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Strategic Innovative Marketing and Tourism

Current Trends and Future Outlook—10th ICSIMAT, Ionian Islands, Greece, 2023

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This volume and every of our ICSIMAT COMMUNITY volumes are dedicated to Prof. Belch, Prof. Buhalis, Prof. Morgan, Prof. Gretzel, Niki, Diamantis Kitrides, late Prof. Avlonitis, Prof. Kitchen, Prof. Zotos, the scientific and organizing committee, the editors who kindly offered space in their prestigious journals and all the ICSIMAT community, which have contributed to our success. All for one, one for all!

Preface

Aims and Scope of the Conference

The International Conference on Strategic Innovative Marketing and Tourism (ICSIMAT) 2023 was held from 22 to 26 of September in Zakynthos, Ionian Islands, Greece.

ICSIMAT 2023 provided a timely and interactive international platform for academics, government and industry practitioners in order to discuss and develop new perspectives in the fields of marketing, innovative technologies, tourism, communication, education and management. They were able to discuss and debate current trends and future outlook issues that affect the future direction of marketing and tourism research and practice in a digital and innovative era.

ICSIMAT community includes worldwide well-known scholars, faculty members, doctorate students, researchers and business practitioners who network and exchange research work and inter-institutional co-operations.

ICSIMAT 2023 accepted and hosted 122 original research work, after a double-blinded peer-review process. Seven presentations were part of the established industry session that is organized during ICSIMAT conferences. 25 sessions in total were held in order to advance and contribute to specific research areas in the field of strategic innovative marketing and tourism.

The sessions that were created under ICSIMAT 2023 were:

Session on: **Success Stories from Organizations, Industry and Institutes**
Session Chair: **Yannis Vassiliadis, CEO KYANA, Greece**
Session on: **Consumer Behavior (a)**
Session Chair: **Apostolos Giovanis, University of West Attica, Greece**
Session on: **Media Communication**
Session Chair: **Nikos Grammalidis, Information Technology Institute, Greece**
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Session Chair: **Idalia Maldonado Castillo, Escuela Superior de Computo-Instituto Politecnico Nacional, Mexico**
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Session Chair**: Pinelopi Athanasopoulou, University of Peloponnese, Greece**
Session on: **Methodological Innovations**
Session Chair: **George Stalidis, International Hellenic University, Greece**
Session on: **Marketing Perspectives on Turbulent Times**
Session Chairs: **Eirini Papadaki and Alexandros Apostolakis, Tourism and Entrepreneurship Laboratory, Hellenic Mediterranean University, Greece**
Session on: **Innovative Culture and Tourism Related Issues**
Session Chair: **Sofia Gkarane, University of Macedonia, Greece**
Session on: **Sustainability Issues and the Role of Not for Profit Organizations**
Session Chair: **Katerina Kabassi, Ionian University, Greece**
Session on: **Human Resources in the Post COVID-19 Era**
Session Chair: **Teresa Borges-Tiago, University of the Azores, Portugal**
Session on: **Policy and Strategic Issues in Culture, Marketing and Tourism**
Session Chair: **Joselia Fonseca, University of the Azores, Portugal**
Session on: **Enogastronomic (Food and Wine) Consumer Issues in Marketing and Tourism (b)**
Session Chair: **Aikaterini Stavrianea, National and Kapodistrian University of Athens, Greece**
Session on: **Higher Education Management-Social Skills and Competences**
Session Chair: **Sofia Asonitou, University of West Attica, Greece**
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Session Chair: **Mihaela Gotea, Transilvania University of Brasov, Romania**
Session on: **Consumer Behavior and Social (Media) Networking (d)**
Session Chairs: **Aspasia Vlachvei, University of Western Macedonia, Greece and Ourania Notta, International Hellenic University, Greece**
Session on: **Internal Control and Transparency**
Session Chair: **Petros Kalantonis, University of West Attica, Greece**
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Exclusive Meeting Space

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Hybrid Session

Session Chair: Arabela Briciu, Transilvania University of Brașov, Romania

Topics Related to ICSIMAT

Marketing, Social Media Marketing, e-Branding and Brand Experience Management, Digital marketing, Marketing Analytics, Marketing Research, Services Marketing, Integrated Marketing Communications, Consumer Behavior, New Product Design and Development, Sports Marketing, B2B and B2C Marketing, Pricing Strategies, Art and Cultural Marketing, Mobile Services, Gaming, Gamification and Augmented Reality, Location-based Services, Internet-of-Things, Heritage and Museum Management in the Digital Era, Cross-cultural marketing, Tourism and Destination Marketing, Enogastronomic Tourism, Event Tourism, Health Tourism, Transport Industry Marketing, Social Media, Experiential and Sensory Marketing, Customer Relationship Management and Social CRM, Collaborative Marketing, Safety Marketing, Economics of Business Strategy, Accounting Marketing, Global Business, Marketing Finance, Healthcare Management, Accounting Education, Skills and Competences, Higher Education, Retail Marketing, Sales Management, Public Relations and Crisis Management, E-commerce, Marketing Strategy, Sectoral Marketing, Safety Management and Marketing, Entrepreneurship.

Aigaleo, Greece — Androniki Kavoura
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We would like to thank all members that participated in any way in the ICSIMAT 2023 and especially:

- The famous publication house SPRINGER for their communication sponsorship.
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- The members of the scientific committee that honored the conference with their online presence and provided a significant contribution to the review of papers as well as for their indications for the improvement of the conference.
- All members of the organizing committee for their help, support and spirited participation before, during and after the virtual conference.
- The session organizers for their willingness to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the conference.
- The Municipality of Zakynthos and all stakeholders who greatly contributed to the organization of this mega event.

Conference Details

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Enlightening the Brand Building-Audience Response Link
Prof. Cleopatra Veloutsou, University of Glasgow, Scotland

The Puzzle of Aging
Dr. Liz Mestheneos, A Founder and Board Member of the NGO "50+ Hellas," Past President of AGE-Platform Europe

Contents

Generation Z Gender Differences in Barriers to Engage in Entomophagy: Implications for the Tourism Industry

Stergios Gkitsas, Irene Kamenidou, Spyridon Mamalis, Ifigeneia Mylona, Stavros Pavlidis, and Aikaterini Stavrianea

Abstract This study presents the results of a research addressing generation Z cohort's barriers to practice entomophagy and also examines existing gender differences based on barriers to engage in entomophagy. The study used an online questionnaire that included 15 barriers adopted from literature. In a timeframe of approximately one month, 742 usable questionnaires were collected using a convenient and snowball sampling procedure. Analysis revealed that the three main barriers of entomophagy from this cohort are disgust, texture, and food safety concerns. The t-tests revealed that male and female subjects differ in what they consider as a barrier to entomophagy for six of the 15 barrier statements offered. Specifically, statistical differences were found between males and females of the generation Z cohort on the following barriers: disgust, unfamiliarity, food safety concerns, religion, high price, and "nothing prevents me". Based on these outcomes, generation Z education and marketing communication strategies to increase consumer awareness of the benefits of entomophagy are discussed.

Keywords Consumer behavior · Generation Z · Entomophagy

1 Introduction

Entomophagy is practiced by at least 2 billion people worldwide [1], however in Western countries entomophagy acceptance is very low [2, 3], with some of the recorded barriers being disgust, food neophobia, perceived health risk, and negative attitudes [4–6]. Gender is one of the most important demographic factors when it

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comes to entomophagy, as males have been shown to be significantly more accepting of insect consumption [7, 8].

One perspective on consumer acceptance of entomophagy that seems to be of interest is that of generational cohorts [3, 9] and especially generation Z [3], which is the youngest adult cohort, incorporating people born between 1995 and 2009 [10]. Entomophagy and generational cohort behavior is a topic that has not been extensively addressed in the literature, with only ten studies existing [e.g., Rovai et al. 11] to our knowledge, of which only two studies [12, 13] address cohort behavior and gender differences towards entomophagy, which is the focus of this study.

Based on the abovementioned, the main aim of this paper is to explore barriers of entomophagy concerning the generation Z cohort as well as any existing gender differences, both having a dearth of extant literature. Due to different impediments (mainly economic and time) this research directs attention to the Greek generation Z cohort.

This research adds value to the existing literature by studying consumer behavior of generational cohorts and specifically the generation Z cohort in relation to entomophagy as well as gender differences which is extremely understudied in the academic literature (to our knowledge). Even though this study focuses on the Greek generation Z cohort, it may also prompt Greek tourist destination hotels and restaurants to serve insect-based dishes. Tourism marketers in the hospitality and gastronomy industry could include insect-based food for international tourists who have them in their diet or consumer groups that are environmentally conscious and avoid meat proteins.

2 Literature Review

Literature on insect consumption is gaining constantly interest and there is a continuous increasing number of academic papers that explore entomophagy from different points of view of consumer behaviour, some focusing on literature review, while others being research papers [e.g., 14].

There are conflicting results in studies of generational cohorts and entomophagy in the Western world, as some have found that all generational cohorts, including the Z-cohort, have a low propensity to consume insects [3, 9, 12], and some others have found that there is already a market segment ready to adopt insect consumption in their daily diet [11], especially for the generational cohorts Y and Z [13].

Research has shown that the main barriers to entomophagy for Westerners are disgust, food neophobia, perceived health risk, cultural aspects, intrinsic and extrinsic cues, and negative attitudes [4–6, 15]. Studies of generational cohorts and gender differences in entomophagy have shown that men accept it significantly more than women, both in countries with and without entomophagy traditions [12, 13]. Studies that do not take a generational cohort perspective also often find gender differences, highlighting that men are more accepting of insect consumption compared to women, especially regarding the consumption of whole and unprocessed insects [5]. This is evident in the systematic review by Kröger et al. [16] in which 71.2% of 52 studies identified maleness as a positive influence on entomophagy acceptance.

More specifically, Tzompa-Sosa et al. [13], in their study which included participants from the United States, Belgium, Mexico, Italy and China, found that gender was the most important factor in entomophagy acceptance, as males were more likely to accept consumption of mealworms than females. Fasanelli et al. [12] found statistically significant differences between genders, with females showing higher levels of disgust and lower intention to consume edible insects. Videbæk and Grunert [8] found in their study that the "Potential Entomophagists" segment tended to be younger males. In addition, Schäufele et al. [17] found that women were significantly less likely to try edible insects. Cicatiello et al. [4] also showed that gender (male) positively influenced consumer attitudes towards entomophagy. In contrast, Kamenidou et al. [3] found that gender did not offer any statistically significant differences across the segments that emerged in their research.

3 Materials and Methods

Barriers to entomophagy included 15 items on a 7-point Likert scale, whereas the 15 statements (some slightly modified) were adopted from Woolf et al. [18] and Cicatiello et al. [4]. Criteria for participation in the study were established (members of adult generation Z cohort residing in Greece i.e., born between 1995 and 2004; access to the Internet, email, or social media), and provided consent (question N.1) for the use of the data collected. The questionnaire was distributed online for about one month, using a convenient and snowball sampling procedure, resulting in a sample of 742 valid responses for data analysis. Data analysis using SPSS ver. 28 program included descriptive statistics, reliability, and independent sample t-tests. The reliability of this15-item scale was measured using Cronbach a, which produced an $\alpha = 0.895$, which is considered satisfactory.

4 Results

4.1 Sample Profile

Male subjects accounted for 56.3% of the sample whereas females accounted for 43.7% and the younger members of the Z cohort (18–20 years of age) were also over-represented. Also, the majority of respondents were single, had finished secondary school, and lived in urban areas. Regarding occupation, most of them were students, and with a net monthly family income $\leq$ 1000.0 €. It must be noted that the income of the Greek Z cohort members that were living or studying alone, was calculated as the amount they receive from their parents plus any other income they may have (e.g., from a part-time or full-time job).

4.2 Barriers to Entomophagy

Based on the mean scores (MS) of the answers, the three main reasons (out of 15 presented) for not engaging in entomophagy are disgust (MS = 5.29; std = 2.09; median = 6.00), texture (MS = 5.14; std = 2.08; median = 6.00), and food safety concerns (MS = 5.04; std = 2.02; median = 6.00). On the other hand, availability (MS = 3.12; std = 2.05; median = 3.00), religion (MS = 2.71; std = 1.99; median = 3.00) or being vegetarian (MS = 2.63; std = 2.01; median = 2.00), are the statements with the lowest MS and thus are not considered as barriers. Additionally, of the 15 barriers tested, female subjects rated only seven higher than male subjects, namely, disgust, texture, food safety concerns, insect appearance, unfamiliar food, perceived bad flavor, and human consumption safety.

4.3 Gender Differences

Gender differences regarding barriers to entomophagy were examined using independent samples t-tests (SPSS ver. 28) for each barrier in order to gain a deeper understanding of the generation Z cohorts' attitudes for each item. Additionally, the assumption of homogeneity of variances was tested (Levene's F test). Table 1 shows the results of the t-test (depending on whether equal variances (EVA) are assumed or not (EVNA) based on Levene's Test for Equality of Variances (LTEV) results), and only for the cases that statistical differences were detected.

The t-tests revealed that male and female subjects differ in what they consider as barriers to engage in entomophagy for six out of 15 provided statements examined. Specifically, no gender differences were detected for the following barriers: Food

Table 1 Independent samples t-test between generation Z cohorts' gender and barriers to entomophagy

Barriers to entomophagy	LTEV	t-test for equality of means				
		F	Sig.	t	df	Sig. (2-tailed)
Disgusting	EVA	2.998	0.084	−1.972	740	0.049
Unfamiliar	EVNA	4.832	0.028	−2.429	718.298	0.015
Food safety concerns	EVA	0.015	0.903	−1.979	740	0.048
Religion	EVNA	8.379	0.004	2.822	723.568	0.005
High price	EVA	0.760	0.384	2.297	740	0.022
Nothing prevents me	EVNA	4.930	0.027	3.021	712.854	0.003

safety concerns, social/cultural pressures, vegetarian/vegan, low availability, high price, bad flavor, poor nutrition, negative environmental impact, insect appearance, texture, and human consumption safety. In contrast, the independent sample t-test showed that there are statistical differences between the generation Z male and female subjects in barriers to engage in entomophagy, related to disgust, unfamiliar, food safety concerns, religion, high price, and the statement "nothing prevents me".

Independent samples t-test showed that regarding barriers to entomophagy, females had higher MS compared to males and differed statistically for disgust ($t(740) = 1{,}972$; $p = 0.049$; $MSm = 5.16$; $MSf = 5.46$), unfamiliar food to them ($t(718{,}298) = 2{,}429$; $p = 0.015$; $MSm = 4.85$; $MSf = 5.21$), and food safety concerns ($t(740) = 1.979$; $p = 0.048$; $MSm = 4.92$; $MSf = 5.22$). On the other hand, a statistically significant difference was found between males and females, with males having higher MS compared to females regarding barriers that refer to religion ($t(723{,}568) = 2.822$; $p = 0.005$; $MSm = 2.97$; $MSf = 2.48$), high price ($t(740) = 2{,}297$; $p = 0.022$; $MSm = 3.32$; $MSf = 5.21$), and "nothing prevents me" ($t(712{,}854) = 3.021$; $p = 0.003$; $MSm = 3.38$; $MSf = 2.90$).

5 Discussion

The results of the present study appear to be consistent with the findings of other similar studies [4, 8, 13, 17], as females have higher mean scores, in some cases statistically significant, than males on the most common barriers to entomophagy. In our study, females showed higher levels of disgust and safety concerns, while males were more likely to agree with the statement "nothing prevents me" from trying insect-based foods. These findings are consistent with those of the study by Bisconsin-Júnior et al. [7] where men exhibited the lowest risk perception toward eating insects and the most positive attitude toward foods made from edible insects, while women showed the highest risk perception and negative attitude. The research of Fasanelli et al. [12] is also in line with the results of this study, as they found that women exhibited statistically higher levels of disgust than men.

These results reveal the need of educating the generation Z cohort consumers about sustainability and the possibility to substitute meat proteins with proteins from insect consumption. It additionally reveals the need of education about entomophagy in order to decrease negative attitudes. Lastly, it reveals that marketing communication referring to awareness and education must be made towards different directions depending on gender and specifically based on the results of the highest MS per gender. One way of marketing communication with generation Z is to develop online communities where Gen Zers will share their prior experience with entomophagy, as this generation draws more on the experiences of their peers [19].

This study has several implications for the tourism industry, particularly gastronomic tourism, and hospitality. Albeit the present research focuses on the youngest adult Greek generational cohort, in a general sense it can also initiate insects-based gastronomy events for international tourists, "foodie" tourists or tourists that rely on an alternative diet with sustainable proteins. An example is the "all inclusive" hotels that attract the abovementioned consumer groups where during booking they could be informed of this alternative type of protein presented by the hotel's menu. Restaurants could also benefit from including insect dishes on their menu for those that consider insect consumption a "gourmet" meal. Lastly, a new type of alternative tourism may be on the rise for the Greek industry, namely "Entomotourism" [20].

6 Limitations, Directions for Future Research and Conclusions

The research presented has some unavoidable limitations such as employing a non-probability sampling method, focusing on a single country (Greece), a single generational cohort (the generation Z cohort), and a relatively small sample ($N = 742$). It is undeniable that the above limitations, one by one, provide fertile ground for future research. Although the present study has the limitations noted above, its contribution to academia is significant, as it provides essential attitudinal information regarding an understudied generational cohort.

