quality comes to services", *Harvard Business Review*, Vol. 68, September/October, pp 105-11

⁴ M. Costabile, (2001), *Il capitale relazionale*, McGraw-Hill.

1995; Zeithaml et al., 1996). Numerous studies have verified a very strong relationship between customer satisfaction and customer loyalty⁵.

This work focuses mainly on the relationship between customer satisfaction and customer loyalty, in particular, it assumes a relationship of dependency direct customer loyalty by customer satisfaction.

On this relationship can also affect other variables, among them a significant role could be represented by personal customer characteristics. In this respect the tension loyalty is already present in the customer behaviour and also intrinsic characteristics.

Then, using appropriate methods of research, it would be possible to identify a customers profile (target) of already potentially faithful. The validation of this assertion is one of the objectives of empirical research. The relationship between customer satisfaction and customer loyalty may also be supported by variables related to quality.

Quality, in its various connotations, is an essential element contributing to compete for value creation. The concept of quality can not be separated, both theoretical than the satisfaction of persons, with regard to personnel, customers and more generally to the stakeholders. It is possible that a company is oriented to the quality if the staff is unhappy and does not work with serenity and motivation⁶, or if the customer is not satisfied and constantly delighted by the product they are buying or the service they receive.

A management model based on the TQM principles and methods and oriented to the value creation, can not, therefore, from a full and absolute sharing the principles of customer satisfaction, which increasingly is identified with quality⁷ in a customer oriented vision, in essence, the product or service positive perception can not irrespective of quality⁸.

Quality methods, techniques and tools should steer the efforts towards customer satisfaction, which then lead to loyalty. In this work also wants to validate the approach that, even if indirectly, there is a relationship between mediated factors of quality and customer loyalty. In order to verify as defined in the working hypothesis was conducted an empirical investigation through the administration of a questionnaire research to a sample of customers of a company operating in the services sector.

The research was conducted at a hypermarket of large retailers, identified for the characteristics of hypotheses made in this work; in the study must also be given the peculiarities that characterize the provision of a service from the product sale (immateriality immediacy between supply and performance, importance of relational aspects). Have been identified on the basis of existing literature, some variables (services, product and structure) of quality, and were measured the customer satisfaction, both in general terms with reference to individual variables, and customer loyalty.

The scale of measurement used is a Likert scale type with arrangements from 1 to 6, where 6 expresses the greatest positive assessment (fully satisfied) and 1 negative (no satisfied). The questionnaire is divided into three main areas:

The first contains information on socio-demographic and behaviour of the customer (needed to identify the personal characteristics of customers);

⁵ Colgate and Stewart, 1998; Hocutt, 1998; Patterson and Spreng, 1997; Bloemer and Kasper, 1995; Mittal and Lassar, 1998; Oliver, 1999

⁶ Kassicieh S.K., Yourstone S.A., (1998), "Training, performance evaluation, rewards, and TQM implementation success", *Journal of quality management*, Vol.3, n.1, pp. 25-38; Lawler E.E. III, (1992), *The ultimate advantage: Creating the high-involvement organization*, San Francisco, USA; Waldman D.A., (1993), "A theoretical consideration of leadership and total quality management", *Leadership Quarterly*, n.1, pp.65-79.

⁷ Feigenbaum A.V., Feigenbaum D.S., (2004), "The future of quality: customer value", *Quality progress*, novembre.

⁸ Reed R., Lemak D.J., Mero N.P., (2000), "Total Quality Management and sustainable competitive advantage", *Journal of Quality Management*, n.5, pp.5-26.

The second is refer to specific satisfaction and service quality, with reference to the structure (logistics and internal organisation of individual wards, provision of products, cleanliness of wards...), services (personnel department, personnel all 'After-sales service, efficiency of boxes, visibility of prices...) and products (determinants for the purchase of products, assortment of brands and products...)

The third concerns the general measurement of customer satisfaction and loyalty, and is composed of 8 questions about motivation and the duration of the relationship with the company and level of satisfaction overall relationship with the hypermarket.

Overall, the questionnaire includes 54 questions to answer closed; 5 of these variable measure customer satisfaction, the customer loyalty 4 and 7 factors of quality, the others are for general information and other questions about products and services. The questionnaire was administered to a sample of customers who were interviewed during an entire week from Tuesday to Saturday, at various times in order to have a sufficiently large sample, and representative extended guest of the hypermarket.

Have been collected 534 interviews, of which 282 to customers members, eligible for special conditions (card purchases, offers and other facilities) on the basis of which were compiled and analysed the data collected.

Analysis of results

The results analysis of empirical was carried out using some statistical indicators simpler, as the mean and standard deviance, and other more complex as the correlation and multiple linear regression. The calculations were performed using the statistical programme "STATA Statistics/Data Analysis."

The analysis was first taken into account the evaluation of customer satisfaction and the relationship between customer satisfaction and customer loyalty and for this purpose were reduced the number of comments from 534 to 285, since the questions about customer loyalty were asked only to hypermarket customers members.

The abnormal distribution of frequencies were appropriately treated in order to avoid that could affect the validity of the results.

The values of customer satisfaction and customer loyalty resulting from responses (tab.1) are high, in particular the provision known guest to a positive word-of mouth, one of the most important indicators for measuring customer loyalty. The values of deviance standard proof of a substantial uniformity of results.

TABLE 1: Mean values and standard deviation for indicators of customer satisfaction and customer loyalty					
Measurement scale: 1 (not satisfied, very satisfied)					
Variables	Obs	Mean	Std. Dev.	Min	Max
Customer Satisfaction Services (customer satisfaction index)	272	4,75	0,89	3	6
Customer Satisfaction relationship with hypermarket (customer satisfaction index)	282	4,70	1,13	2	6
Customer Satisfaction of Hypermarket ability to respond to customer needs (customer satisfaction index)	269	4,70	0,99	3	6
Member satisfaction status (customer loyalty index)	279	4,50	1,13	2	6
Client attitude to the on a positive word-of mouth (customer loyalty index)	280	5,08	1,11	2	6

The correlation analysis between customer satisfaction and customer loyalty variables (table 2) highlights an excellent level of interdependence, demonstrating how the customer satisfaction, is a factor that will significantly impact on customer loyalty.

TABLE 2: Correlation analysis between customer loyalty and customer satisfaction (Obs=254)		
	Member satisfaction status	Client attitude to the on a positive word-of mouth
Customer Satisfaction Services	0,56	0,55
Customer Satisfaction relationship with hypermarket	0,67	0,61
Customer Satisfaction of Hypermarket ability to respond to customer needs	0,61	0,53

The relationship between customer satisfaction and customer loyalty was also analysed through regression analysis, assuming that one of two variables, in this case the customer satisfaction, take predetermined values and considering the other, customer loyalty, an official from the first.

Leading the analysis separately on both questions that measure customer loyalty (Table 3 and 4) and indicators of customer satisfaction we see that the values that assume the regression coefficients allow to affirm the existence of a predictive value of variables customer satisfaction on the variables of customer loyalty. The significance of slope is validated by the study of the test from the F and determination.

TABLE 3: Regression model between the independent variables of customer satisfaction and the dependent variable customer loyalty on member satisfaction status (customer loyalty index).			
	Coef.	t	P>|t|
Constant	0,741	2,53	0,012
Customer Satisfaction Services	0,247	3,27	0,001
Customer Satisfaction relationship with hypermarket	0,435	5,70	0,000
Customer Satisfaction of hypermarket ability to respond to customer needs	0,194	2,42	0,016
Observations number: 254	Adj R-Squared =0,49	Test F = 81,01	

TABLE 4: Regression model between the independent variables of customer satisfaction and the dependent variable customer loyalty related on client attitude to the on a positive word-of mouth (index customer loyalty).			
	Coef.	t	P>|t|
Constante	1,232	3,97	0,000
Customer Satisfaction Services	0,316	3,94	0,000
Customer Satisfaction relationship with hypermarket	0,398	4,92	0,000
Customer Satisfaction of hypermarket ability to respond to customer needs	0,093	1,10	0,275
Observations number: 254	Adj R-Squared =0,41	Test F = 59,45	

The validation of the regression analysis in explaining the variability of customer loyalty through customer satisfaction is given to the Adj R-Squared" ($0 \leq R^2 \leq 1$); the value that the index of determination takes into tab. 3 and 4 can say that 49% (in the first case) and 41% (in the second case) the variability of total customer loyalty can explain through the linear relationship with the variables of customer satisfaction.

The important and significant effect that the satisfaction variables have on loyalty allows you to validate, one of our original hypothesis, namely that the level of fidelity is dependent on the level of satisfaction.

The only variable that produces a less significant effect on fidelity, as part of the model, is the satisfaction compared of the hypermarket ability to respond adequately and efficiently to the customers needs. The reasons for this result may be different, first of all different perceptions of each customer in respect to the expectations.

There were then analysed the relationship between customer loyalty and level of quality perceived by the customer in respect of certain parameters, in order to demonstrate how the relationship between customer satisfaction and customer loyalty can be supported by variable quality. The quality factors analysed in research, on the basis of experience, literature and the specific context of reference, are identified in the parameters of structure, services and products.