Ethical Approval: There are no ethical issues involved in the processing of the questionnaire data used in the study. The necessary consents have been obtained by the persons involved, and the anonymity of the participants has been secured. All procedures performed in studies involving human participants were in accordance with the ethical standards of the International Hellenic University research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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“In Search of an ‘I’ and a ‘We’ in ‘Team’”: A Group-Analytic Tool for Teaching Teamwork

Stamatina Katsiveli

Abstract The centrality of teamwork in today’s marketplace is undeniable and well-researched. Its numerous benefits are accompanied by various challenges which make teamwork a valuable aspect of the soft skills that students need to acquire in communication courses. This paper proposes a tool for teaching teamwork in the classroom as well as for maximizing team performance in organizational settings, drawing on Group Analysis, i.e., a group-focused approach to psychotherapy which explores the simultaneous individual and social development of members of a group. The tool in question follows the SPeCS acronym, which relies on two interrelated dimensions, namely Self-Perception of each member and Communication Style he/she adopts. Contrary to common conceptualizations of teamwork as a soft skill on its own, the paper argues that, in order to perform in team settings, members need to work in parallel on multiple interpersonal communication skills (e.g., audience-centered design of message, listening skills) and on their combined, simultaneous perception of themselves from an ‘I’ and a ‘we’ perspective. SPeCS may be used by both students and future professionals as a self-reflective tool which promotes critical thinking as well as engaging and fruitful collaborations.

Keywords Teamwork · Professional communication · Group analysis · Soft skills · Higher education · Interdisciplinary teaching

1 Introduction

Almost every textbook on communication skills will dedicate a section to teamwork, emphasizing the fact that, no matter what career path one chooses to pursue, they will need to collaborate in at least some work-related tasks. The centrality of teamwork in today’s marketplace is undeniable. Organizations use a wide variety of groups and teams to perform tasks, and the benefits of such a decision are well-researched in the literature: increased productivity, improved employee morale, reduced risks,

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and less resistance to change, to name just a few [1–3]. At the same time, not every individual with experience in teamwork has found the process effective or rewarding. As a matter of fact, there are various challenges that come hand in hand with team activities [2]. Instead of enhancing creativity and productivity, a team setting can cultivate social loafing (i.e., allowing individuals to put in less effort and hide behind the group), as well as effects of groupthink (i.e., peer pressure causing some members to withhold contrary opinions and go along with decisions made by the majority). To these group phenomena, we should add the possibility of hidden agendas led by counterproductive individual motives, as well as practical difficulties regarding aligning schedules, arranging meetings and/or coordinating individual parts of projects [4]. Similar challenges are also reflected in students' perceptions of obstacles to teamwork. According to Wilson et al. [5], when asked about negative aspects of their group assignment, undergraduate students pointed to difficulties in scheduling time together, unfair workload distribution, and interpersonal conflict. Both the many advantages and the equally numerous challenges associated with teamwork make it a valuable part of the soft skills toolkit that students need to acquire or improve in communication courses. Although this need has long been acknowledged [6] and effective teamwork assessments have been proposed [7], the need for a more holistic implementation of teamwork pedagogy persists [5]. This paper proposes a tool for teaching teamwork in the classroom, as well as for maximizing team performance in organizational settings, by capitalizing on each team member's active and critical reflection. Adopting a group-analytic perspective, the SPeCS tool (see Sect. 3) foregrounds two interrelated dimensions of self-reflection, namely Self-Perception of each member and Communication Style he/she adopts in interacting with the team.

2 Background

2.1 Team Effectiveness

Team effectiveness is not a new concept. On the contrary, researchers have invested a lot in studying the specific characteristics of a team that will make it successful. A series of descriptive models for analyzing team phenomena has been proposed over the years, like the Input-Process-Outcome (IPO) model [8], and the Input-Mediator-Outcome-Input (IMOI) model [9]. Taking these into consideration, various articles and book chapters propose research-based mechanisms for successful work teams [9–11]. Numerous textbooks on communication skills rely on this rich field of research, turning such analytical accounts into applicable knowledge and transferable skills. As a result, we can find multiple lists of useful and insightful ways in which teams can perform more effectively (indicatively [1, 3, 4, 12]). Among other things, textbooks alert their readers of the fact that successful teams embrace diversity, communicate effectively, confront conflict, collaborate rather than compete, place individual rights beneath the best interest of the team, acknowledge that each member brings special strengths etc.—the list could go on for several pages. The significance and accuracy of such listings is not questionable. Students need to be conscious of the key ingredients of team success. However, a question does arise: are lists enough for such knowledge to be mastered experientially? Similar to every human interaction (and activity, in general), teamwork processes are dynamic and negotiable, rather than static and unchangeable. This means that simply learning about the successful mechanisms or even managing to apply them once cannot secure success in real-life collaborations. One of the main arguments that the present paper seeks to make is that the key to team accomplishments is constant self-regulation and critical reflection.

2.2 Critical Reflection

Reflection has been associated with productive, deep learning in a range of disciplines across higher education. Its significant benefits were introduced decades ago, in accounts that associated it with the ability of metacognitive thinking [13, 14]. As Dewey emphasizes in his seminal texts, it’s not mere experience we learn from; rather, we eventually learn by reflecting on experience [15]. The notion of reflective practice is introduced in work by Schön [14, 16], as a way of comparing what professionals do to what they say they do. In line with this, concepts such as ‘(critical) reflection’ and ‘reflexivity’ emerge, emphasizing the benefits of examining and, if necessary, changing deeply held, fundamental assumptions or power dynamics. In sum, awareness of such assumptions can provide a platform for transformative action and a change in perspective [17, 18]. Taking into consideration the above, numerous approaches promote the integration of critical reflective practices in various disciplines across higher education as engaging mechanisms for professional and academic development, both from the perspective of instructors and students (indicatively [19, 20]). The premise is well-described by Hetzner et al. [21]: a reflective practitioner can become a skillful professional, who is capable of controlling, maintaining, changing, or negotiating their professional action. Fook [17] argues for the need to “establish a culture in which it is acceptable to be open and to expose professional vulnerabilities for the sake of learning”. To the general professional advantages that this culture would entail for students and future practitioners, we could add the specific positive effects that critical reflection would have on team collaborations. Studying lists of key mechanisms and descriptions of successful teams is not enough for students to perform. Rather, we would argue that team members need to cultivate an ongoing process of critical self-reflection which will unlock the power of hands-on learning. Fully aligned with this idea, the present paper proposes a self-reflective tool which enables individuals working together to examine pre-existing assumptions and interactional patterns while these unravel in action, and to transform them accordingly. Before introducing this tool in detail (see Sect. 3), we should briefly elaborate on the theoretical framework on which the tool draws, namely Group Analysis.

2.3 Group Analysis

Founded by S.H. Foulkes in the mid-twentieth century [22], Group Analysis is a group-focused approach to psychotherapy which focuses on understanding the dynamics of groups and their impact on individual behavior, emotions, and relationships. It involves bringing individuals together in a group setting to explore their thoughts, feelings, and interactions within the group context, be it a therapy group, an organization, or an institution.

Group analysis views the group as a whole entity with its own unique dynamics, rather than just a collection of individuals. The interactions and relationships between group members, the roles they adopt, and the group's collective psychosocial environment are taken to be essential aspects of analysis. In laying the theoretical background of Group Analysis, Foulkes [22] draws on sociological work by Elias [23], who argues that socialization and individuation are interconnected processes that shape human behavior, and that such processes are permeated by interaction and communication. In this sense, a group-analytic approach acknowledges the dual nature of personal development, where individuals are both products of their social environment and active agents shaping that environment through communication and interaction.

Since its emergence, group analysis has been enriched by numerous theoretical and analytical contributions that explored common group phenomena (see Bion's [24] concepts of "basic assumptions" and "group mentality", de Maré's take on the significance of the "here-and-now" of in-group interactions [25], as well as Dalal's focus on the power interplay of different social identities within groups [26]). Importantly, the destructive forces operating within group settings have also been analyzed in detail. Nitsun's [27] account of the so-called "anti-group" delves into the dark aspects of group life, such as aggression, hostility, jealousy, and rivalry, arguing, at the same time, that acknowledging and harnessing such aspects can lead to their potential transformation into positive and constructive forces. From this perspective, Group Analysis pays significant attention to verbal and nonverbal communication within the group, emphasizing both what is explicitly expressed and what remains unsaid. Relatedly, explicitly or implicitly emerging conflict is considered a natural aspect of group life which needs to be explored and resolved, so as to promote healthier group dynamics. While its primary application is in clinical settings, the interdisciplinary group-analytic framework can be used in various organizational and educational settings. It offers an informed and systematic way for individuals to explore their relationships with others, gain insights into their own patterns of behavior, and develop interpersonal skills within a supportive group environment. At the same time, it can offer valuable insight for managers, group facilitators and individuals seeking to understand and transform destructive group dynamics into sources of growth and innovation. By shedding light to group dynamics, by unearthing underlying assumptions, and by maintaining the communication channel open at all times, a group-analytic perspective can lead to efficient and productive teams in both educational and organizational contexts. Adopting this claim, the present paper proposes a self-reflective tool which aims to enhance teamwork experience by integrating some of the beneficial group-analytic insights into the process of team collaboration.

3 SPeCS

SPeCS is a tool that seeks to enhance team effectiveness by promoting members' active self-reflection, drawing on group-analytic concepts and theorizations. It is an acronym which relies on two interrelated dimensions of critical reflection in team settings, namely Self-Perception and Communication Style (see Fig. 1).

The horizontal axis represents Self-Perception, which refers to the ways in which each member positions himself/herself onto a spectrum of self-identifications, ranging from an 'I' to a 'we'. According to group-analytic accounts (see Sect. 2.3), personal development is accomplished through the dual process of individuation and socialization [23] which take place simultaneously. That is, the self is both individual and social at the same time, and self-perception takes a different valence ('I' or 'we') depending on the different 'here-and-now'. Therefore, Self-Perception explores the degree to which each member of a given team operates on an individual or a collective basis at different stages of the collaborative project. It practically foregrounds reflective questions about the ways in which the self is perceived in the team context: "Do I feel part of a 'we'?" "Am I making decisions on my own?" "Am I (not) doing this to accommodate the team or myself?" etc.

As shown in Fig. 1, positioning the self on the extreme left or right point of the x-axis blocks productive teamwork. Typically, a member who understands himself/ herself as an 'I' (left side of the x-axis) tends to do everything on his/her own, because he/she doesn't trust anyone else in the team. Team-related problems like imposing one's decisions on the whole group, forcing leadership, or completing tasks for which

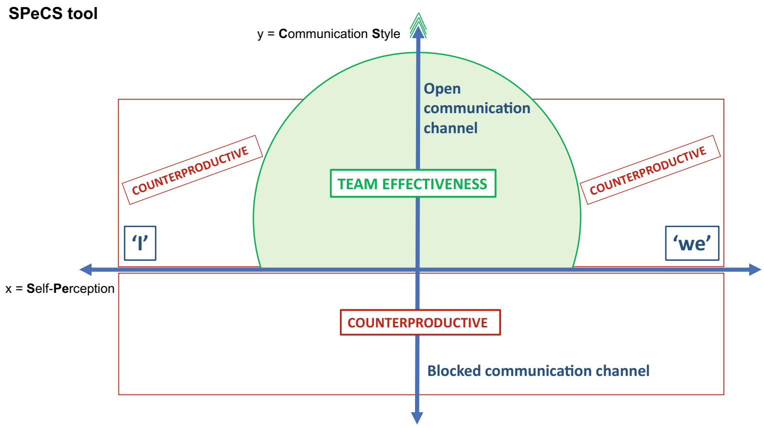

Fig. 1 SPeCS tool: reflecting on self-perception and communication style

other members have been responsible, fall under this category. On the contrary, a member who systematically positions himself/herself on the extreme right point of x-axis tends to put in the minimum effort, leaving the whole project up to the team and benefiting from other people's work. This is directly linked to typical group-related problems such as lack of accountability, social loafing, free-riders, and groupthink [4]. Both tendencies described here are counterproductive as they fail to benefit from the main asset of teamwork, i.e., diversity. Each team is unique, in the sense that its exact composition cannot be replicated [2]. If handled successfully, this uniqueness can lead to faster responses, increased productivity, and less resistance to change. If not, teamwork will be reduced to work done by a couple of individuals, who are even challenged by the need to interact and negotiate. Consequently, the proposed area for positioning oneself is found towards the middle of the x-axis. Reflecting Elias' [23] idea of simultaneous individuation and socialization, this is to emphasize that active members of a team need to be able to flexibly move from an 'I' to a 'we' and back to an 'I' location at all times. In practical terms, they need to be able to take initiatives, bring ideas, and assume responsibilities, i.e., embracing their individuality within the team setting, but to also listen, take a step back, trust the group and the process [22], and share (ideas, time, decisions), i.e., embracing the collective aspect of their self.

The second dimension of SPeCS is represented in the vertical axis and refers to Communication Style i.e., the communicative pattern that a member adopts in the context of team interactions. It relies on a continuum, based on whether the communication channel is blocked or open. In the process of interacting, collaborating, and negotiating, various challenges will come up, the most important of which involves conflict. As Group Analysis highlights, the exploration and resolution of conflict leads to healthier group dynamics (see Sect. 2.3) and, by extension, more productive collaborations. Maintaining the communication channel open at challenging moments (i.e., top side of the y-axis), is the key to this goal. The continuum ranges from complete withdrawal and blocked communication, to honest, constructive and consciously designed feedback. This dimension invites self-reflective questions about personal interactional patterns that lie behind the completion of particular tasks: "Am I giving honest feedback?" "Am I avoiding confrontation?" "Do I know how to give negative feedback without messing with our in-group relationships?" "Am I listening?" "Am I open to change?" etc. As such, this dimension encloses a series of interpersonal skills [3, 4], such as listening skills, control of verbal and non-verbal cues (e.g., body language, intonation, facial expressions), audience-centered design of messages, awareness of the context, strategic framing etc.

Overall, SPeCS can be particularly useful in educational settings, where group assignments systematically lead to heated discussions, with the vast majority of students expressing frustration and reservations. Previous negative experiences that students report, systematically point to unequal workload distribution, difficulties in scheduling meetings, free-riders, and painful negotiations. An in-class synthesis of such experiences always leads to the same conclusion: the fact that team members have been unable to give each other negative yet constructive feedback and hold each other accountable. In other words, in problematic situations it always becomes clear that communication is withdrawn and that members fail to switch from an 'I' to a 'we' perspective or vice versa (i.e., red areas of SPeCS). On the contrary, the green area of SPeCS calls for a flexible, simultaneous self-perception as an individual *and* a member of a team, and for a personal responsibility to maintain the communication channel open, even when the message to be conveyed is unpleasant. The important advantage of SPeCS is the fact that it systematizes much of group dynamics into a tangible visualization, a schematic representation which helps students and future professionals orient themselves more easily. Far beyond theoretical concepts and listings of positive and negative team practices, this tool encourages individuals to directly put prior experience into use, critically reflect on ongoing team-related situations, and benefit from the positive outcomes of hands-on learning.

4 Discussion and Conclusion

Taking the centrality of teamwork in today's marketplace as a starting point, this paper proposed a tool that promotes active and conscious involvement in team interactions. Drawing on rich literature on the benefits of critical reflection, and relying on the theoretical framework of Group Analysis, SPeCS foregrounds two dimensions that are inextricably linked to team processes, i.e., self-perception of each member from an 'I' and a 'we' perspective, and communication style that each member adopts while dealing with specific tasks. A dynamic is developed between groups that may create communities [28]. One of the main conclusions that can be drawn is that teamwork is not a soft skill on its own, as popular conceptualizations have it: simply assigning group projects while teaching students about positive and negative team practices cannot lead to spectacular results. Rather, teamwork should be conceptualized as a combination of interpersonal skills (e.g., audience-centered message, listening skills, professional confrontation) and personal development. With that in mind, SPeCS offers a tangible visualization of teamwork which may be of use by both students and future professionals as a self-reflective tool which promotes critical thinking and engaging collaborations. In discussing the idea of reflective practices, Fook [17] writes: "It might be argued that the essentially subjective processes of critical reflection are antithetical to the more technocratized systems of managerialism. However, the move towards reflective practice can be seen as part of the same imperative—to make professional practice more accountable through ongoing scrutiny of the principles upon which it is based." In line with this approach, this paper has proposed a reflective practice that increases the accountability of professional practice by allowing us to further explore the SPeCS and the (technical) 'specs' of effective teams.

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Capturing Destination's Cognitive and Affective Image on Social Media. The Case of Pafos, Cyprus

Eirini Vlassi, Georgios A. Deirmentzoglou, and Evangelia Irakleidi

Abstract The democratization of travel and tourism has led to increased competition among tourist destinations, bringing the importance of destination image to the forefront. At the same time, the expansion of social media made it possible for visitors and stakeholders to collaborate on the creation of the destination image. Thus, both cognitive and affective destination image can be observed in social media and can be found in posts that users upload either in groups dedicated to a specific destination or in posts that use the name of the destination as a hashtag. This study adopts a mixed method approach in order to reveal features of the cognitive and affective perceived destination image and compare them with the projected image. The city of Pafos was chosen as a case study and all the Instagram posts using the hashtags #visitPaphos and #visitPafos (7861 in total) have been collected and analyzed. At the same time, a questionnaire designed and answered by a sample of 108 respondents who are members of Facebook groups acting as forums for holidaymakers in Cyprus. This research attempts to provide practical implications for destination managers and stakeholders to prepare and build their future marketing strategies by gaining a deeper understanding of the impact shared content has on visitor perception.

Keywords Destination branding · Social media · Destination brand co-creation

1 Introduction

Today, the travel and tourism sector has had to deal with the negative effects of the global financial crisis, the Covid-19 pandemic, climate change and disaster risk. While the industry strives to develop resilience, destination competitiveness has taken on the meaning of achieving exemplary growth. Destination marketing and branding help destinations navigate the turbulent environment and attract visitors by gaining increased awareness and building a strong brand. Achieving increased awareness and building a strong brand identity are considered high priority goals for

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tourism destinations seeking to increase tourist demand. The necessity for destination marketing and branding, along with the scarcity of financial resources, appeared to pave the way for public–private collaborations in travel and tourism [1]. At the same time, the use of social media has expanded, facilitating the process of destination brand image co-creation and thus contributing to the differentiation of the tourist products offered.

Social media have enabled the democratization of the internet as users can upload and share content. In terms of destination marketing and branding, destination stakeholders, including visitors, transformed from passive viewers to active participants of the destination image and co-producers of value. At the same time, social media enabled destination authorities and marketing experts to observe the open dialogue that has been produced online. Bearing in mind both the importance of destination marketing and branding, and the available capabilities of the modern tools, this research attempts to compare projected and perceived destination image as well as prompted and unprompted perceptions of the important destination features.

2 Literature Review

Even though the first studies on destination image did not release until the early 1970s [2], today, the topic is widely acknowledged by academics and experts in destination management and marketing [3]. According to Crompton [4], destination image is perceived as the sum of a person's beliefs, ideas, and impressions of a destination. Image is accepted to have an important effect on the selection of a tourism destination as many studies attempted to shed light on its influence on travelers' preference and intention to visit [3, 5]. People with a positive destination image are more willing to return or recommend the place to others or even to adopt a positive attitude towards the products of the specific country [6]. Destination branding appeared later, in 1998, in the literature [7] and is perceived is a stage of building a positive destination image and it involves selecting the appropriate element mix that will differentiate the destination from its competitors [7–9].

Gartner [10] explained that the destination image consists of the cognitive, affective, and conative image. Cognitive image is about tourists' perception of the attributes and characteristics of a destination, including tourist attractions, environment, services and infrastructure. The sum of these beliefs leads to an accepted picture of the destination attributes. While the cognitive image is important for a traveler to include a destination in his/her choice set, the affective image is used to evaluate alternatives. Affective image is related to tourists' motives and includes their feelings for the destination based on personal attitudes and values. It is about the personal meaning attached to the specific attributes [7]. Lastly, a conative image expresses tourists' intention to visit a place. In the same vein, Baloglou and McClreare [5] suggested a framework for destination image formation according to which destination image is the outcome of perceptual/cognitive (beliefs and knowledge about an object) and affective (feelings about the object) evaluation. The former is influenced by the amount and type of information sources in the absence of prior experience, tourists' age, and educational level. Affective evaluation is influenced by tourists' sociopsychological motivations, education, and age. Perceptual/cognitive evaluation seems to have a great impact on affective evaluation, and both contribute to the overall image formation.

Bramwell and Rawding [11] approached destination image from another perspective and differentiated it into projected and perceived image. Destination perceived image refers to the image that destination authorities strive to project through marketing communications. On the other hand, the perceived image has been formed in peoples' mind through primary and secondary communications. Despite differences, perceived and projected images are interdependent.

Cai [7] links the image formation process of Gartner [10] and Keller's [12] concept of brand associations with brand identity building. According to the model, the destination branding process starts with selecting a brand element (logo, slogan etc.) and follows with forming brand associations. These associations can reflect the attribute and affective and attitude components of an image. Attributes are the tangible and intangible features of the destination. Then follows the affective component, which is about the value and the benefits that derive from the destination attributes. The attitude component derives from and expresses the evaluation outcome and the intention of actions or behavioral change. The three components are not examined only through tourists' perspective, but what destination authority aims to project through them also matters. Thus, perceived and projected images can be compared and assessed. In case of a gap between the two, the destination authority needs to make corrections in order to build the desired image that will align with the brand identity.

Later, Beerli and Martin [13] analyzed cognitive image into nine factors, which are natural resources, general infrastructure, tourist infrastructure, tourist leisure and recreation, culture history and art, political and economic factors, natural environment and social environment. On the other hand, the factors shaping affective image were perceived as a judgment of whether the destination is pleasant or unpleasant and exciting or boring. Pan and Li [14] that the most common phrases describing the affective image of a destination are "exciting", "happy" and "busy" and the less common ones are "interesting", "crowded", "scary", "funny", "different" etc. The aforementioned concepts were applied by Michael et al. [15], who, through in-depth interviews, aimed to detect the image of Australia in order to provide implications to DMOs on how to attract a specific target market.

Thus, the image formation process, which is influenced by several factors, including promotional actions and word-of-mouth, became more complex with the expansion of the internet and social media. In the past, Gartner [10] detected eight image formation agents, which are Overt induced I (advertising), Overt induced II (information from agents), Covert Induced I (celebrity advertising), Covert induced II (stories and content that their intention is hidden), Autonomous (news, movies and stories), Unsolicited Organic (discussion with individuals who have been in the area or know the place), Solicited Organic (request of information from friends and relatives, word-of-mouth) and Organic (personal experience). Through Gartner's analysis, the importance of the different stakeholder groups in image formation is clear. Moreover, exposure to both tourism-specific sources and non-tourism-specific sources of information can influence destination image [3]. Today, destination authorities, tourism and non-tourism stakeholders, locals and tourists are co-creators of the destination as they can share content and messages generated by themselves online [16]. Destination authorities must be aware of how their destination's perceived image is portrayed on social media and compare it to the projected image. If a gap is found, then they have to perform the necessary steps to bring it back into compliance with the destination identity. With destination authorities having limited control over image formation only through the promotional activities they organize, this is a matter of great concern. Until now, research aiming to analyze destination images using rich user-generated content has been limited [16–18]. This research attempts to help the destination authority of Pafos to capture the destination image as it appears on social media and to compare it with the projected image.

3 Methodology

For the purpose of this research, all the Instagram posts, including the hashtags "visitPafos" and/or "visitpafos" were collected. The total number of posts found was 7861, and of these, 7241 were analyzed as repetitive store and brand commercial messages were excluded from the sample. Inductive content analysis was performed, and data were scanned to detect the different stakeholder groups that were involved in the discussion. Then, the hashtags surrounding "visitpaphos" and/or "visitpafos" were analyzed to identify the factors shaping the perceived image, both affective and cognitive, and the projected image and to assess the potential gap between the two.

In the second stage, following the outcomes of the qualitative research, a questionnaire was designed to check if the stated responses agreed with the observed outcomes. The research instrument included 14 items related to the cognitive image of the destination instead of the 28 used in the case of Qu et al. [9], as the questionnaire was limited to include the items identified through content analysis (e.g. Relaxing Atmosphere, Scenery, Friendly residence- Hospitality, Good Place for Children and Family, Good Weather, Shopping Facilities, Culture and history, General Infrastructure, Offer Personal Safety, Accommodation infrastructure, Good Nightlife, Outdoor activities, Sports). The adopted scale was five-Likert, as used in the case of Qu et al. [9]. The quantitative research was conducted to capture the perceived image of the members of the Facebook groups "I love Cyprus" and "I Love Pafos" and 108 responses were received (see Table 2).

4 Data Analysis

According to the collected hashtags, the destination features that appeared most frequently were those of nature (in 1.641 posts), life (in 1.428 posts), activities and sports (in 820 posts), history and mythology (in 287 posts) and manmade attractions (in 258 posts). At the same time feelings were detected in 1.153 posts while 522 were used to express the sense of the place. The hashtags that were used to describe the natural characteristics of the destination were #sea (36%), #summer (31%), #nature (14%), #beach (13%), #spring (6%), #Pafossunset (5%), #seacaves (4%) and #seaside (3%) (Only hashtags that account for more than 3% of the category are listed). Hashtags such as #cypruslife (52,4%), #sealife (4,8%), #islandlife (31,4%) and #beachlife (11,4%) constitute the category called "Life". Then, the hashtags #photography (404 incidents), #walk (167 incidents), #trailrun (156 incidents), #cyclinglife (129 incidents), #triathlon (123 incidents), #mountainbike (97 incidents) and #triathlontraining (60 incidents) are some of the hashtags constituting the category of "Activities and Sports" (Only hashtags that appeared over 50 posts are listed.). In terms of "History and Mythology" the hashtags #archaelogy and #archeology, #petratouromiou, #aphrodite and #tompsofthekings were used and only 287 incidents were collected. At last, the manmade attractions mentioned in the posts were #oldtown, #lighthouse, #streetart, #graffiti and #Pafosharbour. Concerning the affective factors, the most commonly used hashtags were #lovecyprus that accounts for 73% of the feelings category and #cypruslove that accounts for 16,4% accordingly (Only hashtags that account for more than 10% of the category are listed.). Lastly, the sense of the place is expressed is expressed through the hashtags #luxurytravel, #beautifyldestinations, #luxurydestination, and #romantic.

Comparing the projected with the perceived image (see Table 1) it has been observed that destination authorities mention natural features of the destination in 51,3% of their posts and activities and sports in 15,7% accordingly. The stakeholders and visitors also used the hashtags of the same category more frequently and thus the observed incidents represent 29% and 36,5% of the total accordingly. For visitors, in addition to the two categories mentioned above, life (in 19% of posts) and feelings (in 8.8% of posts) are also important which is not the case for destination authorities.

The sample of the 108 questionnaire respondents consisted of 69 females (64%) and 38 males (36%). Concerning reliability analysis, Cronbach's Alpha is 0.935. According to the received responses 51% (55 out of 108) perceive Pafos as an ideal place for children, while 59% (64 out of 108) as a safe place. At the same time, 52,7% (57 out of 108) are happy with the quality of the accommodation, while 41,6% (45 out of 108) were neutral. In terms of the general infrastructure (hospitals, public transport, schools etc.), 48 (44,4%) mentioned that they were happy, while 53 (49%) neutral. Only 32 out of the 108 stated that Pafos is a great place for shopping, while 61 were neutral. On the other hand, 76 (70%) found the atmosphere of the island relaxing, only 4 seemed to disagree and 28 neither agree nor disagree. 85 out of 108 enjoyed the natural resources and scenery of the island and only 28 were neutral. Concerning history and mythology, 73 stated that they were happy with the related

Table 1 Hashtags by stakeholder group

Hashtags/ stakeholders	Island Characteristics	Life	Sense of the place	Manmade attractions	History and mythology	Culture and cultural heritage	Activities and sports	Feelings	Accommodation	Food and Beverage	Nature	Communities	Events and festivals
Local authorities	15	9	3	10	17	12	42	7	1	9	137	1	0
Accommodation providers	1	64	319	0	0	0	7	10	29	24	54	0	0
Locals	1	12	1	0	3	2	24	12	1	0	62	2	0
Travel agents	0	9	6	0	2	0	0	11	5	0	22	0	0
Visitors	0	69	8	12	23	11	47	31	4	9	128	8	1
Bloggers	2	134	13	2	8	2	17	65	2	1	123	0	0
Cyprus photographers	1	12	1	0	3	2	24	12	1	0	62	2	0
Local shops	1	21	7	4	1	1	3	0	1	22	16	0	1

Table 2 Factors of the perceived image of Pafos

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The weather in Pafos is pleasant	3	4	21	60	20
Pafos is a place to enjoy sports	4	5	54	37	8
Pafos is a place to enjoy outdoor activities	2	0	26	66	14
Pafos is a place to experience culture and history	2	2	37	57	10
My impression of Pafos as a holiday destination that is ideal for children is positive	3	2	46	48	7
Pafos is a safe place	3	2	39	55	9
Pafos has top quality accommodation	2	4	45	49	8
The residents of Pafos are friendly	2	1	47	51	7
Pafos has great public amenities (schools, hospitals, public transport, sports facilities and so on.)	3	4	53	42	6
Pafos is a great place for shopping	3	12	61	27	5
Pafos offers top quality hospitality	2	2	52	44	8
Pafos is a place to enjoy natural scenery	2	3	28	60	15

(continued)

Table 2 (continued)

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Pafos is a place to relax	2	2	28	66	10
Pafos is an affordable place to visit for a holiday	3	12	48	40	5

offering while 30 were neutral and 5 disappointed. In the same vein, 67 agreed that Pafos is a place to experience culture and history. Over half of the respondents agreed (60 out of 108) that the residents of the island were friendly and hospitable, while 56 neither agreed nor disagreed. 82 agreed of the respondents stated that the place is ideal for outdoor activities but only 49 agreed that Pafos is a place to enjoy sports. 49 out of 108 agreed that the island offers good nightlife and 80 found the weather pleasant (Table 2).

5 Discussion and Conclusions

This research sought to capture the perceived and projected image of the destination in order to help destination authorities better understand the importance visitors place on different destination attributes and direct their future strategies accordingly to achieve the delivery of the intended identity. Thus, Instagram posts were collected to detect the unprompted perception of the destination image (both projected and perceived), while questionnaires were delivered to visitors, aiming to reveal the prompted perception of the features that are considered important and shape the destination image.

Comparing visitors prompted and unprompted perceptions, it seems that they pay attention to the natural scenery of the island as well as to the offered outdoor activities. At the same time, they seem to underestimate the offered public amenities, shopping facilities and locals' presence and hospitality. A contraindicatory outcome was related to the perception of Pafos as a place that offers experiences of history and culture. While most of the questionnaire respondents answered positively, there were just a few posts using related hashtags. In addition, the relaxing atmosphere of the island was rated positively but again, the relevant hashtags in use were rare.

Then, when comparing the projected and perceived image of the destination, it was observed that both destination authorities and stakeholders use hashtags related to Pafos' physical features, life and emotions. Stakeholders used hashtags related to life more often than destination authorities. Accommodation providers insisted on the use of hashtags that express the sense of the place, while travel agents did not use hashtags related to sports and activities. Mythology, history, and gastronomy did not appear with the frequency we would expect from visitors or the destination stakeholders. The small number of incidents related to these categories on the one hand and the importance that history and mythology have for the island according to the perception of the visitors on the other, lead us to the conclusion that, although the visitors are aware of the special feature of the destination, they may omit it from their posts or even their routes if the destination authority has not properly promoted and made it available.

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Cultural Heritage Management and Strategic Planning: The New Museum of the Acropolis and the Prehistoric Settlement of Akrotiri, Santorini, Greece

Evangelos Papoulias and Theoklis-Petros Zounis

Abstract The very existence and development of cultural heritage requires management. There isn't any heritage site that can exist in isolation from outside influences. Strategic management is that set of managerial decisions and actions that determines the continuing and future performance of an organization (Papoulias and Zounis in Strategic Innovative Marketing and Tourism, 8th International Conference on Strategic Innovative Marketing and Tourism (ICSIMAT 2019). Springer Proceedings in Business and Economics, pp. 889–898, 2020). Strategic planning determines the optimal future of an organization, and the changes required to achieve that (Papoulias and Zounis in Strategic Innovative Marketing and Tourism, 8th International Conference on Strategic Innovative Marketing and Tourism (ICSIMAT 2019). Springer Proceedings in Business and Economics, pp. 889–898, 2020). This paper presents the applications of strategic planning and targeting in the new Museum of Acropolis and the Prehistoric Settlement of Akrotiri in Santorini, Greece, that are two case studies of opposite examples. The first one, is about the strategic planning of construction of the new museum of the Acropolis. The other one is the utter lack of strategic planning of management in the very important prehistoric settlement of Akrotiri in Santorini. The paper presents two cases (useful for art managers) that connect cultural heritage with strategic planning.

Keywords Strategic planning · Cultural heritage management · New museum of acropolis and the prehistoric settlement of Akrotiri in Santorini

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1 Introduction

It is a key priority to finding ways to manage cultural heritage assets in a truly sustainable manner is clearly in the best interest of the asset and the community. Strategic planning can create the proper framework for the cultural heritage management to implement its specific targets with the proper timetable and under a long-term cultural policy. This paper analyses the applications of strategic planning and targeting in major archaeological sites and monuments (the new Museum of the Acropolis and the Prehistoric Settlement of Akrotiri in Santorini in Greece) in order to show two opposite examples in the area of strategic planning.

2 Cultural Heritage Management

Cultural Heritage Management is the systematic care taken to maintain the cultural values of cultural heritage assets for the benefit of present and future generations [1]. Finding ways to manage cultural heritage assets in a truly sustainable manner is clearly in the best interest of the asset, those who manage it, and the community. Cultural heritage results from human processes and activities, rather than biophysical ones [1, 2]. There are fundamental principles that should be applied in any case of Heritage Management (ex. cultural heritage management, and natural heritage management). Some of these management principles are [1, 2]:

- Information base.
- Goals and objectives.
- Outcomes and evaluation.
- Flexibility and monitoring.
- Awareness of societal context.
- Balancing competing goals.
- Managing visitor pressure.

The main goals of cultural heritage management are [1, 3]:

- Conservation of a representative sample of cultural heritage.
- Conservation of intrinsic values.
- Presentation and interpretation of cultural assets to the public.

Cultural heritage managers increasingly are being urged to plan for presentation to visitors of a heritage asset as an important part of its ongoing conservation and management [4, 5]. A balance between education and entertainment can be achieved when presenting assets. The main objective is general educational or awareness building. For example, museums, whether associated with sites, objects, or cultural practices, are predicated on mainly educational objectives [6, 7].

3 The Role of Strategic Planning

Strategic planning is a set of comprehensive plans designed to marshal all resources available to the organization to meet the defined goals and objectives derived from the mission statement [2]. Strategic planning determines the optimal future of an organization, and the changes required to achieve that [8]. The planning process includes five steps [2]:

- Define your objectives.
- Assess the current situation in relation to your objectives.
- Formulate your options regarding future outcomes.
- Identify and choose among the options.
- Implement your decision and evaluate the outcome.