The analysis of the average values of quality indicators (tab.5) highlights of positive evaluations, although not full satisfaction if we consider the factor services, for which the score is positioned just above the average. The values of standard deviation show a substantial homogeneity of answers.

TABLE 5: mean values and standard deviation for quality indicators and customer loyalty

Variables	Obs	Mean	Std. Dev.	Min	Max
Structure	285	4,97	0,99	1	6
Services	285	3,92	0,71	2	6
Products	285	4,47	0,84	1	6
Member satisfaction status	285	4,81	1,25	1	6
Client attitude to the on a positive word-of mouth	285	5,00	1,22	1	6

TABLE 6: correlation analysis between customer loyalty and quality parameters (Obs=285).

	Member satisfaction status	Client attitude to the on a positive word-of mouth
Structure	0,38	0,37
Services	0,25	0,21
Products	0,45	0,31

The correlation analysis between quality indicators and customer loyalty (tab.6) shows the existence a significant interdependence. The link is stronger for the variable products, and this may depend on whether the customer become loyalty in the first place to one or more specific categories of products or brands and this leads to high rates of repurchase and identification of the specific product as reference, in essence, the presence of products of customer satisfaction plays a key role in loyalty.

TABLE 7: regression model between the independent variables related to quality indicators and the dependent variable customer loyalty on member satisfaction status

	Coef.	t	P>|t|
Constant	0,512	1,09	0,274
Structure	0,265	3,64	0,000
Services	0,221	2,35	0,019
Products	0,483	5,57	0,000
Observations number: 285	Adj R-Squared =0,25	Test F = 32,64	

TABLE 8: regression model between the independent variables related to quality indicators and the dependent variable customer loyalty on client attitude to the a positive word-of mouth

	Coef.	t	P>|t|
Constant	1,596	3,28	0,001
Structure	0,335	4,45	0,000
Services	0,186	1,91	0,058
Products	0,231	2,57	0,011
Observations number: 285	Adj R-Squared = 0,16		Test F = 19,21

The regression analysis can help to understand the existence of a relationship of dependency between customer loyalty and quality indicators and the role of the latter in customer loyalty alongside customer satisfaction

The results obtained from the model (Table 7 and 8) demonstrate the existence of a relationship between customer loyalty and quality indicators that can say that loyalty may depend also on the quality, which thus plays an important role in strengthen loyalty. As already revealed through analysis of correlation in this case services show a level of dependency lowest compared with other quality parameters.

The last phase of the analysis is focused on the customer fully satisfied profile, that can help locate a target with characteristics similar compared to the satisfaction condition. Theoretically, the repetition of regression on this small sample of individuals satisfied should demonstrate the existence of a dependency higher than general analysis conducted on all customers.

Using the methodology "AID"⁹ and taking into account the variables sex (F, F), age, occupation, number of customers (every day or almost, 3-4 times a week, 1-2 times a week, 2-3 times per month, 1 time per month, less than 1 time per month, rarely, only for deals), was calculated the value discriminating, separating classes with the proportion of satisfied customers (p1) above average (p = 0821) than those with proportion (p2) below the consumer. The value discriminating higher you for Female Sex factor, so the first dichotomy is established under it (the first iteration).

⁹ The methodology "AID" allows, on the basis of variables considered to identify the values of most importance discriminate on the basis of which stratify the sample to obtain a clear and accurate profile of typical customer.

TABLE 9: customer satisfaction analysis based on personal characteristics				
Factors and Conditions		Classes size	Number members	% Satisfied
		Ni	fi	$100p_i=100(f_i/N_i)$
Sex	M	97	73	75,26%
	F	188	161	85,64%
	Total	285	234	82,11%
Age	min 18	16	12	75,00%
	18-25	60	44	73,33%
	26-33	31	26	83,87%
	34-41	52	43	82,69%
	42-49	54	44	81,48%
	50-57	43	38	88,37%
	over 58	29	27	93,10%
	Total	285	234	82,11%
Frequency	Every day	50	37	74,00%
	3-4 times a week	52	42	80,77%
	1-2 times a week	135	116	85,93%
	2-3 times a month	33	27	81,82%
	1 time a month	8	8	100,00%
	less than a 1 months	2	2	100,00%
	Rarely	2	1	50,00%
	Tenders	3	1	33,33%
	Total	285	234	82,11%
Profession	Student	62	48	77,42%
	Employee	66	58	87,88%
	Worker	20	16	80,00%
	Housewife	49	42	85,71%
	Entrepreneur	6	5	83,33%
	Craftsman	1	0	0,00%
	Unemployed	11	9	81,82%
	Pensioner	26	25	96,15%
	Other	44	31	70,45%
	Total	285	234	82,11%

TABLE 10: mean values and standard deviation for quality indicators and customer loyalty of the typical customer satisfied

Variables	Obs	Mean	Std. Dev.	Min	Max
Structure	46	5,37	0,67	4	6
Services	47	3,91	0,68	3	6
Products	48	4,50	0,68	3	6
Member satisfaction status	44	5,34	0,74	4	6
Client attitude to the on a positive word-of mouth	48	5,27	0,98	3	6

Repeating the process five times and always using the value discriminating higher, is shaping up as a profile of the customer with the following characteristics:

Woman

Age between 34-41 and 50-57 years

Attended the hypermarket 1-2 times a week

Occupation: employed, housewives.

The analysis on the quality parameters and satisfaction (tab.10) for this small group shows all values significantly higher than those obtained from the sample and demonstrates how the technique AID has been effective in identifying a profile of customers, and its characteristics, particularly satisfied.

TABLE 11: correlation between variables customer loyalty and quality indicators, customer profile type fully satisfied (Obs=48).

	Member satisfaction status	Client attitude to the on a positive word-of mouth
Structure	0,21	0,16
Services	0,13	-0,01
Products	0,46	0,27

The correlation analysis based on these observations, however, does not lead either to the same results nor to the same conclusions as that made with the total sample (tab.6); same evaluations also apply to the regression analysis that does not produce significant results, not confirming therefore one of the assumptions made, namely the fidelity dependence of personal characteristics of the customer.

Even using as a dependent variable factors quality (tab.12), the model does seem to confirm the results obtained with the sample general (tab.6); among all factors of quality, the only one capable of producing an effect really significant variable on customer loyalty is one relating to products, as indeed already occurred in the overall data.

TABLE 12: regression model between the independent variables related to quality indicators and the dependent variable customer loyalty, customer profile fully satisfied type.

	Coef.	t	P>|t|
Constant	0,93	0,68	0,502
Structure	0,09	0,50	0,619
Services	0,11	0,54	0,595
Products	0,72	3,05	0,004
Observations number: 48	Adj R-Squared=0,17		Test F = 4,20

Conclusion

The research confirms the existence of a meaningful link dependency customer loyalty by customer satisfaction, loyalty depends therefore a certain level of satisfaction in the absence of which the customer could hardly reach the condition of full fidelity.

Research has also demonstrated how the variable quality can generate a significant effect of strengthening the level of customer loyalty. The analysis starting from the definition of a target of "typical customer satisfied" highlights the lack of factors that can connect in a meaningful way to the characteristics identified customer loyalty.

While therefore seems now ample evidence that loyalty depends, at least in part, by customer satisfaction, does not seem to exist a direct dependence of fidelity by personal characteristics. Or rather, there is no dependence on characteristics of customer socio-demographics (age, sex) or behavioural (motivations and methods of purchase), which are those developed in our work and proposals in the questionnaire. It is likely to exert a much more meaningful role in the report factors emotional and psychological character, hardly measurable, identifiable, because each customer's own and not easily reproducible in conceptual schemes homogeneous.

Moreover, several studies show the importance of emotional component on customer satisfaction, and indicate how this component is an element of predictive customer loyalty. It is on these issues that probably research should focus in the future, to identify what factors can play a decisive role for the loyalty of the customer, and therefore for the same economic prospects.

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IDENTIFICATION OF PROCESSES – CRITICAL REVIEW OF DIFFERENT APPROACHES

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1. INTRODUCTION

Every business system should base its entire work, operation and sustainable development on systematic and process approach. That, among the rest, implies adequate structure of business system, functional dependency and correlation of all elements of business structure, good definition of external and internal inputs and outputs, fully recognized processes and well defined process model, resource backup, good backbone for managing processes, resources and organizational units, and so on.

Systematic and process approach is necessary for efficient functioning of business system, as well as for arranging and developing the system. This, above all, refers to:

- definition of mission, vision and measurable business goals,
- consolidation of business programs and plans,
- determination of external and internal working objects (services and products), on the grounds of „DISTRIBUTOR-CUSTOMER“ model,
- process identification and classification according to „rigid“ structure (anatomical parts of business system),
- hierarchical decomposition of processes, as well as design of process model and process catalogue,
- revision and improvement (if necessary) of current organizational structure, with the strong accent on business processes,
- correlation of process model with organizational structure and creation of process registers for every part of the organization (sectors, plants, departments, ...),
- definition of responsibilities for processes (functional, managerial, process owners, ...),
- creation of prerequisites for continuous and systematic process revision and improvement (creating teams and educating them),
- creation of prerequisites for process arrangement (organizational, functional and managerial integration and correlation of processes, personal responsibilities, working instructions, control, ...),
- creation of fundamental principles for easy and efficient process management (performance and measurable goals, process indicators, reference black level data, ways of representing process indicators, frequency of reports, frequency and the way of revision, ...),
- determination of appropriate process management control.

Application of process approach, and especially the way that business processes are identified in business systems, can be considered an open question. Several different approaches to process identification were developed in last few decades, but we still don't have unique and generally accepted way of process identification and process model design. It is a known fact

that around 70% of Business Process Reengineering (BPR) projects were unsuccessful. There are several reasons for that, but one of the basic reasons is poor business process identification and classification. The main reason for poor process identification is omitting the work object identification, as well as trying to attach poorly identified processes to variable organizational structure.

Approaches to business process identification that authors considered important will be presented in this paper. After that, analysis based on four criteria will be performed. At the end, the conclusion will be given, as well as suggestions for further research.

2. DIFFERENT APPROACHES TO BUSINESS PROCESS IDENTIFICATION

2.1 „Bottom-up” approach by grouping activities according to information flow and shared resources

Processes that are specific for a given company can be identified through a bottom-up approach. This can be achieved by focusing on individual activities within the company, and grouping these activities according to the level and criticality of interaction between the activities. [2]

This approach is analogous to Murther’s systematic layout planning (SLP), which analyses interrelationships between the processes through analysis of the frequency of material movement between individual processes. Murther suggested usage of matrix which contains processes and their interrelationships. Closely coupled processes are identified based on the frequency of material flow, and they form production cell.

Analogy is as follows: production process is observed as a production cell, and closely coupled processes (that constitute production cell) are activities of the observed process (or subprocesses). Instead of material flow frequency (which was criteria for grouping closely coupled processes), information flow frequency is primarily used as a criterion for grouping the activities that constitute the process. As an addition, shared resources criterion can be used. Besides the aforementioned criteria, time relation and location can be used for grouping the activities. However, these criteria are rarely used in practice, and they won’t be considered in this paper.

Information flow criterion – Information flow between two activities is considered as a key criterion in defining relationship between observed activities. This is because, in operational sense, information (and material, where applicable) flow is the only physical link between activities. Information flow between activities is considered according to frequency and criticality of the information flowing between the activities. The procedure devised to apply the scoring system is as follows: the individual information flows between two activities are identified, and each information flow is evaluated according to its frequency and criticality, and score is allocated. The procedure is repeated for all information, and the average of individual scores is computer to arrive at an overall score. The maximum score allowable for this category is 30 points. (Picture 1.)

Shared resources criterion – Shared resources are resources that are used during the execution of several activities. The shared resources category was deemed to be of secondary importance, based on the fact that activities that constitute business process may or may not use the same resources. To allocate the score in this category the user is expected to evaluate the need for shared resources (people and equipment), and allocate the score. Maximum

possible score is 20 points, and the score is allocated for each resource type based on the following criteria:

- 10 – sharing of resources between two activities is considered to be critical.
- 5 – sharing of resources between two activities is considered to be desirable.
- 1 – sharing of resources between two activities is of no importance.

This approach to business process identification includes the following steps: [2]

1. Identification of business activities
2. Identification of the information flows between business activities
3. Quantification of the relationships between business activities.

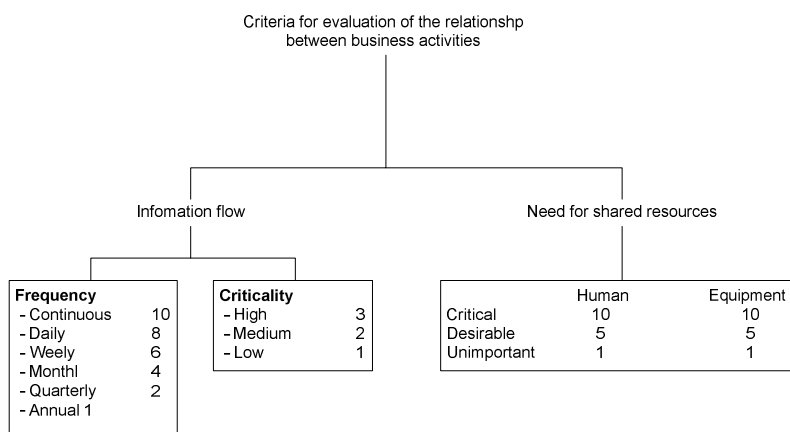


Figure 1: Criteria for evaluation of the relationship between business activities [2]

Identification of business activities is based on functional division of labour, where representatives of each function are interviewed on the roles and responsibilities of their function. The analyst/researcher is responsible for interpreting each group's response to business activities associated with that function. This results in a list of business activities for each function of the organization.

Identification of information flows between business activities is done with the aid of matrix. The activities and the corresponding information flows are tabulated to isolate the information flows between one pair of activities.

Having identified the information flows between activities, one further matrix is constructed to cover and facilitate the scoring of both areas (i.e. information flow and shared resources). A total score for information flow is calculated using the formula:

$$\text{Total score (information flow)} = \frac{\sum (\text{frequency} \cdot \text{criticality})}{\text{Number of flows}} \quad [2]$$

The total score for this area is calculated by adding the corresponding scores for human and equipment resources. The greater the final score, the greater the connection between the activities.

Having calculated the final score, the next task is to identify a group of closely coupled activities which could be extracted as a business process. The major problem here is the definition of "closely coupled activities", i.e. it is not easy to determine which activities belong to which process and where one process ends and another starts.

2.2 Business process identification through Porter's value chain analysis

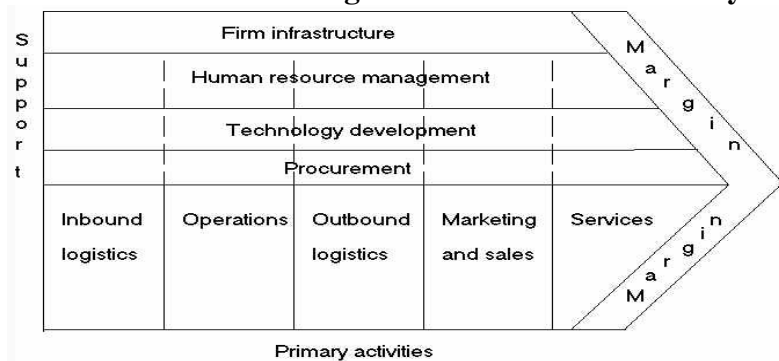


Figure 2: Porter's value chain

To better understand the activities through which a company develops a competitive advantage and creates shareholder value, it is useful to separate the business system into a series of value-generating activities, i.e. to create a value chain [5]. In his book *Competitive advantage*, Porter introduced a generic value chain that comprises a sequence of activities found to be common to a wide range of companies.

The goal of these activities to offer the customer a level of value that exceeds the cost of the activities, thereby resulting in a profit margin.

The primary value chain activities are: [4]

- Inbound logistics: the receiving and warehousing of raw material, and their distribution to manufacturing as they are required;
- Operations: the process of transforming inputs into finished products and services;
- Outbound logistics: the warehousing and distribution of finished goods;
- Marketing and Sales: the identification of customer needs and the generation of sales;
- Service: the support system to customers after the products and services are sold to them.

These primary activities are supported by the following activities:

- The infrastructure of the company: organizational structure, control system, company culture, etc.;
- Human resource management: employee recruiting, hiring, training, development and compensation;
- Technology development: technology that supports value-creating activities;
- Procurement: purchasing inputs such as materials, supplies and equipment.

The company's profit margin then depends on its effectiveness in performing value chain activities, so that the amount that the consumer is willing to pay exceeds the cost of the activities in the value chain.

Core processes are usually identified through primary value chain activities, while the supporting processes are represented through supporting activities. Primary and supporting activities can also be observed as a group of processes. In that case, it is necessary to compose a list of subprocesses, which will later be modeled and shown in more details. Workshops are suggested as a solution for further decomposition of processes (or groups of processes). These

workshops include workshop leader, a business process modeler, and a person (or persons) who is familiar with processes in the area that is observed.

2.3 Business process identification through goals of the company

It is a known fact that the number of key business process in a company is not great, and it usually goes somewhere around 12 to 15 processes. Some of these key processes may be generic across the industry that the company is competing in (generally those are the processes that appear along the value chain). On the other hand, there are processes that are specific for the given company which derive from the company's operation. Prerequisites for good identification of key business processes that are specific for the given company are clearly defined business goals. Suggested framework for business process identification has following steps:

- Identify critical success factors (CSFs) to achieve company's objective. These are performance drivers which have major contribution towards accomplishment of company's objectives.
- Identify metrics for measuring the critical success factors – this leads to establishing organizational key performance indicators (KPIs).
- Identify the processes that will deliver the above drivers for performance or KPIs.
- Group related processes and give them names that convey the activity or operation that gets done. These are the key processes of the company.

The above mentioned activities need to be done through a thorough brain storming among the senior level executives of the company.

This approach of business process identification is based on previously defined strategic maps and KPI charts. Strategic maps and KPI charts establish a clear cause and effect relationship between the goals of the company and the performance indicators that have major impact on those goals.