Cultural institutions generally conduct strategic plans for any or all of the following reasons [9]:

- To improve performance.
- To qualify for funding because government, foundation, and private donors increasingly require evidence of a current plan.
- To achieve accreditation from a recognized authority.
- To prepare the groundwork for a major expansion or new initiatives.
- To motivate staff and board.
- To replace or update the previous strategic plan that has run its course.
- To address the forces of change in the museum environment, both internal and external.

The basic parts of a strategic plan of a cultural organization during the strategic planning process are [2]:

- Organization analysis: mission analysis, situation analysis—SWOT analysis (strengths, weaknesses, opportunities, threats), resources analysis (people, financial and physical, technology, adequate support systems).
- Formulate strategy: stability strategy, growth strategy, retrenchment strategy, and combination strategy.
- Develop goals (desired outcome).
- Develop objectives (methods to achieve goals).
- Develop action plans (specific tasks with assigned resources and deadlines).
- Evaluate (assessment tools).

In Greece, the planning comprehension is different from practices in other countries. It is a country where "ex post" planning is a current method. Plans and programs are established by law but never drawn due to some barriers. Some of these barriers in the field of strategy execution are [10]: (a) the failure to manage the changes and overcoming on the resistance against these changes, (b) the lack of advisor and instructions that can lead the strategic execution effectively, and (c) the unclear responsibility for implementation of the strategy and its operations.

Strategic planning is a basic element of the organizational development and its role is a useful management tool for a cultural organization. Strategic planning as a reiterative process builds the strategic-management capacity of the organization [11].

4 Case Studies: The New Museum of the Acropolis and the Prehistoric Settlement of Akrotiri, Santorini

In the empirical part, we present two case studies as examples of applications of strategic planning. The first one, is the strategic planning of the construction of the new museum of the Acropolis that is the landmark of contemporary Greek culture. The other one is the very important prehistoric settlement of Akrotiri in Santorini where there is utter lack of strategic planning of management.

4.1 The New Museum of the Acropolis

The new museum of the Acropolis is a public archaeological museum. The new museum of the Acropolis is a project started in 1976, but it took three more attempts (in 1979, in 1989 and in 2000) before being realized [12]. In 2000, after four international architectural competitions, two architectural firms headed by Bernard Tschumi (lead architect) and Nikolaos Photiadis won the competition and undertook the project [12]. The project is completed in 2007 and the museum is open to the public.

Architectural Fact Sheet of the New Museum of Acropolis

Site. Located in the historic area of Makryianni, 300 m southeast of the Parthenon. The top floor (Parthenon Gallery) offers a 360° panoramic view of the Acropolis and modern Athens [13]. The main entrance to the museum is on the Dionysios Areopagitou pedestrian street, which links it to the Acropolis and other key archeological sites in Athens [13].

Program. With exhibition space of more than 14,000 km^2 (150,000 square feet) and a full range of modern visitor amenities, the New Acropolis Museum tells the complete story of life of the Athenian Acropolis and its surroundings [13]. The rich collections provide visitors with a comprehensive overview of the human presence on the Acropolis, from pre-historic times through late Antiquity [13]. Integral to this program is the display of an archeological excavation on the site of the Museum itself: ruins from the 4th through seventh centuries A.D., left intact and protected beneath the building and made visible through the first floor. Other program facilities included a 200-seat auditorium [13].

Architectural Description. Three concepts turn the constraints and circumstances of the site into an architectural opportunity, offering a simple and precise museum that reflects the mathematical and conceptual clarity of ancient Greece [13].

The conditions animating the New Acropolis Museum revolve around natural light more than in any other type of museum [13]. Light for the exhibition of sculpture differs from the light involved in displaying paintings or drawings [13]. The new exhibition spaces could be described as a museum of ambient natural light, aiming at the presentation of sculptural objects within it, whose display changes throughout the course of the day [13].

The visitor's route through the museum forms a clear three-dimensional loop, affording an architectural promenade with a rich spatial experience that extends from the archeological excavations to the Parthenon Marbles and back through the Roman period [13]. Movement in and through time is an important aspect of architecture, and of this museum in particular [13].

The building is divided into a basement, middle/ground, and top floor, which are designed around the specific needs of each part of the building [13]. The orientation gently rotates as it rises so that the main galleries in the middle form a double-height trapezoidal plate that accommodates the galleries from the Archaic period to the Roman Empire, and is shaped to respond to the contemporary street grid [13].

The three major materials of the Museum are glass for the facades and some of the floors, concrete for the core and the columns, and marble for some floors [13]. The east and west facades and the Parthenon Gallery columns are made of steel [13].

Construction Fact Sheet of New Museum of Acropolis.
The construction budget was €130 million and two intermediate levels (approximately $175 million) [14]. The overall project budget for the museum was €130 million ($175 million) [12]. Construction of the Museum was co-financed by the Hellenic Republic and the European Regional Development Fund [14]. Signage has been developed to be both visible and yet to be as discrete as possible, recognizing that signage and wayfinding must not compete with the artifacts. A 250 m^2 theater with 180 seats is fully equipped with projection facilities and a translation booth. Café, Terrace and Store [14]. A 770 m^2 restaurant opened onto a public terrace with a view of the Acropolis [14]. Shading devices designed by Bernard Tschumi Architects are subtly incorporated into the overall scheme, allowing for year-round use during day and night [14]. The 23,000 m^2 site is landscaped with local vegetation that blends with the natural flora of the Acropolis slopes [14]. Landscaping is designed to open up the public spaces in and around the museum and to incorporate with the neighborhood [14]. The museum is designed especially for pedestrian visitors, which access points on the north and east sides [14].

New Museum of the Acropolis—Conclusion. The main conclusions about the study of this case are the following: The new museum of Acropolis is a best practice of strategic planning implementation. The cultural investment of the museum creates an added value for the Greek cultural heritage in general. The museum is run as an independent unit (economically, institutionally, administratively, and so on and so forth) providing good examples for museum policy.

4.2 The Prehistoric Settlement of Akrotiriri, Santorini

It is a regional archaeological site. It is a unique monument. It is one of the most important prehistoric settlements of the Aegean Sea. The first habitation at the site dates from the Late Neolithic times (from the 4th millennium B.C. or even further in the past). It is connected during the last 15 years with the shelter and its lifetime. As a regional archaeological site, the tourist period of the summer is the most important period for the monument, and its legibility from the visitors. The official documents of Hellenic Statistical Authority do not include the monument in the main category of sites that we have data from (of number of visitors, receipts etc.). The archaeological professionals responsible for the management of the archaeological site of Akrotiri have adhered to the principles advocated by contemporary values-based heritage management [4].

Architectural Fact Sheet of Akrotiriri, Santorini. The most important buildings of the site are: (a) Xeste 3, a semi-public building, which had a lustral basin (adyton) on the ground floor, and the House of the Ladies, a private building [15], and (b) Xeste 4. Xeste 4 is still being excavated and promises to be the largest and grandest of the buildings uncovered so far [16]. Inside this building were life-size paintings of men walking up a stair-well76—like Cameron's hypothetical Procession Fresco from the East Staircase at Knossos—and other scenes currently being conserved [16].

The shelter was constructed during, and operates since the last decade of '90s [4]. The co-funding of the works by the Greek State and the European Union, firstly by the Second European Community Support Framework (1999–2000), the Third European Community Support Framework (2000–2008) and thereafter by the National Funding (total cost: 40.594.661 euro) [6].

The Wall Painting Program. Female figures engaged in collecting crocuses which they offer to a seated goddess—Xeste 3. The famous wall paintings of the Antelopes and the Boxing Children, the frescos of the Monkeys (a composition of monkeys climbing on rocks at the side of a river)—Sector B [15]. The first was decorated with the two frescos of the Fishermen, the fresco of the Young Priestess and the famous Flotilla miniature frieze—West House and the fresco with the Ladies and the Papyruses—House of the Ladies [15].

Staffing Training and Development. The property is under the jurisdiction of the Ministry of Culture, through the Ephorate of Antiquities of Cyclades, its competent Regional Service, which is responsible for security and the protection of the site, as well as the implementation of an efficient site and visitors' management system. "Managing the archaeological site at Akrotiri has been a stimulating challenge to all concerned, archaeologists, architects, engineers, conservators, and others, and the main goals set from the beginning seem to have been achieved" [4].

The Prehistoric Settlement of Akrotiri in Santorini-Conclusion

The main conclusions about the study of this case are the following ones: Due to the economic crisis and deep recession of the Greek Economy there is no provision for new funding of the laboratory services. Lack of staff training and educational role of the archaeological site. There is no archaeological policy for the regional monuments.

5 Conclusions

Strategic planning is a crucial point of the organizational development [17]. The role of strategic planning is a useful management tool for an organization in order: (a) to develop a mission for it, (b) to analyze the external and internal factors that affect the achievement of the mission, and (c) to formulate the basic directions of the organization [17]. Greek culture is facing a transition from being only informal and complex to becoming more formal and professional [18]. “Policy decisions for the presentations of heritage incorporate a preference towards ancient over more recent sites” [6]. The future challenges for Greek Cultural Heritage Management are (a) the use of culture for the advancement of local development, (b) the improvement of cultural infrastructures and services, (c) the creation of a new framework for strategic planning with clear targets at the central level and specific objectives at the local level (every one of the implementation bodies should know about the details of the total strategy in order to support their function), (d) the specific cultural planning based on the improvement, enhancement and specific needs of the cultural assets and cultural values of Greek heritage, (e) the preservation and valorization of the archaeological heritage of Athens and other large cities, threatened by rapid urbanization (f) the need to support an expanding cultural sector and a more active participation in cultural life not only in Athens, but also in the increasingly developed regions.

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Island Hopping in the Ionian Sea: Exploring the Value of Monumental Olive Trees for Sustainable Tourism

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Abstract The monumental olive groves of the Ionian Islands constitute invaluable ecosystems with rich natural and cultural heritage, intertwined perennially with the region's history. This research highlights the potential to contribute to the sustainable development and tourism of the Ionian Islands, by showcasing unique biodiversity and cultural traditions. Moreover, significant importance has the involvement of local communities in the promotion of sustainable development. The research integrates scientific research and practical applications, and proposes new prospects through the creation of innovative and sustainable initiatives, with immediate feedback to local communities. The proposals, challenges and applications are following the institutional framework and international practices for the preservation of natural and cultural wealth, particularly in NATURA 2000 areas. Design and digital mapping of ecotourism network trails have been conducted within the monumental olive groves of the Ionian Islands. These trails highlight the unique natural monuments that continue to produce olive oil of valuable nutrition. The visit to these natural open sculpture "eco-museums" offer the opportunity to interpret the unique dynamic of nature which connects the history, traditions, customs, and local communities and contributes to a sustainable rural tourism model. The interconnection of the trails of different islands in one holistic approach offers the possibility to enhance a common narrative which could be independent for each island or multiparametric for different islands. Island hopping promotes and interprets different characteristics of each island, in a common base, the monumental olive groves.

Keywords Monumental olive trees · Trails · Sustainability

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1 Introduction and Background of Research

The olive tree is considered the most emblematic tree, inextricably linked with the history, culture, Mediterranean landscape, and economy of the peoples [1]. Its cultivation dates to the Bronze Age, while olive products seem to have been exploited since the Mesolithic era [2]. Since this period it has had a wide distribution in all the Mediterranean countries and our days it is estimated that in the Mediterranean are cultivated about 800 million olive trees [3, 4].

A perennial olive tree, in many cases, exceeds a millennium. As a tree has a very slow annual growth, offers products for hundreds of years and its trunk creates impressive shapes, curvature, and cavitations, elements which make the tree unique and can be classified as a monument of nature [5]. Moreover, contributes to the preservation and increase of biodiversity, offering housing, security, and food to many species of fauna and flora [6–8].

According to Caracuta [4], the wild olive tree and its use date to the Epipaleolithic era in the region of Israel [4]. Besnard [6] states that it is most likely the first crop from western Iran and as it spread to other geographical areas and new varieties evolved. It is undeniable that the cultivated olive trees (Olea europaea var. europaea) come from the improvement of the wild olive trees (Olea europaea var. sylvestris), which slowly spread throughout the Mediterranean. In our days, this emblematic species defines the Mediterranean climate type/zone [8]. According to Zohary and Hopf [9], in Mediterranean countries, the olive tree was one of the first fruit-bearing plants to be domesticated, perhaps as early as the 5th millennium BC, as evidenced by the various constructions in Mediterranean countries such as Jordan, Greece [10].

Today the olive tree, alongside with the vineyard, represents the traditional Mediterranean products [11]. Monumental olive trees and, in general, all monumental trees, with their longevity contribute to other research fields, such as dendroclimatology, archaeometry, historical ecology, biodiversity, etc., while at the same time, they are also connected to humanities and social sciences, exploring the interpretation of historical events and the evolution of the traditional rural landscape. Olive trees tell the story of the Mediterranean landscapes and the evolution of the cultural heritage of each place through the centuries and are connected with sustainable development and sustainable tourism [12].

While many studies have focused on the role of olive groves in shaping the Mediterranean landscape, e.g., [13–15], not much emphasis has been placed on highlighting the values of monumental olive groves and olive trees and their great cultural/biocultural value and their contribution to sustainable tourism [5, 16, 17].

Under the frame of the "Biomemories" project, implemented by the Ionian University, concerning the Monumental Olive trees at the Ionian Region, we have recorded, and mapped the monumental olive groves and trees at different Islands. At this research, we highlight the monumental olive trees of the Ionian (Fig. 1) and propose trails throughout the monumental olive groves and olive trees. The aim was to protect these unique natural monuments and develop the rural sustainable tourism at the Ionian Islands.

Fig. 1 Some of the monumental olive trees of the Ionian Islands

1.1 Study Area

The Region of the Ionian Islands is an island Region, which was formed mainly based on its common historical and cultural past. The islands that consist it, stretch along the western coast of Greece. The Region has a total area of 2318 km^2, covering 1.8% of the total area of the country. It includes the Islands of Zakynthos, Corfu, Kefalonia, Ithaca, Paxoi and Lefkada (Fig. 2). The Region has 32 islands, of which only 13 are inhabited.

The climatic conditions in the Ionian Islands are Mediterranean-type, with mild and relatively wet winters and hot and dry summers. The average temperature of the Region ranges from 8.7 °C in January to 26.5 °C in July. The islands are characterized by a high average annual rainfall. Most rainfall occurs in the period of October–February (rainy region), while snowfall in the winter months is extremely limited in the mountainous areas.

In the Ionian Islands region, there are many areas of rare natural beauty and significant ecological importance with a notable number of protected areas. One of the most important characteristics of the Ionian Islands is the monumental olive groves and trees, with rich biodiversity, which form a special agroforestry ecosystem of high natural and cultural value. There are olive trees whose circumference (at 1.30 m. height) exceeds 18 m and the estimation of their life is 2.605 years.

2 Methodology

In this section, a detailed explanation of the methods and procedures used to conduct our research is presented. This section is structured in a way that allows other researchers to replicate our study in other areas of different ecosystems, if necessary.

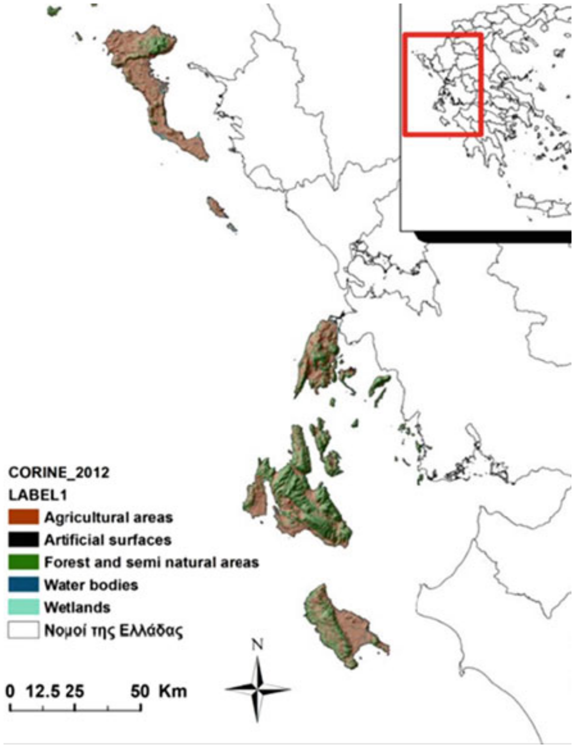

Fig. 2 Ionian islands—study area

2.1 Literature Review and Design

During this step, a literature review has been conducted in addition to research for the definition of the criteria that are used for the characterization of olive groves and olive trees as monumental. These criteria are further used to establish a framework for registering and connecting olive groves with the historical and cultural heritage of NATURA 2000 areas, specifically focusing on the islands of Zakynthos, Kefalonia, Lefkada, Corfu, and Paxos. This framework is essential because the estimated value of each tree could be calculated and the olive trees with the highest values in each area could be selected to be promoted for ecotourism [5].

2.2 Locating, Recording, and Mapping Olive Groves

After having completed the framework, within this step, field surveys have been conducted to locate and record monumental olive groves and olive trees within the NATURA 2000 areas of the specified islands. Additionally to fieldwork, satellite data have been utilized for long-term monitoring of changes in these olive groves. All this information has been used to record and document environmental and morphological data for the olive groves in the area of research, which is the Ionian Islands.

2.3 Tree Dating with Radio Carbon Dating (14C), Annual Rings, OSL and IRSL

During the third step, a representative sample of monumental olive trees (75 samples) from Zakynthos, Kefalonia, Lefkada, Corfu, and Paxos was selected. These samples have been examined using the three methods and the estimated age of the olive trees has been used to find the oldest olive trees.