2.4 Identification of business processes through using Structured System Analysis

Structured System Analysis and Design Method (SSADM) is a systems approach to the analysis and design of information systems. SSADM is so called waterfall method (sequential method) in which development is seen as flowing steadily downwards (like a waterfall) through the phases of requirements, analysis, design, implementation, testing (validation), integration and maintenance.

Three most important techniques that are used in SSADM are [6]:

- Logical data modeling: This is the process of identifying, modeling and documenting the data requirements of the system being designed. The data are separated into entities (things about which a business needs to record information) and relationships (the associations between the entities).
- Data flow modeling: This is the process of identifying, modeling and documenting how data moves around an information system. Data flow modeling examines processes (activities that transform data from one form to another), data stores (holding areas for data), external entities (what sends data into a system or receives data from a system) and data flows (routes by which data can flow).
- Entity behaviour modeling: This is process of identifying, modeling and documenting the events that affect each entity and the sequence in which these entities occur.

For the analysis of the current state of the system it is best to use Data Flow Diagram (DFD). DFD is a graphical representation of the flow of data through a system. DFD can also be used for visualization of data processing.

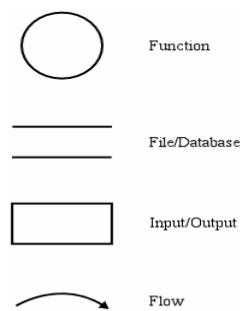


Figure 3: DFD syntax

DFD diagram can be designed in two ways: by Top-down approach and by Event partitioning approach [7].

Top-down approach:

- The system designer makes a context level DFD, which shows the interaction (data flows) between the system (represented by one process) and the system environment (represented by terminators).
- The system is decomposed in lower level DFD into a set of processes, data stores and data flows between these processes and data stores.
- Each process is then decomposed into an lower diagram containing its subprocesses.
- This approach then continues on the subsequent subprocesses, until a necessary and sufficient level of detail is reached which is called the primitive process).

This way of constructing DFD is similar to business process decomposition according to IDEF0 standard. Decomposition according to IDEF0 standard is done in three steps: the boundaries of the system are defined through context level diagram; decomposition of system is done by decomposition diagrams; at the end, hierarchical tree of activities is formed that depicts hierarchical representation of process within the system.

Event partitioning approach:

- Detailed DFD is constructed.
- The list of all events is made.
- For each event a process is constructed.
- Each process is linked (with incoming data flow) directly with other processes or via data stores, so that it has enough information to respond to a given event.
- The reaction of each process to a given event is modeled by an outgoing data flow.

It can be observed that this method of constructing DFD is similar to „bottom-up” approach where at the beginning the activities are being identified that are later grouped in processes or groups of processes.

2.5. Business process identification for to-be modeling

The idea behind this approach is to identify the processes that represent the main activities of the company and to separate them from other processes.

In addition to the core processes of the company, which are executed to provide related market performance, so called support processes exist. A characteristic feature of support processes is that they have no direct relationship to the company's external market. However, disturbances in support processes can also lead (after certain amount of time) to disturbances in core processes, and therefore they are indirectly important for delivering products or services of high quality to the customers. Examples of supporting processes are: financial management, humane resource management, or IT services. [1]

According to this approach, the core processes in company must be identified and sufficiently separated from each other as well as from the supporting processes. In principle, two methods can be used: top down and bottom up.

Based on the corporate strategy, the top down method generates core processes from the strategic business fields. The advantage of this method is the development of business processes which are very close to the strategic viewpoints. The hierarchical refinement of process structures may cause a lower overall process performance for local processes. This is particularly the resulting interdependencies between the partial processes are not considered or not recognized¹. Often, the reason is the ignorance of conflicting resources within the concurrent processes. [1]

The bottom up method is based on the entirety of all planned activities. For every identified activity, process models are generated, from which the process structures on higher levels are derived through grouping. The business processes are later divided into core and supporting processes. [1]

2.6 Business process identification according to anatomical structure (process model design)

Process approach, defined as a logical group of object defined activities, has its technology. Procedure for application of process approach has its own sequence of activities or subprocesses which are part of a global process "Application of a process approach within the business system". The structure of the aforementioned process depends on whether a new business system is designed, or if it is a business system that already exists. Common part of the procedure of implementing the process approach is as follows [11]:

1. To make a global structure of a business system.
2. To design a logical model of working objects.
3. To design a logical model of processes.
4. To connect global (anatomical) structure of the observed system with its organizational structure.

¹ A detailed explanation of the top down method is given by Remme (1997), who deals, in particular, with the modeling of process particles (reference process modules). Individual business processes are created by forming variants from process particles. This topic is further discussed by Scheer (1998), p.7, and Gaitandies (1983), p.23.

5. To arrange (review, improve, re-engineer) processes.
6. To create the basis for process management and integrated management system.

If the aforementioned activities or subprocesses are conducted in an appropriate way in a given business system one can say that the process approach is implemented in that business system.

Process model of a business system is a fundamental solution, foundation of enterprise or institution. Process model is the basis for all other solutions within the business system: organizational structure; detailed division of labour, authorities (competences) and responsibilities; integrated management system; cost control system; IT support etc.. That is why the process model must be designed in accordance to “robust”, anatomical and unchangeable structure of a business system.

Starting with the “DISTRIBUTOR – CUSTOMER” model shown in figure 4, it is necessary to identify the global work object (product or service) of the observed business system that is delivered to the external market, i.e. to the customer.

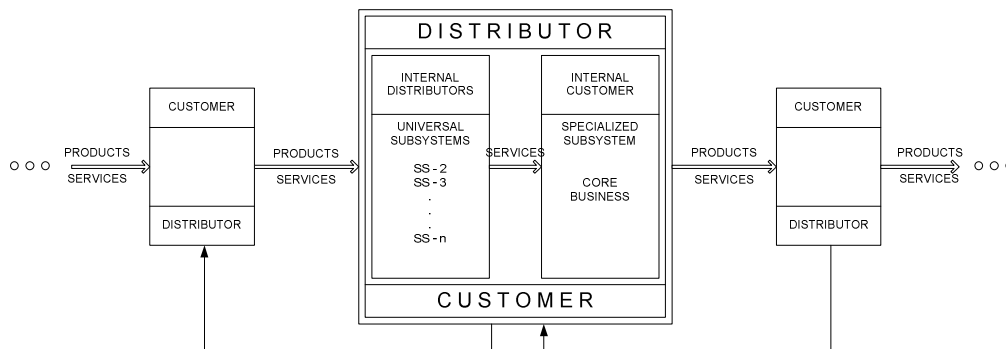


Figure 4.: “DISTRIBUTOR – CUSTOMER” model, external and internal aspect [11]

In a production business system global work object is a product, and in a service enterprise or institution it is a service. Certain business systems deliver products and services to the market. Having identified global work object, we can identify global process that produces the observed work object. A part of a business system that directly executes the observed process is recognized through this process. This is the part of a business system that refers to CORE BUSINESS of the given system.

This is the way to determine the anatomical part of a business system which is specialized for producing global product and/or rendering global service. If a business system is a system indeed, with all specifications of a system (structure, inputs, outputs, interdependencies, ...), then the part of a system that executes specialized global process is the subsystem of the observed business system. This subsystem, which also has all specifications of a system, is often called “Production”, “Services”, “Production and Services”, “Services and Production”, “Core business”.

If the model “DISTRIBUTOR – CUSTOMER” is observed internally, within the given business system, it is possible to identify other parts of anatomical structure of the business system. Here, global work object, the one that is intended for customers, should be observed and its conditionality from internal services which other parts of business system provide. Certain number of services with universal characteristics are shown here. Without these

services it is impossible to provide the output. These services are universal because every business system has them in one form or another, regardless of core business and the size of the company..

Core business (creating product or rendering service) is meaningless if the product or service can't be sold, i.e. if there is no customer for certain product/service.

Because of that it is necessary to do a market research, i.e. to render marketing services. Marketing services distributor is also anatomical part of a business system. Since marketing services are very similar (according to technology of rendering) in various business systems, the subsystem MARKETING is a universal part of a business system. In a similar way, core business couldn't be done without procurement of all things that are necessary for producing a product or rendering a service, so PROCUREMENT can also be seen as a universal part of business system. Everything that is created in core business must be sold by someone, so we can say that SALES is the next universal subsystem. Services of cost determination and analysis, price calculation etc. are internal services of ECONOMICS. Financial services, like payments, claims etc. are done by FINANCES. Without the appropriate human resources and their further development core business can not operate successfully. That's why HUMAN RESOURCES are also a subsystem of a business system. Delivering prerequisites for respecting all laws, regulations and norms is done by LEGAL DEPARTMENT. At first sight, all of the above mentioned systems are sufficient for business system to operate. However, there must be subsystem that plans, organizes, coordinates and controls operations of all the other subsystems. That subsystem is what we call MANAGEMENT. Since business systems operate in a stochastic environment and are exposed to frequent changes, they must be flexible in order to operate successfully. That's why business systems must have RESEARCH AND DEVELOPMENT as a necessary backup to core business. As we can see, in most cases business systems consist of 10 anatomical parts, i.e. subsystems.

Certain deviations in a number of subsystems are possible. There are several reasons for that: if a certain international norm requires a specific subsystem, then certain parts of abovementioned subsystems should be separated and integrated within a new subsystem. For example, ISO 9001 norm requires a QUALITY subsystem. In that case, part of the RESEARCH AND DEVELOPMENT subsystem that refers to internal standardization and creation of prerequisites for quality management is attached to quality control thus creating QUALITY subsystem. Because of its great importance, the information support can be extracted from the "standard" subsystems and integrated into IT subsystem. Business systems that use expensive equipment (power plants, oil companies etc.), where maintaining the equipment is vital, must have specialized subsystem designed for that purpose called MAINTENANCE. Maintenance is usually placed within the core business. Number of subsystems can also be lesser than 10, especially in companies in which a universal subsystem is at the same time a specialized subsystem. For example, business system that renders marketing services has its own specialized subsystem that uses the same technology as its universal marketing system. In this case, the number of standard subsystems will be 9. At the end, it should be known that standard anatomical structure exists in every business system regardless of its size and activeness. The only thing that is different is the distribution of subsystems and the number of executors that render internal services to core business.

Procedure for identification and classification of work object requires application of certain rules and principles. General rules and principles for work object identification and classification are explained in detail in the book "Process engineering" [10].

Logical tree, model or catalog of work object is primarily created in order to conduct the next step of process approach: “business process identification and classification”. They can also be used for planning, preparation and realization of marketing activities. Work object catalog should be transparent, visible and recognizable to every potential customer. With processes, the situation is different. They should be a secret, and the business system has no interest for them to be easily available.

Group of work objects can be uniform. If that is the case, the company has one logical tree with its appropriate hierarchical structure. In counterpart, several work object logical trees exist.

Identified and classified work objects (internal and external) are basis for complete and systematic process identification and classification, for designing process catalogues, logical tree and process model.

In order for identification and classification of processes to be adequate, one should follow these rules and principles [10]:

- a) Processes can be precisely and completely identified only on the grounds of appropriately identified, classified, and specified work object of the business system in which the processes are being identified.
- b) The biggest (basic, global) processes should be identified first, using the logic that can be recognized in logical tree or work object catalogue.
- c) Universality as a very important characteristic should be used as much as possible during the business process identification. That means that every possibility for process identification of universal processes for all products with similar creating technology should be recognized. For example, all services for issuing different types of credits are rendered in a similar way (claim reception, claim processing, making decision, credit realization).
- d) Hierarchical decomposition of processes should be done as far as the possibilities and methods for process specification are recognized.
- e) Identified processes should be classified at least from the aspect of participation of routine and creative work.
- f) Processes are, unlike work object, secret of a business system. They point to advantages and flaws of the observed business system, so this fact must be kept in mind during process identification and utilization.

Starting with the logical model of work object, processes of all subsystems as parts of anatomical structure of business system should be identified.

All process models, arranged within the subsystems, are usually prepared in the form of process catalogue, which usually has following content:

- process record number,
- process code (cipher),
- process name,
- process status, concerning the participation of routine and creative work.

Process model designed in this way represents a base for further use and selective process treatment.

3. COMPARATIVE ANALYSIS OF THE PROCESS IDENTIFICATION APPROACHES

By analyzing the examples from the production and service area, certain differences between the aforementioned process identification methods have been observed. The analysis was conducted according to 4 criteria defined by the authors of this paper:

1. Comprehensiveness of business process identification
2. Autonomy from the form of organization and ownership
3. Possibility of recognition of universal and specialized processes
4. Time needed for process identification

Results of the analysis are as follows:

3.1. „Bottom-up” approach by grouping activities according to information flow and shared resources

1. Comprehensiveness of business process identification – The idea behind this approach is that all the activities that are essential for business operation should be taken into account. However, problems can occur on two levels:

1. whether all activities will be identified is subjected to representative of each function;
2. what activities will form a process is subjected to the opinion of the analysts and that makes the identification business processes that are essential for business operation uncertain;

2. Autonomy from the form of organization and ownership – Because identification of the activities is done on the account of functional division of labour, it is clear that derived process model is highly dependent on the form of organization in given company.

3. Possibility of recognition of universal and specialized processes – It is not possible to distinct universal form specialized processes in this model. Because of high dependency from organizational structure it is possible that situation occur where the same universal process in different companies is not recognized and identified in the same way.

4. Time needed for process identification – Because of the absence of the universality principle, as well as high dependency from the form of organization, every company has to start process identification from the white piece of paper. That's why this approach to business process identification needs a long period of time to be done.

3.2 Business process identification through Porter's value chain analysis

1. Comprehensiveness of business process identification – The solution derived from this approach is generic, and it differs very little from company to company in the same area of business. Therefore, there is a possibility of misidentifying processes that are specific for a certain company.

2. Autonomy from the form of organization and ownership – Process identification is primarily done based on the type of business of the observed company, so we can say that this approach is independent from the form of organization and type of ownership.

3. Possibility of recognition of universal and specialized processes – This approach is suitable for universal business process identification. However, specialized process identification is not defined enough.

4. Time needed for process identification – Process model derived from this approach is based on universal solutions, so the application of this approach doesn't require a lot of time.

3.3 Business process identification through goals of the company

- 1. Comprehensiveness of business process identification** – This approach uses Porter's value chain for identification of universal processes, and company goals for identification of specialized processes, and by that this approach highly fulfills this criterion.
- 2. Autonomy from the form of organization and ownership** – Process model derived from this approach is dependent from organizational structure and form of ownership to the extent of which the goals of the company are connected to the form of organization and ownership.
- 3. Possibility of recognition of universal and specialized processes** – This approach uses different approaches for identifying universal and specialized processes, which means that this criterion is fully satisfied.
- 4. Time needed for process identification** – Because this approach is based on universality principle as much as possible, and only specialized processes are studied in details, the procedure is not time demanding.

3.4 Identification of business processes through using Structured System Analysis

- 1. Comprehensiveness of business process identification** – This approach is not taking into account work object, but only information flows, so there's a possibility that certain processes are misidentified.
- 2. Autonomy from the form of organization and ownership** – Process model derived from this approach is highly dependable from the form of organization because information flows are traced throughout the entire organizational structure.
- 3. Possibility of recognition of universal and specialized processes** – This approach is not making a difference between universal and specialized processes.
- 4. Time needed for process identification** – Procedure for making process model by using SSA is not time consuming, given the fact that it only takes information flows into account and not work objects.

3.5 Business process identification for to-be modeling

- 1. Comprehensiveness of business process identification** – This approach refers to designing new conditions of already identified processes so the comprehensiveness of this solution is subjected to the fundamental, original solution of business process identification.
- 2. Autonomy from the form of organization and ownership** – Given the fact that the process identification is connected to strategic business areas, and that these areas are subjected to changes with the change of form of organization and ownership, we can say that this solution is dependant from organizational structure and ownership.
- 3. Possibility of recognition of universal and specialized processes** – Since core processes are being identified first, and then supporting processes, universal (supporting) and specialized (core) processes can be recognized to some extent. However, since core processes can not be entirely identified with specialized processes and supporting processes can not be entirely identified with universal processes, we can conclude that their distinction is not entirely developed.
- 4. Time needed for process identification** – This approach is not time consuming since it is primarily used for designing new way of performing already identified processes.

3.6 Business process identification according to anatomical structure (process model design)

1. Comprehensiveness of business process identification – Gratification of this criterion is guaranteed because this approach is based on company's anatomical structure, and it includes all subsystems of business system (universal and specialized).

2. Autonomy from the form of organization and ownership – Process identification is done according to previously identified work objects and is completely independent from the form of organization and ownership.

3. Possibility of recognition of universal and specialized processes – Company is observed as a system that consists of several universal and one specialized subsystem, therefore this criterion is fully gratified.

4. Time needed for process identification – This approach is relatively time consuming because it takes into account all distinctive features of every business system.

4. CONCLUSION

Process model is the basis for process arrangement, implementation of international norms of all kinds, process reviewing and re-engineering, assessing and redesigning organizational structure, creating foundations for process management, integrated management system constitution, and managing of the entire business system. That is what it is important to approach the process model design in a systematic and analytic way.

This paper describes process identification approaches that the authors considered to be important. Comparative analyses of these approaches were conducted based on 4 criteria. The analysis showed that Business process identification according to anatomical structure gratifies most of these criteria. The only problem with this approach (judging by these 4 criteria) is that it is time consuming. Time needed for process identification can be reduced by involving consultants that are experienced with this approach.

In order to get all-round analysis, it is possible to augment (or change) the list of criteria used for evaluation. Furthermore, it is desirable to implement all of the analysed approaches to one example in production or service company, which would make more systematic comparative analysis possible. That would be the direction for further research.

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PERFORMANCE OF INDUSTRIAL SERVICE SMES: A CONCEPTUAL FRAMEWORK AND DIAGNOSTIC SYSTEM

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1. Introduction

The advent of globalization, of a knowledge-based economy and of new communication and information technologies has produced an important industrial restructuring in many countries. If unplanned or badly planned, this restructuring may have negative consequences on employment and wealth. In recent years, there has been a massive loss of employment in the manufacturing sector, sector that was always considered to be the economic engine of developed countries (Léo and Philippe, 2006). Manufacturing firms in these countries now face challenges that may be insurmountable for many (Raymond, 2003). For example, the pressure on production costs exerted by Asian firms in many industrial sectors is a phenomenon that keeps growing. This evolution of the role of various actors in the world economy is such that a great part of the manufacturing employment is shifting toward the emerging countries, whereas the developed countries that used to be most industrialized are seeing this employment being replaced by employment in the services sector.