2.4 Investigation of Bioactive Substances in Olive Oil

After having estimated the age of the olive trees, the olives have been collected and laboratory analysis has been performed to investigate the presence of bioactive substances in the collected olive oil. The results show that the olive oil of the monumental olive trees has a special nutritional value.

2.5 Biodiversity and Habitat Recording

In selected monumental olive groves, either within or near the NATURA 2000 areas of Corfu, Kefalonia, Lefkada, Paxos, and Zakynthos, we recorded biodiversity and habitats.

2.6 Protection, Promotion, and Ecotourism Actions

At the last stage, a comprehensive action plan was developed for the protection, promotion, and ecotourism exploitation of monumental olive groves within the NATURA 2000 areas of Zakynthos, Kefalonia, Lefkada, Corfu, and Paxos. During this stage, the initially mapped trails in the islands have been finalized and a trail connecting the different islands has been verified. Furthermore, island hopping has been described and preservation initiatives, promotional campaigns, and ecotourism programs have been implemented.

3 Results—Trails

This study involves digital mapping of routes through selected heritage olive groves on all the Ionian Islands. Monumental olive groves, and particularly the determination of the age of ancient trees, play a crucial role in various scientific fields related to management, environmental sciences, dendroclimatology, and historical, and cultural heritage. Moreover, this research highlights the potential for contributing to the Sustainable Development of the Ionian Islands by showcasing unique biodiversity and cultural traditions, while informing local communities and promoting sustainable tourism.

The selection of trails was carried out after recording and mapping significant heritage olive groves on the islands of Zakynthos, Kefalonia, Lefkada, Corfu, and Paxos. The use of Geographic Information Systems (GIS) and remote sensing data, assisted in mapping these trails and their ecological characteristics, with a focus on rich biodiversity and historical context. The trails were carefully curated to provide visitors with the natural beauty and ecological diversity of the olive groves. Furthermore, interpretive signage and educational materials along these paths offer visitors a deeper understanding of local flora and fauna, emphasizing the importance of preserving these ecosystems for future generations.

The trails exemplify a harmonious synergy between tourism and sustainable development in the Ionian Islands and educate local communities about agroecological techniques and organic farming, encouraging the use of environmentally friendly approaches that preserve biodiversity and soil health. They provide visitors the opportunity to closely admire monumental trees, and the Ionian landscape, and immerse themselves in the region's history and traditions. Furthermore, it is expected that these trails in the monumental olive groves will be interconnected with other thematic routes in the Ionian region, aiming to create a network with the prospect of certification and integration into relevant European networks. This adds a sustainable development perspective to the mountainous and rural communities of the Ionian islands (Figs. 2, 3).

This work integrates scientific research [5] with practical application, opening new prospects through the creation of innovative and sustainable initiatives with immediate feedback to local communities. This is in accordance with the institutional framework and international practices for the preservation of natural and cultural wealth, particularly in NATURA 2000 areas.

4 Conclusions

Monumental olive groves and olive trees are considered ecosystems of high ecological and cultural value, which also constitute a reservoir of genetic diversity, with characteristics linked to longevity and adaptability to the action of many factors such as climate variability, anthropogenic factors, parasitic invasions, fires, etc.

Fig. 3 Routes in the Ionian islands

Promoting monumental olive trees as a thematic priority for sustainable tourism can have several economic, environmental, and cultural benefits. Olive trees are not only a symbol of history and tradition but also a valuable natural resource with numerous sustainable development implications: Biodiversity Conservation: Old olive groves often host diverse ecosystems with unique flora and fauna. Sustainable Agriculture: Olive farming, when done sustainably, can be a model for eco-friendly agriculture. It often involves organic practices, agroecology's approach, minimal water usage, and low environmental impact. Economic Opportunities: The olive industry provides employment and income to rural communities. Emphasizing the importance of monumental olive trees can stimulate economic growth in these regions, including tourism, olive oil production, and artisanal products. Cultural Heritage: Ancient olive trees are often deeply embedded in local cultures and histories. Preserving them helps maintain cultural identities and can boost cultural tourism. Tourism and Education: Monumental olive trees can attract tourists interested in nature, history, and sustainable practices. Interpretive centers and guided tours can educate visitors about the importance of these trees and sustainable practices. Research and Innovation: Prioritizing monumental olive trees can lead to research into better cultivation methods, disease prevention, and the development of sustainable products derived from olives and olive trees. Sustainable Development Goals (SDGs): Promoting the conservation of monumental olive trees aligns with several SDGs, including SDG 15 (Life on Land), SDG 13 (Climate Action), SDG 8

(Decent Work and Economic Growth), and SDG 11 (Sustainable Cities and Communities). Community Empowerment: Involving local communities in the conservation and sustainable management of olive groves can empower them economically and socially, fostering a sense of ownership and responsibility. To make monumental olive trees a thematic priority for sustainable tourism, it's essential to engage various stakeholders, including governments, local communities, NGOs, and the private sector.

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Exploring Awareness of Greek Protected Geographical Indication Regional Wines and Their Terroir: The Case of the Prefecture of Drama Greece

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Abstract This research explores if wine consumers are aware of the wines of the Greek prefecture of Drama and, in particular, its wines with Protected Geographical Indication (PGI), and if they have previously experienced them. It also investigates where do consumers search online for wine information, and which of the 17 directly related to wine terroir attributes they seek information for. Lastly, it explores if the male and female wine consumers have the same level of awareness and experience with these PGI wines, and if they seek the same terroir elements on the online information channels. An online questionnaire was used to collect 917 valid responses. The data analysis showed that all participants were aware of the wines of Drama Prefecture, and as for the PGI wines (PGI wines of Drama, Hadriani, and Agora), about one half of the sample knows the Drama PGI wines and 48% has had previous experience, 29% knows Hadriani PGI wines and 24.3% has previous experience, and 23.3% knows PGI Agora wines and 20.2% has previous experience with these wines. Main online information search channels are the winery's website, Google + and Facebook. The terroir elements most searched for information is "area of wine production", "grape varieties", and "wine authenticity". No gender differences were found in knowledge and previous experience with PGI wines of the prefecture of Drama, while for four out of 17 terroir elements that consumers were seeking information of in their online search, gender differences were observed: Place attachment, vineyard terrain, winery landscape architecture, and grape harvesting. Results are discussed and provide suggestions for terroir-based marketing. Results provide insight to consumer behaviour and may lead wineries to implement programs for wine tourism and education on wine terroir characteristics and wine choice connected to gastronomy.

Keywords Wine marketing · Wine terroir · Gender differences

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1 Introduction

Greece has a long tradition of producing wines, being from ancient times. With reference the year 2022, Greece is ranked 19th in the world in wine production, 26th in terms of exporting and 45th in term of importing wines [1].

The Prefecture (regional unit) of Drama (3468 sq. km.) consists of an area in the region of Eastern Macedonia and Thrace (with capital the city of Drama), bordering with Bulgaria (north), the prefecture of Xanthi (east), the prefecture of Kavala (south) and the prefecture of Serres (west). Of its total area, 402 sq km are lowland, 629 semi-mountainous and 2437 mountainous. According to the Hellenic Statistical Authority [2], the population of Drama prefecture is 86643 (2021 census).

The economy of the prefecture of Drama is mainly agricultural-related and is one of the well-known wine production regions in Greece. Though, wine production in a systematical manner is performed in the area the last 40–50 years, i.e., the late 70's and early 80's [3].

Today, in the Drama prefecture eleven wineries function, cultivating 27 different grape varieties, while the produced wines are marketed both on the domestic market and for export. Karapetsas et al. [3] state that major varieties cultivated in the area are the white varieties Sauvignon Blanc and the red varieties Cabernet Sauvignon and Merlot. Of the Greek varieties, Assyrtiko white and the Agiorgitiko red are cultivated, and the total annual wine production is estimated at around 3 million bottles.

Due to the existing competition among wineries and wines, in order to differentiate their products, wineries are more and more attaching their products to the terrain of the area that produces the wine, i.e., its terroir [4].

Teil [5, p. 481] state that "Terroir is a complex blend of local agro-climactic characteristics and events, viticulture and wine-making practices and choices that give a wine its distinctive taste, its "terroir typicity." According to the International Organization of Vine and Wine [6], definition of Vitivinicultural "terroir" has as follows: "Vitivinicultural "terroir" is a concept which refers to an area in which collective knowledge of the interactions between the identifiable physical and biological environment and applied vitivinicultural practices develops, providing distinctive characteristics for the products originating from that area. "Terroir" includes specific soil, topography, climate, landscape characteristics and biodiversity features" [6].

Based on the significance of the wine production for the Drama prefecture, this research has as its aim to explore if wine consumers have knowledge about the wines and PGI wines of the prefecture of Drama, Greece, and whether they seek terroir elements when searching information online for a wine. Specifically, it explores the following:

1. Are consumers familiar with the wines of Northern Greece and specifically those of the prefecture of Drama?
2. Are consumers familiar with the PGI wines of the Drama prefecture (PGI wines of Drama, Agora and Hadriani) and have they had any previous experience with them?
3. Where do they search online for information about a wine?

4. Which terroir elements do they search for online, and
5. Whether there are gender differences in knowledge and experience with PGI wines of Drama prefecture, as well as the terroir elements that they seek online information for.

This scientific research efforts to minimize the gap in the extant academic literature in relation to the terroir elements of wines sought by consumers and gender differences in knowledge of PGI wines in the prefecture of Drama Greece.

2 Literature Review

As wine terroir is a multi- facet construct, some of the terroir elements that were recorded in academic literature were "Area of wine production", "Vineyard -winery terrain", "Vineyard terrain geology", "Landscape architecture", "Grape varieties", "Climate of the area", "Traditional wine (grape varieties, processing, territory, method of storage-aging of wines, etc.)", "Wines with geographical indication", "Method of production and processing", "Wine authenticity", "Place attachment", "Cultural identity" "Ritual of production or consumption", "Production area's Know-how in Viti viniculture", "Historical aspects (varieties, vini viticulture of winery or territory, method of storage, etc.)", "Connection with gastronomy", and "Way of harvesting the grapes" [eg., 3, 5, 7, 8].

A search of scholar.google.com using the keywords "gender differences" "PDO wines" and "gender differences" "PGI wines" (30-5-2023) yielded two and three articles respectively, none of which addressed gender differences towards PGI wines. On the same day, the search terms "gender differences" "wine terroir", returned six articles. Again, there was no direct association between the two search terms, and terroir or/and gender differences were in the reference section.

On the contrary, when searching "gender differences" "wine" and different terroir elements there was a considerate number of studies (when added together). For so, some that are relevant to the topic of research are presented. Within these results, a large volume of studies deals with gender differences and wine information search procedures [e.g., 9], wine choice [10], wine preference under different occasions [11], and gender differences and extrinsic cues such as labelling, price, and medals [9]. Some also address gender differences and region of origin, from different points of view [10, 12], others focus on wine production, such as organic, sustainable, etc. [13], grape varieties and wine type [14].

3 Materials and Methods

A questionnaire was developed for data collection which was based on previous academic publications on wine terroir and its elements [e.g., 7, 8, 15], and the existing online search engines, social media and apps. The question referring to the 17 terroir elements were rated on a yes–no dichotomous scale and included the elements of terroir presented in the literature review section. A post-questionnaire development qualitative research validated the items of wine terroir and a small scale (excluded from the final sample) pilot test established face validity. Due to time and economic constraints, data collection was conducted online and the sample was convenient. Criteria were set in order for an individual to take part in the study, i.e., be an adult (18+), drink wine, have access to the internet, and provide with consent to use his/her answers for the research. In this manner 917 valid answers were used for analysis with the SPSS ver.28 statistical program. Data analysis included descriptive statistics, reliability analysis, and chi-square tests. Hypotheses were set at $a = 0.05$. Based on the above procedure and analysis, the sample's profile is as follows. Male subjects (55.4%) were overrepresented compared with female subjects (44.6%) and the samples' age ranged from 18 to 76. Additionally, most participants were married (49.7%), lived in the city (71.5%), had at least a university degree (45.5%), received a monthly salary (61.5%), and as to net monthly family income in euros, up to 1000.00€, was reported by 41.2% of the sample, while 34.4% reported an income of 1000,01–2000,00€, and 24.4% had a net family monthly income of more than 2000,00 €.

4 Results

4.1 *Consumers' Knowledge and Previous Experience with PGI Wines of Drama Prefecture, Wine Information Search and Terroir Elements in Online Wine Information Search*

All respondents were aware that the prefecture of Drama produces wines. As to the PGI wines produced in the area, i.e., PGI wines of Drama, Hadriani, and Agora, 53.3% know the PGI wines of Drama, 29.0% know the PGI wines of Hadriani, and 23.8% know the PGI wines of Agora. Regarding previous experience with PGI wines produced in the prefecture of Drama, 48.0% have previous experience with the PGI wines of Drama, 24.3% with the PGI wines of Hadriani, and 20.2% with the PGI wines of Agora.

Referring to where consumers search for information about wines online, the three online platforms most frequently used by consumers were the winery's website (77.0%; N = 706), Google + (60.2%; N = 602), and Facebook (46.7%; N = 428).

From the 17 terroir elements related to wines and wineries the three terroir elements that consumers seek for when searching online for wine information are area of wine production (74.8%), grape varieties (73.1%), and wine authenticity (65.8%).

4.2 Gender Differences and Hypothesis Testing

Gender differences were analyzed through chi-square statistical tests. Three main hypotheses were developed and tested to determine gender differences:

Hypothesis No.1: There is a relationship between wine consumer's gender and their knowledge of PGI wines of Drama prefecture ($\alpha = 0.05$). This hypothesis has three sub hypotheses, one for each area of the prefecture of Drama that produces PGI wines.

Chi-square tests revealed that there is no association between wine consumer's gender and their knowledge of the PGI wines of Drama prefecture. Specifically, $\chi_1{}^2 = 0.617$, $p = 0.432$ for the PGI wines of Drama; $\chi_1{}^2 = 3.644$, $p = 0.061$ for the PGI wines of Agora, and $\chi_1{}^2 = 1.251$, $p = 0.273$ for the PGI wines of Hadriani. Therefore, the null hypothesis cannot be rejected.

Hypothesis No.2: There is a relationship between wine consumer's gender and their previous experience of PGI wines of Drama prefecture ($\alpha = 0.05$). This hypothesis has three sub hypotheses, one for each area of the prefecture of Drama that produces PGI wines.

As to hypothesis No.2, chi-square tests revealed that there is no relationship between wine consumer's gender and their previous experience with the PGI wines of Drama prefecture ($p = 0.05$), whereas $\chi_1{}^2 = 1.251$, $p = 0.263$ for the PGI wines of Drama; $\chi_1{}^2 = 1.163$, $p = 0.281$ for the PGI wines of Agora, and $\chi_1{}^2 = 3.724$, $p = 0.063$ for the PGI wines of Hadriani. Therefore, the null hypothesis cannot be rejected.

Hypothesis No.3: There is a relationship between participant's gender and their online information search of wine terroir elements ($\alpha = 0.05$). The hypothesis No.3 is based on the 17 above mentioned elements of the wine terroir. Therefore, in total 17 sub hypotheses are formed and examined, whereas results are presented in Table 1 only for the cases that sign. < 0.05.

Table 1 Gender differences in terroir elements consumers seek in online wine information search

Variables of wine terroir	Chi-square Pearson statistics		
	$\chi 2$	df	Sign. (p)
Vineyard-winery terrain	8.582	1	0.003
Landscape architecture	8.449	1	0.004
Place attachment	7.844	1	0.005
Way of harvesting the grapes	4.798	1	0.033

Source The authors

As Table 1 illustrates, referring to the hypothesis No.3 with the 17 sub hypotheses, only four cases produced statistically significant differences. Specifically, gender affects wine consumers online search for the following elements of wine terroir (i.e., the relation between these variables is significant): winery terrain, landscape architecture, place attachment, and the way of grape harvesting. For the rest of the hypotheses tested, in all cases sign. $p > 0.05$, and therefore the null hypothesis cannot be rejected. Also in all cases, the male subjects searched online significantly more (in percentage) compared to the female subjects for the above elements of wine terroir.

5 Discussion and Implementations

One result that this research revealed is that wine consumers are well aware that the prefecture of Drama produces wines. While this knowledge exists, about half of the sample knows about the PGI wined produced in the area, (i.e., PGI wines of Drama, Hadriani, and Agora). Specifically, this sample was knowledgeable of the PGI wines of Drama, while their knowledge of PGI wines of other areas of Drama prefecture fell under 30% of the sample and even less had prior experience of the products. This clearly implies that communication marketing is needed to increase awareness of the PGI wines of Drama, Hadriani, and Agora and to motivate consumers to experience them.

When asked where wine consumers look online for information about wines and wine characteristics, they stated that the winery's website, Google + and Facebook were the main information search vehicles for the majority of the wine consumers. With more than 77.0% of wine consumers searching the winery's website, this implies that information search is targeted and specific, based on their previous knowledge and experience. This outcome also implies that awareness campaigns should be implemented. Additionally, since winery websites are the most common search channel for consumers, consequently sale promotions (such as SMS or push notifications) on mobile phones can be implemented [16] to arise terroir awareness and develop website loyalty, as well as wine purchasing [17].

Seventeen wine terroir elements were presented and requested from the participants to point out which of them they seek online information for a wine. Aatkin et al. [9] assert that when a wine consumer does not have adequate information, he/she relies on the wines' region of origin. Lockshin and Corsi [18, p. 51] in their review of published papers referring to wine consumers behavior found that grape varieties were of interest for the consumers, while Quester and Smart [19] in their study found that "less involved consumers rate grape variety as being more important than do highly involved consumers". As to authenticity, Skuras and Vakrou [20] in their study found that Greek wine consumers with a higher educational level are willing to pay a higher price for wine authenticity and region of attributes of the wine.

Gender differences in three hypotheses were examined. No gender differences were found in the first and second cases, in which gender differences in knowledge of PGI wines of the prefecture of Drama (Drama, Hadriani, and Agora wines) and in prior experience were examined. As to the third hypothesis, regarding gender differences in seeking wine terroir element information online for wines, four wine terroir elements gender differences were observed. These were for the terroir elements place attachment, vineyard terrain, winery landscape architecture, and grape harvesting. In all cases men were significantly more than their female counterparts that search for these terroir elements. One reason could be that these are specific terroir elements that require knowledge of wines and their characteristics, and as previous research recognizes males have advanced wine knowledge compared to women [21, 22]. Another reason could be that women prefer to gain wine information "on the spot" as compared to men [9]. Though, direct comparison with our findings one per one (for the four cases) is not possible, as we did not find any published work addressing gender differences and these four terroir elements in the online wine search situation.

These findings in a general sense help wineries develop a terroir and gender-based communication strategy that appeals differently or equally to men and women (depending on the terroir element) based on inferred gender differences. As with place attachment, for example, landscapes with their history can be effectively used and communicated to develop emotional ties with the winery and its area of production. As Kavoura [23, p. 37] states that the "symbolic presence of monumental landscapes which include features of myths, tradition, continuity, religion and legend, as well as political and nationalistic aspects are related to the emotional ties of people to specific sites".

6 Conclusions and Limitations

This research enhances our understanding of an important wine region by providing information from a consumer perspective about a wine territory that even though is well known for its wines, it has not effectively communicated its wine terroir elements, and thus knowledge of its PGI wines is limited. Additionally, this research enhances academia theoretically from the terroir perspective, by providing with the wine terroir elements that Greek consumers search for on the internet, as well as the information channels that they seek this information from. Therefore, it provides with insight that wineries may use to develop a marketing communication strategy for their products. Main limitations of the study form the sampling procedure (non-probability; online; whereas results cannot be generalized) and the small sample obtained due to time constraints.

Ethical Approval: "There are no ethical issues involved in the processing of the questionnaire data used in the study. The necessary consents have been obtained by the persons involved, and the anonymity of the participants has been secured. All procedures performed in studies involving human participants were in accordance with the ethical standards of the International Hellenic University research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards".

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Netnographic Study on the Adoption of Inbound Marketing by E-Commerce Platforms in Algeria

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Abstract This research studies the adoption of inbound marketing by E-commerce platforms in Algeria. The analysis is based on an observational and a Netnographic study which was done by the authors and supported by traffic statistics from Similar Web. An observation of the combination of inbound marketing techniques was carried out on a couple of Algerian platforms, with a view to extracting a set of guideline principles to leverage the incoming approach. These techniques were chosen based on what we deemed most suitable for our cases in the literature review. The results generated several key recommendations aiming to improve the effectiveness of the inbound approach, particularly within e-commerce platforms in Algeria.

Keywords Inbound marketing · E-commerce · Algeria

1 Introduction

The marketing world is undergoing constant change, driven by technological advances and the rise of the digital age. Digital platforms are of paramount concern to major companies, bringing substantial transformation to conventional roles within different business sectors [1]. Businesses that used digital platforms experienced strong growth. E-commerce and software have reached a market value of over $700 billion, turning into a model for economic growth [2]. In Algeria, statistics from "Digital report 2023" indicate that in January there were 32.09 million Internet users, corresponding to an Internet penetration of 70.9%. Social media users numbered 23.95 million, equating to 52.9% of the population. Moreover, there were 48.53 million active mobile connections, exceeding the total population at 107.2%; providing a propitious environment for e-commerce platforms.

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Inbound marketing is distinctive for its user-centric orientation, aiming to draw the user to the company rather than initiating an active process to request them. It is widely recognized as the predominant marketing strategy for creating eye-catching content [3]. Conceptually, it's a lead discovery marketing strategy, focusing on online activities that make it easier for customers to find products or services that fit their needs using techniques such as SEO, content marketing, and social media marketing [4].

The inbound approach also constitutes a direct implication for boosting customer confidence in e-commerce [5] and the findings of the recent study by Erdmann and Ponzoa [6] confirmed that E-commerce optimizes Digital Inbound Marketing in terms of adjusting the set of techniques used according to the company. In this sense, digital inbound requires very precise audience targeting and quality communication to connect with potential customers via valuable materials and experiences to entertain and inform the audience with content they themselves are looking for [7].

Vinerean and Opreana [8] frame inbound marketing as the process of reaching and converting qualified consumers by creating and pursuing organic tactics in online contexts. Bezhovski [9] in turn notes that the idea behind inbound marketing is to use marketing tactics that will try to gain the interest of prospects and pull them (bring them) to the company (website) rather than trying to push the advertising message to them and wait for their reaction.

To boost inbound traffic into e-commerce platforms, SEO is commonly the first choice. However, excessive reliance on a single acquisition channel is risky. Therefore, the use of social networks as a complement is essential to disseminate content on e-commerce platforms. The main challenge, nevertheless, often lies in the limited time and investment devoted to social media. To optimize the use of time, it is imperative to carefully select the social networks on which to be active first [10].

To outline the adoption of inbound marketing, this paper will attempt to analyze the inbound marketing tools currently used by e-commerce platforms that have successfully adopted inbound approaches. Hence, we intend to use this research to answer the following central question: How can inbound marketing be adopted on e-commerce platforms to maximize potential return?

2 Methodology

In light of technological developments and the expansion of the e-commerce sector in Algeria over the past few years, we turned our attention to the platforms most used by Algerian web users. E-commerce platforms are entirely web-based, which means that their success certainly stems from their online activities, with inbound marketing being one of the main levers. This choice was motivated by managers' positive assessment of the success of inbound marketing in driving traffic, converting leads, concluding purchases, and building customer loyalty.

Various methods are available for conducting a Netnographic study, including participant observation, non-participant observation, and online interviews. Our methodological choice fell on non-participant observation, which is limited to reading exchanges between members, unlike participant observation, where the researcher is actively involved in debates to encourage the emergence of new topics [11]. This choice is explained by the fact that this method is adapted to our study context, given that the content analysis of most inbound marketing tools remains observable. This approach is also of considerable importance as it will enable us to carry out analyses objectively, without any subjective orientations that might be provoked by the managers of the platforms studied if we were to conduct interviews. Furthermore, the Netnographic study will allow us to reflect reality as transcribed by Internet users and to track their interests and commitments, particularly on social networks.

This work presents two case studies of two well-known and widely used e-commerce platforms in Algeria (Yassir and Jumia DZ), for which digital inbound marketing is a key lever in their strategy. To achieve this, we followed the Netnography steps as detailed by Kozinets [12]. We attempt to summarize them below:

- Input: Selection of relevant platforms and understanding of their culture prior to data collection. To do this, we resorted to researching the top 10 E-commerce platforms in Algeria on the net.
- Platform's selection: Once we had the platforms list, we had to select the ones to study. We also took care to ensure that the selected platforms had a core inbound marketing team. To this end, we searched the LinkedIn managers profiles and obtained their confirmation.
- Method and period chosen: the choice of non-participant observation was made after careful consideration of the results objectivity it could provide, in contrast to interviews with managers, which could lead the analysis to fewer objective findings. The choice of the period from March to May 2023 coincides with the religious occasions and social events that Algeria experienced during it, leading to an increase in platform's engagement and web user interaction.

Our Netnographic study was carried out over a three-month period (March, April, and May 2023) with the aim of capturing changes and developments from one month to the next. Moreover, we relied on traffic data from Similarweb on both platforms, obtained through free registration.

3 Results

3.1 Brief Overview of the Studied Platforms

Yassir. Algeria's first ride hailing service app created in 2017 (https://yassir.com/). It is available in 50 cities across Algeria, Canada, France, Morocco, Tunisia, Senegal and South Africa is continuously expanding. The app now has over 8 million users and 130,000 partners.

Jumia DZ. Algeria's leading E-commerce site, created in 2012 (https://www.jumia.dz/). Jumia is considered the leader in online sales in Algeria. By 2022, the application will have more than 100,000 sellers offering a wide range of on-demand products and services: household appliances and electronics, fashion, children's toys, men's and women's clothing, as well as services such as hotel and airline reservations, meal delivery and more.

3.2 First Case: Yassir

See (Table 1).

Table 1 Yassir platform observatory analysis results

Tool	Observation
Web site	The Yassir website features an attractive graphic charter. The site's design provides an easy, fluid user interface. All information is clearly displayed
Blog	Yassir offers no dedicated blog section. Yet from time to time, experiences and testimonials are shared on the website, app and social networks
Contact form	Yassir's website is equipped with a contact form enabling users to get in touch directly with the department they want. This tool could be one of the best ways to generate and contact leads
Call to action	Yassir's site boasts three distinct call-to-action buttons. One button for users, another for drivers and a third for business trips
Landing page	Yassir's landing pages are attached directly to the site, with no unnecessary distractions, which means they are dedicated to conversion On social networks, particularly on the Instagram story, users can access a multitude of landing pages directly via floating links. In addition to the landing pages already on the site, Yassir creates links to new products and promotional offers
SEO	Similar web data shows that Yassir opts for 100% SEO to promote the website
Social media	Since its creation in 2017, Yassir has continuously developed its presence on social networks. Similar web data for the period March 2023 to May 2023 indicate that the majority of the platform »s social traffic comes from Facebook with a rate of 56.75% followed by LinkedIn with a rate of 33.59%
Content	Yassir's content is far from being exclusively commercial. In fact, the promotion of offers represents only 40% of the content published on the various tools. The remaining 60% is evenly divided between informative content and interest. It should be noted that Yassir keeps abreast of current events in Algerian society, and makes a point of presenting content along these lines

3.3 Second Case: Jumia DZ

See (Table 2).

Table 2 Jumia DZ platform observatory analysis results

Outil	Observation
Web site	The site's graphic charter has been conceived with bright colors and floating icons of new products and promotions to attract attention from the outset Headings are highly organized, and product information is categorized for easy searching
Blog	Jumia's website does not feature blog posts
Contact form	At the bottom of the home page is presented a subscription form for communications to receive the best offers by email. This implies that Jumia uses emailing to induce purchases
Call to action	The Jumia dz site is full of call-to-action buttons. In practice, most promotional offers (discounts and flash sales) are presented as floating calls to action on the site banner. Notably, verbs are used on all buttons to direct the user straight to the desired action
Landing page	Jumia landing pages are dedicated to sales. Clicking on the call to action opens a new landing page window for placing the order. The verb "I buy" on an orange icon is used to initiate the purchase. Price, percentage discount, brand, delivery and payment method are among the details mentioned on the landing page
SEO	Based on Similar Web data, over the three months studied, Jumia adopted natural search engine optimization (SEO) at 99.24%. Organic search accounts for 58.10% of traffic to the site
Social media	Jumia's presence on social networks is quite remarkable, particularly on Facebook with a rate of 82.96% From our analysis of the Facebook page, we found that the publications that generate the most engagement are those of promotional offers (presented in the form of infographics and links leading to the offer in question on the site) followed by videos. However, the publication of videos on Facebook remains very rare On the other hand, user interaction and engagement on Instagram is more interesting on real ones
Content	Jumia's content is predominantly commercial and informative. Yet, over the three months of the study, we noticed that Jumia managers never miss an important event without talking about it and dedicating at least one publication to it. What's more, major promotions are the order of the day to keep pace with Algerian news

4 Discussion and Conclusion

The aim of our study was to analyze inbound marketing practices on e-commerce platforms in Algeria, with a particular focus on Yassir and Jumia DZ. Via a non-participant observation Netnographic methodology and the examination of traffic statistics from Similar Web, we identified several recommendations that could help e-commerce platform managers improve their online performance and better reach their target audience.

- Graphics and navigation: e-commerce sites need to be simple and straightforward to use, with a user interface that makes navigation effortless. The combination of bright colors and floating icons can capture users' attention and make the experience more pleasant. Fluid use and clear ordering information further enhance user satisfaction.
- Unnecessary distractions: To promote conversion, it's essential to avoid unnecessary distractions on call-to-action buttons and landing pages. A streamlined interface that emphasizes products or services and encourages decision-making is highly recommended.
- Lead generation and indirect interaction: An effective inbound marketing strategy involves engaging users to indirectly exchange information. This might be accomplished by proposing compelling content or special promotions. Creating subtle interaction is a powerful way of generating interest and strengthening customer relationships.
- Search Engine Optimization: To increase online visibility, e-commerce platforms need to prioritize organic search. The use of relevant keywords and the implementation of SEO techniques are vital to achieving high search engines ranking position.
- Visual content and calls to action: Eye-catching visual content, particularly videos and infographics, can be a powerful way of promoting offers and grabbing users' attention. Designing distinct call-to-action buttons for each targeted action streamlines navigation and encourages users to initiate appropriate action.
- Target engagement: Getting closer to the target audience via company news, e-commerce platforms can create a stronger bond with the audience. The creation of insightful, engaging content linked to current events can spark interest and foster interaction.

By implementing the above guidelines, e-commerce platforms can reinforce their online presence, attract more customers, and offer an enhanced user experience. Significantly, these tips can be adapted to suit the specificities of the Algerian market in order to maximize their potential effectiveness. Ultimately, further research could deepen our understanding of them and assess their impact on actual market performance.

In short, the adoption of inbound marketing could be a valuable path for e-commerce platforms, not only to attract traffic and convert it but also to conclude purchases and build customer loyalty throughout the conversion tunnel, as detailed by Stéphane Truphème [13].

In conclusion, we would like to point out that this study is merely a synthesis of the results of a lengthy research project related to an ongoing doctoral thesis on the use and impact of inbound marketing on the conversion process. This research covers a wide range of other companies, notably e-commerce platforms.

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Regenerative Tourism and Mental Health: The Clean Wave Foundation, Costa Rica

Michele Thornton, Marty Bhatia, and Carin Silkaitis

Abstract Rising mental health needs combined with barriers in access to care has individuals seeking new approaches to accessing care and improving their overall sense of well-being. Intentional forms of tourism, particularly nature-based, and regenerative tourism may have a role to play as an opportunity to address this growing need in a way that traditional efforts to address mental health may be lacking. While studies have begun to document the physical health, mental health and perceptions of well-being impacts of nature-based, sustainable or ecotourism they are just beginning to explore this with regards to regenerative tourism. Regenerative tourism, is slightly more nuanced, and is described as "leaving the place behind better than before." A hallmark of a sound regenerative tourism model, is that it emerges from within the community, and is often tied to a local community organization doing the ongoing work that spearheads the practice. This paper employs grounded theory to proposes a new model linking regenerative tourism to well-being and documents a qualitative study conducted in the Spring of 2023 with a regenerative based organization (The Clean Wave Foundation)—that connects individuals with beach and underwater clean-up events across Costa Rica. Key participants (n = 12) discuss their experiences, personal well-being and community impacts in a semi-structured interview format. Community organizations, economic development agencies, the tourism industry and scholars in marketing and public health will all find benefit in this work.

Keywords Regenerative tourism · Mental health tourism · Well-being

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1 Introduction

During and following the COVID-19 pandemic, the share of adults reporting symptoms related to anxiety and/or depressive disorder has been on the rise [1]. With incidence increasing and growing barriers in access to care, including demand exceeding provider supply—individuals are seeking new approaches to address their mental health needs and improve their general well-being. Intentional forms of tourism, particularly nature-based, and regenerative tourism may have a role to play as an opportunity to address this rising need in a way that traditional efforts to address mental health may be lacking [2]. While studies have begun to document the physical health, mental health and perceptions of well-being impacts of nature-based, sustainable or ecotourism [2–6], they are just beginning to explore this with regards to regenerative tourism. Regenerative tourism, is slightly more nuanced, and is described as "leaving the place behind better than before [7].

Regenerative Tourism is an innovative approach that proactively improves local economies and enriches visitor experiences while simultaneously safeguarding the natural environment and being responsive to residents' concerns and desires. This approach integrates tourism practices within local communities and addresses multifaceted issues such as climate change, pollution, marine debris, urbanization, justice, and inequality. Regenerative Tourism specifically evolves from Indigenous perspectives and known ecological knowledge (as well as Western science), and in this way has emerged as a practice aiming to improve both the visitor experience and the social/ecological systems in areas where tourism is an economic driver [8]. A key feature of a robust Regenerative Tourism model, is its organic development within the community, often facilitated by local community organizations committed to guiding the practice.

This paper proposes a new model linking regenerative tourism to well-being and documents a qualitative study conducted in the Spring of 2023 with a regenerative based organization (The Clean Wave Foundation)—that connects individuals with clean-up events across Costa Rica. While The Clean Wave's main base of volunteers are locally based, participation from tourists, students, and expats has expanded their reach and allowed the organization to evolve.

1.1 Setting

Costa Rica, long seen as a "green republic," known for ecotourism, sustainable practices, is an optimal setting in which to explore the impacts of regenerative tourism [9]. Further, Costa Rica ranks within the top 10 destinations for medical tourism in the world for individuals seeking healing in a beautiful, tropical setting. Medical tourists who traveled to Costa Rica were also found to be more likely to maximize social and economic benefits to the local community and minimize negative impacts, than those who traveled elsewhere [10]. The Clean Wave was started in 2017, by a small group of local volunteers committed to cleaning up plastic and debris along the beaches of Tamarindo in Costa Rica. Tamarindo is known as a top travel destination for surfing, beautiful beaches and a focus on eco-tourism. Today, The Clean Wave has the ambitious goal of cleaning all 600 beaches in Costa Rica every week. The scope of The Clean Wave has grown rapidly, with weekly activities drawing locals and visitors alike to participate in upbeat experiences that connect people to nature, provide community and leave a positive impact on the environment they live in or have called home temporarily. In addition to cleaning beaches, The Clean Wave also brings people together in urban settings, for underwater clean-up dives, and mangrove restoration.