A quick look at historical data shows that the transfer of employment to the new emerging economies and the increase of the services sector in the developed countries are not recent phenomena. The Conference Board of Canada (2004) indicates that as far back as 130 years ago, employment in the developed countries have shifted from the resources sector to the manufacturing sector and then to the services sector. This explains why the percentage of manufacturing employment in Canada and the United States has significantly diminished in the last century. Countries in Southeast Asia are those that are presently benefiting from these structural changes.

Given this new reality, the developed countries must review their policies and adapt their economy (OCDE, 2005). In the specific case of small and medium-sized enterprises (SMEs)¹ in the manufacturing sector in these countries, these have no other choice but to modify their operations and development strategy in order to offer a product that is highly differentiated, distinctive and value-added (St-Pierre and Trépanier, 2006). To be able to offer such a product at a competitive price, these SMEs must specialise more and more and externalise activities in which they have less expertise and above all that they cannot realise at low cost.

¹ For research purposes, given that there is no internationally-agreed upon definition of manufacturing firms based on size, a manufacturing SME is defined as an enterprise with more than 10 employees and less than 249, to be included within both North American and European definitions. Whereas in North American research, small enterprises (SEs) and medium-sized enterprises (MEs) are generally defined as having respectively less than 100 and 500 employees (cf. Mittelstaedt, Harben and Ward, 2003), in the European Union, the definition is rather based on 50 and 250 employees (cf. Kalantaridis, 2004).

In facing this situation, owner-managers of manufacturing SMEs must change their vision of their firm, that is, from that of a “castle” to that of a “network” (Julien, Raymond, Jacob and Abdul-Nour, 2004). The castle metaphor presents the firm as a closed organisation that is self-sufficient and does things in its own way. Whereas the network enterprise is open both internally (collaboration between departments, participative management, etc.) and externally (cooperation with other organisations, business intelligence, etc.) and adopts a customer-centered strategy, where the quality of products is superior and flexibility is increased. Also, the networked enterprise is more specialised and cooperates with other firms that have the knowledge, know-how and resources required to complete its product offer with regard to the activities that are outside its own core competencies.

These characteristics of the new economy for the developed countries place the emphasis on the *industrial services sector* in its role within the development and competitiveness of the manufacturing sector. This increase in the industrial services sector is particularly important in those highly-industrialised countries where the production costs of manufacturers constitute an obstacle to their growth and even to their survival.

Notwithstanding its growing importance, there is as of yet little knowledge of the specific nature of service SMEs² and on their operation, as well as little interest on the part of researchers and governments (e.g., Sauvé, 2006; Acharya, 2006). To the extent that these enterprises may become the new economic engine in a number of countries that are undergoing an industrial restructuring and a shift to the knowledge industry, it becomes more urgent to obtain a reliable and complete portrait of the reality, the needs and the challenges of service SMEs. This has also led some to call for the development of a “services science” discipline (IBM Research, 2004; Chesbrough and Spohrer, 2006).

As an initial effort within a research program on service SMEs, the present study was undertaken in order to provide Canadian governmental authorities with answers to these fundamental questions. As is the case for manufacturing SMEs that are provided with various forms of governmental aid and support, service SMEs could require the same type of intervention, but in a form appropriate for their specific needs. More extensive and deeper knowledge is necessary however in order to provide assistance that is relevant and adequate.

In the next paragraphs, having recalled the economic importance of service SMEs, we will center our discussion on their role within the environment of the manufacturing enterprise that, for most industrial service SME, remains the principal customer. Presenting a value chain management model will then facilitate the identification of the “key” or strategic services required by manufacturers to increase their competitiveness. Next we will be able to highlight the needs and challenges that must be met by industrial service SMEs and to identify “good” business practices that they should implement. We will conclude by presenting an expert diagnostic system designed to link the actual practices of industrial service SMEs to their global performance and vulnerability and, in so doing, to constitute a database for the planned research program.

2. Role and growing importance of the services sector

The service industry occupies an increasing part of the world economy. As estimated by the Organisation for Economic Co-operation and Development (OECD), this sector represents more than 70% of jobs and of the value added in the economy of the developed countries (OCDE, 2005). In 2001, services represented 72% of the gross internal products (GIP) of the

² For the industrial service sector, the definition of the European Union will be used, that is, a SME has fewer than 250 employees and an annual turnover of less than 50 million euros (cf. Parida and Westerberg, 2007).

developed countries, 57% of the GIP of the European Economic Community (EEC) and approximately 52% of the GIP of the developing countries (MDEIE, 2006). For the OECD, the interest in services is justified because they constitute an essential mean to increase employment, productivity and innovation within its member countries (OCDE, 2005).

In Canada, the proportion of services within the GIP has risen from 45% twenty years ago (Strategis, 2006) to 69% in the most recent estimates obtained in 2003, along with 75% of total employment and 35% of R&D investment (MDEIE, 2006). Among the sub-sectors that have most contributed to the rise of the service industry are wholesaling, professional, scientific and technical services, as well as the information industry and the cultural industry. In fact, all of these service sub-sectors have had a growth rate that is superior to the manufacturing sector's growth rate (Acharya, 2006).

The services sector is also showing signs of high growth in certain Asian countries such as Taiwan, Japan, Singapore and Hong-Kong. This phenomenon can also be explained however by the greater specialisation of manufacturing enterprises (Wirz, 2000). Indeed, specialisation allows firms to benefit from economies of scale or of knowledge and thus produce at lower cost and often in a "unique" manner a product comparable to the one produced by its competitors. This increased efficiency originates in the specialised firm's capacity to develop advanced knowledge that allows it to improve its service and thus remain competitive. Whereas the non-specialised firm, for whom the notion of service is less relevant and less important, will not allocate as much resources to it, notably in terms of R&D; also, in this case, the service cost is a more marginal component in the total manufacturing cost. This specialisation of activities is seen as an important advantage for national economic development and wealth creation (McRae, 1994). Rather than realising by itself all activities necessary to design, fabricate, market and service its own products, a manufacturing enterprise would thus be called upon to concentrate more on fabrication and work in partnership with specialised firms with regard to the other activities.

Czarnitzki and Spielkamp (2000) go further by affirming that the services sector constitutes the "bridge for innovation" not only for itself but also for the manufacturing sector that it supports more and more. Innovation in manufacturing cannot be done without the contribution of industrial service SMEs that have become suppliers, users, designers and intermediaries in the transfer of knowledge and technology. In summary, these firms now play the lead role in the product development process and in the knowledge economy.

3. Models of collaboration between the manufacturing and services sectors

Service and manufacturing enterprises can contribute to a country or region's economic development by co-operating or working in synergy. To illustrate the relationship between the two sectors, one may recall with Pilat and Wölfl (2005) that manufacturing a product such as a motor vehicle requires a wide range of services such as R&D, marketing research, design and human resource management (HRM). Moreover, such a product is now sold as "packaged" offering that comprises, for instance, services related to its financing and its maintenance.

Previously considered as being "peripheral" to the manufacturing industry, the service industry is now considered as a dynamic component that is essential to the development of manufacturing firms and to their creation of value (Léo and Philippe, 2006). In the knowledge economy where no one firm can dominate the market or sustain a competitive advantage for long, strong and sustained collaboration with various economic partners has become necessary to the survival of manufacturing firms in the developed countries, and

manufacturing SMEs in particular (Julien *et al.*, 2004). The need for these firms to specialise and reduce their costs has contributed significantly to the growth of the services sector.