1.2 Theoretical Framework

Recent models of creating healthy individuals and communities focus on the social determinants of health including environmental conditions, economic policies, and societal barriers and structures. While these models understand that health extends beyond medical and genetic factors, they fall short in effectively describing the dynamic relationship that exists between them, when individuals are empowered and engaged to participate in activities to positively revive the community. Particularly thinking about the context of travel we are called to return to its original purpose "as a journey of purpose, meaning, adventure and exploration… the nurturing bedrock for human health rather than a commercial commodity [11]. We propose a model of Active Regeneration of Health describes the interconnectedness of the relationship between individuals, their community, and the world. We connect with nature, promote nurturing behaviors that improve our global environment, and simultaneously impact one's health and the health of their community. We suggest that this is achieved through the mechanisms of connection, belonging, and purpose–driven by attention, action, and agency.

2 Data and Methods

This project sought to address the following objectives: (a) to differentiate traditional ecotourism/eco-impact models of volunteerism from regenerative tourism and (b) to explore the impact at the individual and community level. The interview guide that was created included five open ended questions, and a series of closed questions. Table 1 has a selection of the questions used.

Following the interview guide, and the expected areas of application from the theoretical framework a codebook was developed. Each interview transcript was uploaded, coded, and analyzed was conducted using DeDoose online software, a

Table 1 Selected interview questions

1. What makes The Clean Wave unique or different from other organizations?
2. How does The Clean Wave build community?
3. What benefits do you personally get from working with The Clean Wave?
4. How do you feel following a Clean Wave event?
5. What challenges has The Clean Wave faced in its work? What opportunities do you see for growth and greater impact?

password protected qualitative research tool [12]. Grounded theory and content analysis were employed to identify emergent themes and quotes were highlighted to illustrate important findings, taking the thoughts, feelings, and emotions of these human subjects into account [13]. Then, theory could be presented based on respondents' ideas and thoughts.

Subjects were recruited through a snowball sampling methodology via the local partner organization, The Clean Wave. The Clean Wave identified key volunteers and community stakeholders to participate in the interview process (n = 12). The study was submitted to and approved by the SUNY Oswego Human Subjects Committee on May 30, 2023. Table 2 showcases their gender, age, country of origin and residence, and role with the organization. The gender makeup is balanced and ages of the sample range from 24 to 48. The majority (67%) are currently living in Costa Rica, and the remaining in the U.S.

Table 2 Interview participants

Gender	Age	Country of origin	Country of residence	Role
F	33	Costa Rica	Costa Rica	Organizer
M	41	Netherlands	Costa Rica	Volunteer
M	43	United States	Costa Rica	Volunteer
F	42	Chile	Costa Rica	Volunteer
M	31	Costa Rica	Costa Rica	Founder
F	24	United States	United States	Volunteer
M	25	Costa Rica	Costa Rica	Volunteer
M	42	United States	United States	Funder
M	32	Costa Rica	Costa Rica	Organizer
F	48	United States	United States	Volunteer
F	35	Costa Rica	Costa Rica	Organizer

3 Results

This project captured the impressions and stories of a sample of The Clean Wave founders, organizers and volunteers. All report a variety of positive influences that The Clean Wave has had on them personally. Here we document the impact of these types of regenerative activities through The Clean Wave.

3.1 Individual Impacts

In the Active Regeneration of Health model, we examine three fundamental drivers of change: Connection, Belonging and Purpose with selected examples below.

Connection. Participants recognize the need for community and connectedness and the challenge in finding it, particularly if you aren't originally local to the region. "Community is really hard to gain when you're traveling all over the place. So volunteering is a direct access to community." This is especially accessible if the events appear exciting and well attended… "people want to be a part of that community, because there's such a strong connection there and connection for a purpose."

> "And there's so much drive in there and immediate action, that being part of something that is growing and healthy, isn't amazing for you… it's expanding, and everybody wants to join, because it's, it makes so much sense."

For travelers to the region, the opportunity to plug into fun events with a purpose, allows visitors to experience the country and community in a deeper, "more real" way. A vacation becomes "less touristy, more meaningful and gives you the ability to grow global friendships and build lasting connections over time."

Belonging. While the initial step focuses on connecting to a community, finding belonging is a deeper bond within that group and work. Belonging connects to shared values and aligned world views… "people who were looking to live their values create meaning and coming from different and interesting backgrounds."

> "I love how The Clean Wave is really… clear <with its> mission and purpose. So, the entry level activity is do the beach cleanup, it takes takes two hours, we'll feed you water and fruit afterwards, with a group photo."

Participants are clear that this experience of belonging has had an impact on their lives—helping them to become healthier.

> "Yeah, 100%, my entire life has changed. I mean, I changed my address. I changed my immediate circle of friends. I changed my work. I have changed a lot of habits, personal habits, you know, unhealthy habits."
>
> "Time is the most precious thing that we have. And to do something good for the environment says a lot about the person… you make really healthy connections."

Purpose. Once participants experience the belonging, their sense of purpose and ownership in the efforts is further enhanced with broader alignment of the mission into other areas of their life, and deepening of their commitment to the lifestyle and mission where "everybody kind of takes their own agency and action and whatever they're doing".

> "Everywhere I go …I like to also just pick up the trash of the mountains, or whatever I go is just something in me that wants to help them the world to make it a better place. And I feel like it belongs to everyone…It's just like, if you can make it better, why not to and doesn't take that much time."

Travelers leave these activities and trips with a modified, uplifted sense of self. The power of the events and activities extend beyond the moment during the travel or vacation. The participation is "healing and regenerative, not just to the beach or the local area… but to the spirit and deeper sense of well-being."

3.2 *Community Impacts*

Impacts of regenerative activities impact the community in both tangible and intangible ways. Tangibly, communities benefit from cleaner beaches, waterways and urban areas. "What we do is to create the opportunity to have this clean environment where we enjoy all this stuff." However, participants in this study tended to focus on the more intangible, such as the influence on economic development and policy-making.

> "All these other activities are weaved into an incredibly cool network. If I'm gonna start this new business idea where <will I > find the people who process coffee grounds into mushroom so that when you have your new beach gig going on in your pop-up restaurant, you have all the resources, you need to just pull it off."
>
> "On a higher level, that will be political influence, and things like having a sit down with the President and then coming out with negotiated that all the beaches of Costa Rica will be enforced smoking-free Right?"

Beyond large scale change, it's also a built a model for a foundation of inclusiveness, which will have further downstream impacts. "Everyone is included, like no stakeholders are left out in the conversation. Whether they're a kid, or a gangbanger or a policymaker, older retiree or a Tico, it's like you're in this town, your stakeholders you belong in this community to work together."

4 Discussion and Recommendations

There is preliminary evidence that regenerative approaches to health, and related tourism has the ability to impact the planet and our environment, but also the communities and individuals that are connected to them. For organizations or groups of individuals that are seeking to employ this model, we propose the following set of key takeaways:

1. Many people are active and desire to do something, but they lack clear channels of action. To harness the activated members of a community you must get their attention with events coordinated around meaningful actions. Those actions need to be clear and simple to execute. These activated members help build a critical mass that becomes more attractive to those in the community that may need to be activated by others in the community demonstrating those actions consistently. 2. Spend time and get help crafting a clear and action-oriented narrative. The narrative should position the volunteers and participating community members as the hero of their healing journey. Be value centered and demonstrate those values through examples of the impacts the community member is contributing to. 3. Consistent communication is key to build trust. Set expectations, meet or exceed expectations, be procedural to create a consistent experience. Leverage technology and consistently send your community updates, opportunities to participate, and clear instructions on how to have a meaningful experience. As seen in other cases, an online social presence can help communities build robust tourism networks [14]. 4. Local community organizations need to prioritize cooperation over competition. 5. Regenerate community by making sure events build connection, have purposeful and impactful actions with real time feedback loops (they can feel the meaning in the actions), be inclusive, non-discriminatory, and safety and belonging.

Connection, purpose, and belonging are commonly lacking as community is more separate and divided. Creating events that consistently bring together, mix, and have something meaningful to do together creates the conditions that help heal people's connections to their environment, to themselves, to each other, and to the community at large. There are a few important limitations of this study, beginning with its' generalizability. It should be considered exploratory in nature. We are concerned with first-person narratives that may have modified their answers in response to the awareness of being observed. Due to our non-random sampling approach, there may be bias. Additional research is needed to document and further the phenomenon observed here within The Clean Wave in Costa Rica to more broadly understand the impacts of Regenerative Tourism. We encourage scholars and practitioners to evaluate other similar projects through the lens of the Active Regeneration of Health model.

5 Conclusion

Regenerative tourism has the ability to build lasting, sustainable, healthy impacts when communities are empowered and engaged. In a short period of time, The Clean Wave has demonstrated this in Tamarindo, Costa Rica and beyond. When you harness the power of connection, belonging and purpose, local communities and travelers may find the collective healing and well-being they are seeking. Investments in organizations and destinations that prioritize this approach can yield a compounding effect that builds a legacy for a healthier future.

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Wine Tourism: A Complex Tangible, Intangible and Experiential Marketing Matrix

Maria Vrasida

Abstract During the past decades, wine has been highly associated with tourism, as part of a fine dining and hospitality experience but also in the production phase and the wineries. Wine can present the link between agritourism referring to the actual cultivation process of grapes, to traditional productive activities in the wine production phase, to luxury and fine dining in the consumption phase. Food and wine production are closely linked to the culture and traditions of a particular local context and are the result of a know-how that has been developed locally and passed down over time. Wine is the product that allows for the strongest links and ties with the food and territory of origin. This is evident not only in terms of geography, but also includes the historical and cultural aspects, even aspects of the local climate. Realizing the multiple benefits that can be achieved via such linkages, many wine regions worldwide have encouraged the creation of synergies between the wine and the tourism industry. This mutual cooperation falls under a complex leisure experience comprising of tangible, intangible and experiential elements. The aim of this study is to identify the importance and the level of participation of tangible, intangible and experiential elements in the marketing of wine tourism experiences and the role of wine tourism for its wider region.

Keywords Wine tourism · Wine tourism marketing

1 Introduction and Definitions

It is only recently that both the wine and the tourism industry have developed their interactions beyond the supply chain and into a collaborative complementarity. This shift in perspective, led to the creation of a growing form of leisure, an emerging attraction and activity and identified wine regions as potential destinations [1]. The

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emerging form of alternative tourism has been identified as wine tourism, or viticultural tourism or enotourism and was classified initially under agro-tourism [2]. Food and wine production are closely linked to the culture and traditions of a particular local context and are the result of a know-how that has been developed locally and passed down over time [3].

The definition of the term wine tourism is not homogeneous, as it can be analyzed from different perspectives. From an academic perspective, this form of special interest tourism [4] is emerging as a growing area of interest; however, there is not one universal definition. This is to be expected as tourism itself is assigned many different definitions according to the point of view and the focus of every research, thus emphasizing its multidisciplinary and cross disciplinary nature. Focusing on the demand side of leisure and tourism and consumer behavior, wine tourism is considered as the experience associated with visiting vineyards, wineries and wine demonstrations where wine tasting is the main element [5]. On the other hand, wine tourism is conceived as a strategy to develop a specific geographical area and an opportunity for wineries to promote and sell their products directly to consumers [6], which is more related as a definition with the supply side and the attractions mix of the destination. Wine tourism is a multifaceted industry that involves the production and consumption of wine while offering a unique blend of tangible, intangible, and experiential marketing elements.

The aim of this research is to analyze the level of participation and the importance of each element (tangible, intangible and experiential) in a successful marketing strategy for wine tourism. The emphasis in this preliminary study is to identify understand the visitor's views in order to inform the future research and to better match the service provided by wineries with the consumers needs and desires. The results of this research will provide the necessary insight that wine tourism businesses need in the formulation of a marketing strategy that will benefit the individual business but also the region as well.

Amongst agro-production and gastronomic experiences, wine is the product that "grows deeper roots" with its territory of origin and it defines as much as it is defined by its location [7]. The latter is seen not only in terms of geography, but also includes the historical and cultural aspects in the production, and consumption process [8]. In the process of rediscovering a territory wine becomes the carrier of identity and social relations. These, in their turn, affect the new experiences of cultural tourism, agro-tourism and wine tourism.

2 The Different Marketing Elements of Wine Tourism

As analyzed in the previous section, wine tourism is a complex matrix of elements that are related to the production phase, consumption and recently visitation of wineries. The marketing matrix for wine tourism involves a careful integration of these elements to create a unique and compelling visitor experience. Wineries often employ strategies such as storytelling to convey their history and values (intangible), offer guided tastings and tours (experiential), and sell wine-related merchandise (tangible) to engage and retain customers. In Table 1 the tangible, intangible and experiential elements of wine tourism are summarized.

Successful wine tourism destinations should understand the delicate balance between these elements, creating a holistic and immersive experience that goes

Table 1 Tangible, intangible, experiential elements of wine tourism—author's interpretation based on previous work [9–11]

Tangible	Intangible	Experiential
Wine Products: The tangible core of wine tourism is the wine itself. Visitors can taste, purchase, and even participate in wine production, offering a tangible product for consumption	Brand Image and Reputation: Wineries build their reputation over time, creating intangible assets like brand equity and a sense of prestige that attract tourists	Wine Tasting and Pairing: Visitors engage in sensory experiences through wine tasting, where they can explore the flavors, aromas, and textures of different wines. Pairing wine with food enhances the overall experience
Winery Facilities: Physical winery facilities, such as vineyards, cellars, and production areas, are tangible assets that tourists can explore	Wine Knowledge: Visitors gain intangible knowledge about wine, such as grape varietals, winemaking processes, and tasting techniques	Vineyard Tours: Guided tours of vineyards allow tourists to experience the winemaking process firsthand, engaging their senses and creating a memorable experience
Merchandise: Many wineries offer tangible items for sale, like branded wine glasses, corkscrews, and bottles, which serve as souvenirs and extensions of the brand	Tradition and Culture: The intangible aspects of the winery's history, heritage, and traditions contribute to the overall experience	Events and Festivals: Wine-related events, like grape harvest festivals or wine and food pairings, offer experiential marketing opportunities by creating a sense of celebration and community
Wine Products: The tangible core of wine tourism is the wine itself. Visitors can taste, purchase, and even participate in wine production, offering a tangible product for consumption	Emotions and Memories: Wine tourism often creates lasting memories and emotional connections, which are intangible but play a significant role in marketing	Personalized Experiences: Wineries may offer personalized experiences, like blending your own wine or crafting custom labels, enhancing the experiential aspect of wine tourism
Winery Facilities: Physical winery facilities, such as vineyards, cellars, and production areas, are tangible assets that tourists can explore	Brand Image and Reputation: Wineries build their reputation over time, creating intangible assets like brand equity and a sense of prestige that attract tourists	Wine Tasting and Pairing: Visitors engage in sensory experiences through wine tasting, where they can explore the flavors, aromas, and textures of different wines. Pairing wine with food enhances the overall experience

beyond merely selling wine [12]. The complexity of all the different factors included in a wine tourism experience can only relate to what is described by the concept of 'touristic terroir' [13]. The concept combines all the unique physical, cultural and natural environment that gives each region its distinctive tourist appeal, or in marketing terms its unique selling point. This approach helps build customer loyalty and encourages visitors to become brand ambassadors, promoting the winery through word-of-mouth and social media, further enhancing the intangible and experiential aspects of marketing in the wine tourism industry.

3 Methodological Approach

The main objective of this study is to investigate how tangible, intangible and experiential elements co-exist in wine tourism and the level of importance and participation of each element should have in the final marketing strategy. To achieve this objective, it is important to understand the behavioral patterns of visitors participating in wine tourism. Motivation is an important part of this complex equation as are the steps in the purchasing process. Although identifying the wine tourist has been an important dimension in previous studies, information about wine tourism consumer behavior is rather limited [14]. For the purpose of this study a questionnaire was constructed aiming in the first part at behavioral patterns and preferences of visitors participating in wine-tourism pre-experience and in the second part assessing satisfaction post-experience Assessing consumer behavior and satisfaction with a good degree of accuracy requires multiple methodological tools both qualitative and quantitative. For the preliminary stage of the study that this paper is based on, only qualitative data was collected via internet questionnaires to visitors that had participated anytime in the past in a wine tourism experience. The study uses a sample of convenience, which although does not entail a high level of accuracy, it is considered suitable and acceptable for the preliminary stage of the study. The results will provide the platform and the data for designing and focusing the next steps of the research.

Overall 286 questionnaires were collected over the internet using a combination of suitable platforms. The platforms were configured to access people that have, according to their statement, participated in wine tourism experiences and winery visits in Europe. Based on their analysis method two types of questions were used. The first type of questions was statistically analyzed questions with a set of predefined answers and the respondents were asked to choose one. For this preliminary, simple statistics were used to analyze the results and test basic theory concepts. These types of closed end questions are suitable for analyzing preferences and behavioral patterns amongst the participants and determine in a hierarchical way what they consider most important. The second set of questions was based on a Likert unidimensional scale in order to collect respondents' attitudes and opinions [15]. When responding to an item on the Likert Scale, the user responds based explicitly on their agreement or disagreement level. These scales allow for determining the level of agreement or disagreement of the respondents. For the purpose and the level of accuracy required in this particular research, a standard five point scale was used allowing for a neutral or indifferent option.