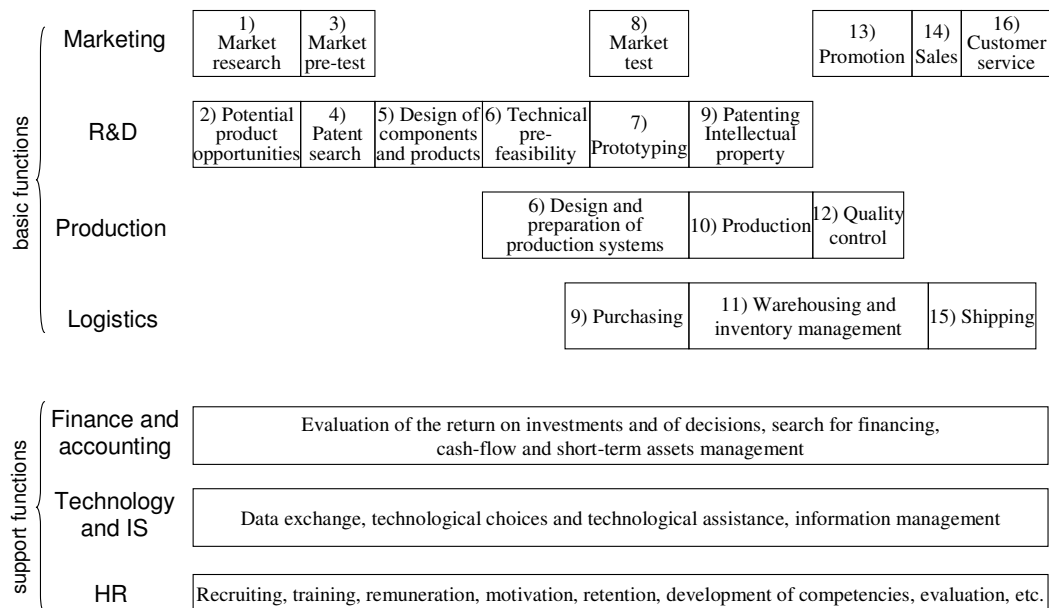
Wirtz (2000) has identified two other determinants of growth in the services industry, namely the deregulation of certain markets such as telephone and cable services, and the development of information technologies including the Internet that enable business intelligence and facilitate business transactions. With the creation of numerous service enterprises that now provide communication and information services, manufacturers are now able to further reduce their costs and increase their effectiveness (Raymond, Bergeron and Blili, 2005). The skills and competencies of human resources in the services industry also constitute growth factors for this industry, as they constitute an important indicator of innovation as well as an assurance of the quality of services offered. One may also note the flexibility of the labour market in the services sector, with a higher rate of part-time and temporary employment as well as a higher rate of female employment than in the manufacturing sector (Czarnitzki and Spielkamp, 2000; MDEIE, 2006).

A most important implication of the growth of the services sector is that it contributes to increasing the competitiveness of a national or regional economy as a whole because specialised services tend to reduce the cost of manufactured goods (Wirtz, 2000). Another implication is obviously that it brings down the relative proportion of manufacturing jobs in the total job market; but these jobs are not always lost however, but are often “transformed” by the manufacturing enterprises themselves in deciding to externalise or outsource part of their activities in order to be able to offer a unique product to their national or international customers (Léo, 2000; Léo, Moulins and Philippe, 2006).

Notwithstanding the growing importance of industrial service firms, little is known on how these firms operate and even less on how they interrelate with manufacturing firms. The boundaries of manufacturing SMEs are being reshaped, given their increasing ties with service firms to whom they transfer various specialised activities (Merino and Rodriguez, 2007). It is in order to bridge this knowledge gap that the present research program was undertaken. We wish to increase our understanding of the organisation as well as of the success factors of the network enterprise that is emerging as a particularly effective industrial mode in the context of the knowledge economy (Julien *et al.*, 2004).

As noted by Léo and Philippe (2006), the great heterogeneity of the services sector often makes it a “hodgepodge” that comprises firms with totally different realities, thus rendering its study as a whole almost impossible. Thus one cannot attempt to characterise the workings of service SMEs without circumscribing certain parameters to limit the research to specific sub-sectors. Given our interest in the development of the network enterprise, within which a manufacturing SME can increase the quality and value of its products, it was decided to focus on those services most relevant to this type of business environment. Starting with Porter’s (1986) value chain model and taking into account the breakdown of manufacturing activities, that is, essentially the “deliver products and services” core business process as defined in the process classification of the *American Productivity & Quality Center* (APQC, 2006), various manufacturing functions were identified for which external services could be required.

As presented in Figure 1, manufacturing functions are categorised as either “basic functions” needed to design, produce and deliver the product or as “support functions” that are required by the organisation as a whole and not specifically by the manufacturing process. For each activity in its value chain, the manufacturing SME will require specialised services from the following service sub-sectors as identified by national or international standard industry codes (SIC):

Figure 1: Management of the value chain and activities of service firms

- marketing: market studies and surveys, publicity and related services, call centers;
- R&D: legal services, engineering and R&D services, draughtsmanship and design services, laboratory testing services;
- production: equipment/materials/supplies wholesaling and distribution, packaging and labelling services, repair and maintenance of electronic and precision equipment and of industrial and commercial equipment, leasing of industrial and commercial equipment;
- logistics: wholesaling and distribution of various products, brokering services, transport services, postal and messaging services, repair and maintenance of motor vehicles;
- finance and accounting: management consulting services, banking services, financing of sales on credit, accounting, fiscal, book-keeping and payroll services;
- information systems and technologies: telecommunications, Internet service providers, business intelligence services, systems development, evaluation and consulting services;
- human resources: professional, scientific and technical, administrative and support services, training services.

While all are categorised within the services sector, these sub-sectors show a number of distinctive traits and their contribution to the manufacturing enterprise varies. This contribution will be important to the extent that the service is directly integrated to the product and adds value to it. We will thus focus on the industrial service's link with the product rather than on its intangibility³. In analysing their role, industrial services were regrouped under the following three criteria: nature of the service, knowledge required to provide the service, and value added by the service to the products of manufacturing SMEs. The following classification was thus obtained: high-knowledge value-added services, high-knowledge

³ The intangibility of the service may take on added importance in the case of exported products (Léo, 2000).

support services, and technical/functional services that are equipment-based and rely on less highly educated personnel. Moreover, focusing on the service's integration to the product will provide meaning to the network enterprise concept because the partners in such an enterprise have a common objective of developing and commercialising a value-added product with an emphasis on shared innovation (Julien *et al.*, 2004).

4. Challenges of service enterprises and key factors for their development

In order to integrate itself to the manufacturing firm's value chain, the industrial service SME must offer a service that is unique, priced competitively and responsive to its customer's exigencies in matters of quality and delivery. This leads the firm to value its human resources as its most prized asset (intellectual capital) that, when compared to the manufacturing SME, are often better educated and more professionalized. From "resource-based view" (Barney, 1991), the competencies of the service firm's personnel remain a key factor, given their direct and most often personalised interaction with the customer, in the attainment of the firm's strategic objectives. In order to acquire, preserve and protect these competencies however, industrial service SMEs must implement specific HRM practices such as recruitment, performance evaluation, mobilisation and remuneration practices that are appropriate (Barrette, Carrière, Frankhauser and Barrette, 2002). In this regard, informing, training and mobilising personnel appear to be particularly important to achieve innovation and quality (Wills, Labelle, Guérin and Tremblay, 1998; Fabi, Raymond and Lacoursière, 2007).

To achieve an effective relationship with customers, innovation and frequent renewal of its service offering are also considered to be elements of the performance and survival of industrial service SMEs (Storey and Kelly, 2001). In this regard, R&D, training, and business intelligence activities are meant to increase service innovation (Czarnitzki and Spielkamp, 2000). These activities are however difficult to realise, as shown by Mohnen and Rosa (2000) who identified the obstacles to innovation in service SMEs. These authors mention the lack of access to financing and of specialised equipment to be the most important obstacles indicated by the owner-managers of these enterprises.

Within the network enterprise context, it was previously mentioned that innovation can be achieved jointly by the industrial service SME and the manufacturing SME. Such collaborations are not without risk however, as each firm must protect yet share its knowledge and know-how through practices and behaviours meant to insure trust between business partners (Jacob, Julien and Raymond, 2003; Hoecht and Trott, 2006). In this regard, de Brentani (2001) delineates key success factors of service innovation, including a profound knowledge of the present and long term needs of customers, competent and motivated « frontline » personnel that are capable of identifying and adequately satisfying these needs, and appropriate planning of the service development project that starts with the identification of a business opportunity and ends with the commercialisation, delivery and post-sales maintenance of the new service. The author adds that an essential pre-condition to successful service innovation resides in the enterprise's culture as manifested by the owner-managers' attitude toward innovation, in particular their encouragement of employees who express new ideas and their emphasis on collaboration and teamwork to resolve problems in the course of developing new services. Hence, an enterprise where information freely circulates both horizontally and vertically is one where employees should be more creative, committed and eventually more productive (Jacob, Julien and Raymond, 1997), and one where the level of key personnel retention is higher, thus reducing the risk of a loss of knowledge that can sometimes be fatal to a SME (Vandenbergh, 2004).

For Nachum (1996), creativity is one factor that distinguishes successful service enterprises. Given that each customer has its own specific needs, especially when this customer is a manufacturing SME whose business processes are most often idiosyncratic (Raymond and Croteau, 2006), the service firm must develop tailored or contingent rather than “off-the-shelf” or “best practice” solutions with ideas and approaches that take these idiosyncrasies into account. Another factor is related to the reputation or notoriety of the service firm, given the intangibility of the service activity that makes it difficult to evaluate the value of a service. Especially as previous experience with a certain service does not constitute a reliable indication of its future performance. In this case, it is thus necessary for the service firm to insure its visibility and develop its reputation, notably by participating in business networks, in trade fairs and in public events. The author also emphasises the need for service enterprises to develop an international market if they want to grow and provide new work challenges to their highly-qualified employees.

In the face of globalization and the knowledge economy, providing services at a “world-class” quality level also requires an investment in information systems, technologies and equipments (Storey and Easingwood, 1998; Raymond, 2003). Information technologies and the Internet in particular enable the capture, analysis, and dissemination of strategic information both within the service firm and between the service firm and the manufacturing firm. In a complex and networked business environment, access to such information is a key element of competitiveness. As denoted by Jacob *et al.* (2003), this information exchange between partners goes beyond the administrative and co-ordination data required for effective collaboration to include collective learning and network-structuring information. Thus the quality and security of such technologies is to be considered in this mode of organisation. Moreover, these technologies have been shown to influence the internationalisation of SMEs, given that time, distance and resource barriers are greatly lowered (Raymond *et al.*, 2005; St-Pierre, Monnoyer and Boutary, 2006; Parida and Westerberg, 2007).

The needs and challenges of service SMEs are summarised in Table 1, as well as the organisation mode, business processes and management practices that these firms may adopt in order to maintain or increase their competitiveness. The information presented in this table as well as other information on owner-managers of these firms, their vision, leadership and strategic orientation constitute the basis for establishing a research database on industrial service SMEs.

Table 1: Needs, challenges, and potential responses of service SMEs

Needs and challenges of the firm	Organisation / Processes / Management practices
Human resource management	
Dispose of competent personnel	Recruitment; Training; Performance evaluation; Remuneration system; Valorisation of personnel
Mobilise the personnel to commit to the firm's success	Task descriptions; Performance evaluation; Motivation; Participative management; Valorisation of personnel
Assure the flexibility of personnel	Work organisation; Training activities for personnel
Retain key personnel	Participative management; Diffusion of information ; Communication system and consultation of personnel
Marketing and development of customer base, services and markets	
Know the market and detect opportunities	Business intelligence; Creativity
Satisfy customers' needs	Training of sales representatives; Evaluation of customer satisfaction; Post-sales service to customers; Customer loyalty programs; Collaboration and data exchange with customers
Assure the firm's visibility and notoriety	Participation to fairs and expositions; Participation to business network activities; Communication; Use of electronic communication tools
Dispose of an adequate distribution network (depending upon the sub-sector)	Alliances or formal collaborations
Maintain the firm's position in the market	Business intelligence; Participation to networking activities; Product development process
Develop the international market	Business intelligence; Participation to business network activities; Alliances or formal collaborations; Participation to international fairs and expositions
Development and delivery of the service	
Offer a service of quality to customers	Technological intelligence; Investment in appropriate equipments and technologies; Training of personnel; Collaborative work between members of personnel; Use of communication tools and information exchange between members of personnel
Preserve the value added of the firm's services for customers	R&D and continuous improvement; Market and strategic intelligence; Collaboration and data exchange with customers
Innovate in matters of service	R&D and continuous improvement; Creativity; Market and strategic intelligence; Collaboration and data exchange with customers
Meet deadlines	Process of defining products/services to offer to customers; Pre- and post-sales service policy; Logistics and inventory management

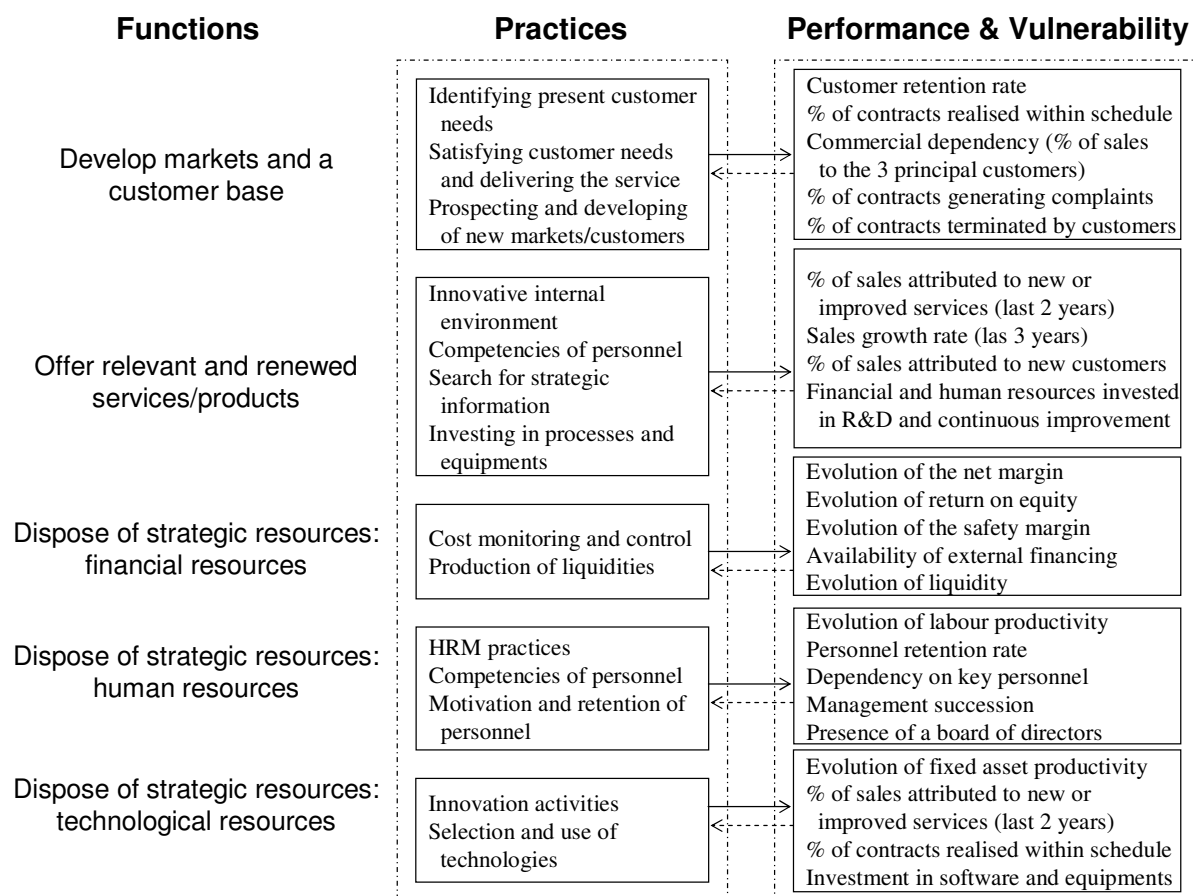
4. An expert diagnostic system for industrial service SMEs

In order to create a database for our research purposes and given our previous experience with manufacturing SMEs (St-Pierre and Delisle, 2006), it was decided to develop a performance measurement system for industrial service SMEs. The system's function is to provide owner-managers with a critical view of their firm's performance by linking results to its organisational resources, practices and technologies. This evaluation will be contingent upon the owner-manager's strategic orientation, given the latter's influence upon the internal

organisation of the firm, the technologies and tools employed, and upon the managerial and operational processes developed by the firm (Raymond and St-Pierre, 2005).

The PDG[®] diagnostic tool for industrial service SMEs was thus developed for this purpose. As indicated in Figure 2, it is based on a model that presents an overall view of the firm, identifies improvements by linking practices implemented to results attained, similarly to performance models such as the EFQM and others (Van Landeghem and Persoons, 2001), and anticipates problems related to future performance by identifying the firm's vulnerability.

Figure 2: PDG[™] diagnostic model developed for industrial service SMEs



Industrial service SMEs wanting to participate in the diagnostic exercise for the first time are asked to complete a 15 page questionnaire. This questionnaire was developed on the basis of a literature review on the performance and failure of SMEs and service enterprises, improved with suggestions from experts in the management and evaluation of industrial service SMEs, and validated by the owner-managers. The data obtained are objective and subjective, quantitative and qualitative, and must include financial information for the last three years. Proceeding solely by means of a questionnaire was based on our experience and the owner-managers' wish for a "light" and short intervention in their firm, thus respecting the SMEs' resource constraints and facilitating their access to diagnostic services (Cassell, Nadin and Gray, 2001).

The content of the diagnostic report includes the most important performance measures for each function of the industrial service SME, based on the literature and on our expertise on the performance of SMEs. In addition to the financial measures traditionally used

by all firms, including small ones, non-financial or mixed measures were included given the nature of the practices evaluated, including most quality management practices (Frigo, 2002). Adapted to the firm's strategic orientation, established as being either of the "defender", "analyzer" or "prospector" type following Miles and Snow's recognised typology (Croteau, Raymond and Bergeron, 1999), the report recommends actions to be taken by the firm and practices to be modified if need be. More specifically, 18 business practices are evaluated, covering the organisation, financial management and control of the firm, human resources management, development of markets/services and innovation, equipment and technology. From an integrative standpoint, the global performance and vulnerability of the firm is also evaluated. This last component of the report is important because it makes owner-managers sensitive to the fact that their firm could be exposed to market or competitive threats even if its performance is enviable.

The effectiveness of the practices is evaluated with 10 measures of performance and 13 measures of vulnerability linked to productivity, efficiency, growth, and returns, leading to 14 recommendations for action in the short term to redress the firm's situation. While an expert system was developed in order to produce the diagnostic report quickly and automatically, it is read and verified by a human expert before being sent to the firm. Owner-managers can then ask for clarifications or suggestions from the expert if needed.

5. Concluding remarks

A basic question to be answered by this research is on the actual nature and strength of the relationship between industrial service SMEs and manufacturing SMEs, and on the extent to which the former enterprises' development will contribute to the latter's competitiveness and thus reduce employment losses in the manufacturing sector of industrially developed countries. Another question is whether the network enterprise mode of organisation, where each member is called upon to make a significant contribution to innovation, is a solution to the economic growth problems of these countries.

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