4 Results

The results were evenly distributed demographically amongst men (140) and women (146) that took part in the survey, but this was expected as it was part of the initial configuration in the data collection platforms. The demographic characteristics of the participants were considered not important for this initial stage of the research as the main focus was to collect indications and trends in behavioral patterns. This initial survey will act as a focusing tool for the research to follow.

Participants in their majority (93%) (Fig. 1) expressed that they are very likely or likely to purchase the products they were tasting in the winery but they considered almost equally important (76%) (Fig. 2) to be able to buy the products in their home environment either in a store or online. The results from Fig. 1 were expected, as tourist, as the theory suggests, have the tendency to buy memorabilia or tangible objects in order to remember their travel experience. In the case of wine tourism this is related to buying regular bottles of wine, wine glasses or even miniature specially made wines, thus demonstrating a similarity with any other tourism experience and the respective visit to the gift shop. This kind of consumer behavior is very well documented and analyzed. The results in Fig. 2 are also supported by previous similar studies, concluding that wineries may focus on their customers' and visitors' choices and attract target groups that are interested in buying the wine not only at the premises but online [16], but also for enogastronomic visits at the venue.

The location of the wine tasting and wine experience was also very important to the visitors. As tourism are moving towards the co-creation era of the experience they

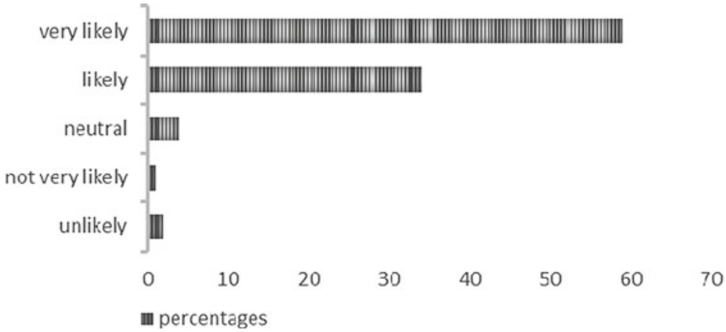

Fig. 1 The percentage of respondents based on their likelihood to buy the products from their wine tourism experience during the experience

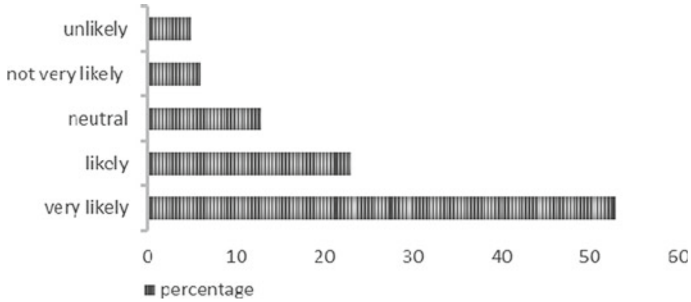

Fig. 2 The percentage of respondents based on their likelihood to continue buying the products from their wine tourism experience in their everyday life

feel the need to participate in experiences as authentic as possible in-situ. Only 27% of the sample considers wine tasting in any other location (hotel, restaurant etc.) as a wine tourism experience. In agreement with the multiple definitions provided in the first section of this research, the majority of the participants define wine tourism as happening in wineries and vineyards. Still wine pairing and the combination of wine tasting with gastronomy is concentrating 69% of the respondent's choices compared to the 31% that is interested in actively participating in the wine production process. This finding is supported by the theory that there is a clear shift from agro-tourism market in the case of wine, towards a niche gastronomy and fine dining market [17].

Brand knowledge and brand awareness were not very important for the respondents. Only 26% replied that they chose to visit a winery because they knew the brand prior to the visit. Accordingly, a very small percentage (19%) stated the visit to the winery as their main purpose or motivation for their trip. These answers emphasize the role and the concept of the wine-terroir and the importance of wine tourism as complementary activity to the overall visit and exploration of the wider region.

5 Discussion and Conclusion

From the analysis of the literature and the research it becomes obvious that the tangible element of wine is very important for wineries as wine tourism can increase sales both during the visit but also when visitors return to their home locations. Distribution channels can increase to benefit the company but also place branding expands for the entire region. Wine tourism is an opportunity for rural areas to develop high end tourism products and activities through a niche market and not just as agro-tourism destinations [17]. The role of intangible and experiential elements is closely related to the locality and emphasizes the need for authenticity in the way and the location for the actual wine tasting experience. An interesting issue that requires further exploration refers to the way that meaning is assigned to the specific wine brand after a wine tourism experience and the role of a wine tourism experience in assigning meaning to a locality. The sense of ownership and a strong bond that is formed between visitors and a destination can evolve in many different ways. Repeat visitors, like in the case of hotels or restaurants, are quite rare in the case of wine tourism emphasizing more on the experiential factor and not as much in the comfort and convenience [18]. Still similar benefits to repeat or loyal customers are more related to the tangible product and the buying motivation that occurs when the tourists return to their usual environment. Intangible and experiential elements tend to be prevailing during the actual participation in wine tourism.

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Teaching Professional Communication: A Practical Approach

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Abstract The purpose of this paper is to discuss the importance of soft skills in the workplace and presents an approach on teaching professional communication to college students one of the introductory courses taught in almost every Higher Institution in the U.S and abroad. Soft skills in the last decade and particularly in the after COVID-19 era are valued more than the hard ones during the hiring process. Communication skills, oral and written, have become necessary in all working environments. The paper discusses how informative and persuasive structures can help students not only how to communicate more effectively but also how to think more efficiently, organize their thinking and respond to professional challenges. As current trends and social media change the communication habits of young adults, teaching ways to think and speak or write is essential. This paper is for professionals and academics who delve in communication skills as an area of research and practice.

Keywords Soft skills · Structures · Oral communication · Written language · Oral language · Teaching professional communication

1 Introduction

As more and more employers value the importance of soft skills in the workplace, communication remains of paramount importance [1]. Young graduates who demonstrate communication skills are more likely to find their first job and to progress in their careers, as communication skills permeate all aspects of contemporary working environments and are required to help appropriate decision making. An effective communicator has better chances to be collaborative, confident, adaptable, and able to face difficulties. Therefore, higher education institutions in preparing students for a career offer a professional communication course.

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2 Literature Review

2.1 Importance of Soft Skills at the Workplace

The term ‘soft skills’ is defined by academics, scholars, and professionals in multiple ways. According to Haselberger and other authors within the ModEs project ‘Soft skills represent a dynamic combination of cognitive and meta-cognitive skills, interpersonal, intellectual, and practical skills. Soft skills help people to adapt and behave positively so that they can deal effectively with the challenges of their professional and everyday life.’ [2]. ‘Life skills, social skills, interpersonal skills, leadership skills, transversal competences, social competences, and meta-competences are commonly used to refer to the ‘emotional side’ of human beings, in opposition to the IQ (Intelligent Quotient) component related to hard skills [3].

Even though various ways are used to describe ‘soft skills’ there is ‘a general agreement that they are related to people-oriented skills and self-management skills’ which are also’ ‘instrumental in improving the productivity of workforce and increasingly linked to the employability of individuals’ [4]. “In a 2021 review of more than 80 million job postings across 22 industry sectors, the educational nonprofit organization America Succeeds discovered that almost two-thirds of job listings included soft skills among their qualifications, and seven of the ten most in-demand skills were soft” [5]. Even industries requiring technical skills, such as the energy sector, have increased their requirements for soft skills in job postings by 18 percentage points in the last decade while the demand for hard skills has remained flat [6]. Collaborative research conducted by The Protocol School of Washington DC, Harvard University, the Carnegie Foundation, and the Stanford research Institute ‘reveals that technical skills and knowledge account for about 15 percent of the reason an individual gets a job, keeps a job, and advances in that job. The remaining 85% of job success is based on an individual’s soft skills, while it is estimated that 2/3 of all jobs in Australia will rely on soft skills by 2030 [7].

Soft skills are relevant, transferable and keep an individual highly employable [8]. Accepting this or any other description of soft skills, still when it comes to listing them communication is at the top of the list. Communication skills include a range of aspects from basic language proficiency to advanced topics like Dialectic or Rhetoric, which are sophisticated skills. These skills are not only necessary for a person’s professional career, but are even more contributing to one’s so-called social competence, a fact which applies to many other soft skills, too [9]. It is evident that young professionals must complement their hard skills with soft ones to get hired and start their career.

2.2 Teaching GenZ

Undergraduate students who belong primarily to generation Z (students who were born between 1990 and 2010) have the wrong perception of the use of oral language, which anyway they use less in their everyday life [10].

Online platforms and social media are the primary means of communication for young adults. They prefer texting to speaking. 'Because of the transient nature of the social media and fast pace of communication, to achieve a certain level of brevity, interactions on these platforms have devolved into different peculiar languages, slangs and abbreviations'. These have evolved into strong communication tools that youths use heavily in their interactions both online and offline. 'But more worrisome is that many young people could not differentiate between their use of language on social media and in formal writings, academic matters, and examinations' [11].

Given the circumstances, the practice and use of oral language has become essential in preparing learners for their professional lives. Students must comprehend the differences between slang used in social media, with the language used in classrooms, social gatherings, workplace etc. In other words, they must connect the circumstances, place/audience/purpose, with the language use. At the same time, it is essential to comprehend differences between oral and written language, as the first step in becoming effective communicators. The e-mails that educators receive are a great example of students' confusion when it comes to language use. At times those messages resemble SMS' directed to a friend rather than a message directed to a professor. Use of abbreviations, lack of signature or topic sentence, lack of clarity and coherence are some of the common characteristics. In a continuous need to keep up with current issues, improve students' class experience and facilitate the learning process educators try out various methods and tools.

2.3 Teaching Professional Communication in College

Academics, business executives and recruiting companies voice the need for young professionals to improve their soft skills 'because these skills are essential for success' [12]. A nationwide survey of more than 700 employers determined that the deficit between job candidates required and actual skills was greatest for communication abilities [13]. The need for the acquisition of communication skills is covered by a 'professional communication' course that is taught in all academic disciplines in higher education. This introductory course is a fundamental part of the curricula at many colleges and universities throughout the United States. Interestingly, as the finding of the research done in 2008 by Russ, suggests, 'most instructors require almost three times as many writing assignments as speaking assignments' [14]. Students are supposed to sharpen their oral and written skills by delivering speeches and writing e-mails, reports, proposals, etc. to prepare for their professional career. Nevertheless, the written component is disproportional in comparison to the oral one. Given that all college students are required to take courses in research and academic writing before registering in this course, they have already learned basic writing structures. But, since the emphasis is given on the written aspect of the course, the practice of oral language in delivering speeches is not considered as important as following the given structures. Recent evidence has suggested that most college graduates lack sufficient oral communication skills and the need for improving that aspect is pressing [15].

3 Methodological Considerations

This is a working paper following a descriptive approach, building on secondary research and on teaching experience and observation. We follow an inductive approach of building on classroom experience and aligning with existing literature before forming hypotheses that can be empirically tested with different methods. Preliminary findings are presented which need further empirical verification [16].

4 Towards a Case Study: Teaching Professional Communication at Deree, the American College of Greece

We have designed a professional communication course focusing on structure and etiquette rather than just on content and eloquence. Throughout the course, we introduce specifically two structures: the informative structure, exemplified by the inverted pyramid, and the persuasive structure which includes various problem–solution approaches as well as motivated sequence discussed below. Then, we teach the purposes and advantages of oral and written etiquette, as ways to connect with the audience, demonstrate professionalism and communicate more effectively. Often, these structures, even though carrying common characteristics, for the young learners seem difficult and confusing. However, if students are exposed to the oral component of the course first, practice, prepare and deliver different speeches, we observe that the learning process can be facilitated.

The delivery of a speech, even an impromptu one for practice in the classroom, is experiential learning whose definition and scope we provide, based on the Experiential Learning Institute [17]. 'Experiential learning describes the ideal process of learning, invites you to understand yourself as a learner, and empowers you to take charge of your own learning and development'. According to David A. Kolb, an educational theorist 'the experiential learning cycle is a four-step learning process that is applied multiple times in every interaction and experience: Experience—Reflect—Think—Act… This cycle is so natural and organic that people engage in it without being aware that they are learning. It happens almost effortlessly all the time and is constantly transforming our lives'. For example, students practice speaking by delivering short impromptu speeches to become comfortable within the classroom environment, while preparing for the first speech and learning its structure. Informative speeches are usually taught before persuasive ones, since they are easier, so students can concentrate on their delivery, language, voice, and body language. Starting with impromptu speeches helps students understand not only the importance of body language but also the importance of preparation and of great content organization which will help audiences follow and engage.

Speech structures, both informative and persuasive, then, become easier for students to comprehend and use since the whole process is experiential. It helps them comprehend differences between expressing ideas orally or written. At the same time, the practice of delivering short speeches and listening to others allows them to gain a deeper understanding of those structures and their logic. As a result, without realizing it students assimilate and remember informative and persuasive structures. Listening, the part they must choose to practice, becomes the tool to discover what the characteristics of an interesting speaker are, one that maintains the audiences' attention no matter what the topic is. Qualitative peer evaluation and commentary that follows each speech helps students concentrate, identify mistakes, and develop their critical skills. What is noteworthy however, is that those speech structures, as well as the features of oral language are the tools learners can apply for structuring most written communication assessments as well, such as e-mails or proposals.

Basic characteristics of oral language are the use of personal pronouns (I, me, we, our, us), shorter thought units that are easy to follow (shorter sentences), precise words to ensure audience understanding (colloquial and familiar), repetition of words and phrases to emphasize ideas, fewer references to previously state information, i.e. "as mentioned above" [18]. Those same characteristics, though, are necessary to use for creating an effective e-mail at the workplace. It needs to be clear and get to the point fast, use short sentences, precise words and it is always personal. Most importantly it follows the same structures of speech, whether informative or persuasive.

For example, one needs to get the audience's attention first, then provide them with the credibility material—to give them a reason to listen and last with a short and specific thesis statement to prepare them for what will be discussed. Moving to the main body, main points are analyzed/described/explained and supported. Last, a clear conclusion with a summary and remarks helps listeners to retain information. Following the exact same structure will allow students to create a clear and concise written message. First, one gets the reader's attention, gives them a reason to read further and provides them with a clear topic. Then, the analysis/explanation/description of the topic leads to a specific conclusion.

Similarly, when it comes to persuasive speeches, the motivated sequence design, which is used in business extensively, has 5 steps: Attention, Need (for change), Satisfaction, Visualization, Action. [19]. These five steps are also necessary in writing any persuasive e-mail. The comprehension of this structure provides students with the needed tools to deliver clear persuasive speeches and write to the point persuasive messages. First, one gets the attention of the listener/reader, then reveals the problem that is followed by the offered solution. The listener/reader will visualize the results of the solution and how this will positively or negatively affect their lives before reaching the final part in which clear directions of what needs to be done is given. Oral and written messages, then, vary when it comes to content and medium, but present essential similarities when it comes to structure and the need to apply the appropriate etiquette. As students learn conciseness and editing for both oral and written texts, they also learn that written texts like press releases or reports rely on an informative structure while proposals, for example, rely on persuasive structures. Thus, the teaching of structures becomes not only a cognitive soft skill but also a transferable skill that allows students to carry this knowledge and apply it in various domains when it comes to professional communication.

Furthermore, within any professional environment e-mail communication has become very important as emails carry the entire load of professional documentation and day-to-day alignment. A load of one hundred or more messages are found in employers' inboxes every morning while, simultaneously, appropriate email writing remains an issue. A way to ease this communication is effective writing. Understanding structures in combination with etiquette and the level of formality of an email or its attached documentation enables students to acquire an understanding of various nuances of organizational activity in relation to communication. The teaching of professional communication is challenging, and instructors use various methods and activities in a continuous effort to enhance the learning process. No matter the methods used by any instructor the use of oral structures as a basis for effective communication, oral and written can be proven useful.

5 Conclusion

To conclude, soft skills increase employability and have become more necessary than the hard ones. Teaching soft skills and in particular communication ones, at a college level in an ever-changing professional environment will remain a challenge, especially since academic knowledge focuses mostly on producing and instilling hard skills. The digital environment and the pandemic caused seismic changes in the way professional communication is practiced and documented and we still do not know the extent to which these changes will solidify or fade out in time. Instructors focusing on soft skills need to find an optimal balance between theory and practice so that on the one hand they instill practical and transferable skills that can be use, while on the other hand ensuring that such skills can apply in different settings and survive constantly evolving practices. The suggestion this paper offers is based on teaching experience and when needed data will be collected formal research and results will be presented. Still, the use of oral structures and practices remains an important tool in teaching professional communication. Professionals who have the skill of communicating effectively are likely to build better professional relationships, encounter fewer obstacles and more opportunities to bring their ideas to fruition. In the end, this is what matters. Universities may contribute for the qualification of potential employees [20–22]. Future research could also scrutinize the extent to which digital applications have changed the form and content of business documents, and best practices around their writing and dissemination, considering that less reading, more visualization, and short attention spans affect decision making to a significant extent.

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Promotion of Digital News Media: How Age Contributes to Readers' Preferences

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Abstract In our contemporary, diverse, media-rich landscape, consumers employ a variety of avenues in order to acquire information, including conventional media outlets as well as news platforms and social networking sites. The primary aim of this study is to investigate the choices and inclinations of the current digital news viewers and users in Greece, whilst also making reference to the relevant and numerous social platforms. The research is also concerned with "influencers" and with their utilization, whilst attempting to discern potential differences in usage based on the age demographic of users. An online survey was used. 305 individuals formed the quantitative research convenience sample. Descriptive statistics and One-Way Anova were employed. Results revealed significant differences between age groups and social media preferences regarding news information as well as regarding the collaboration of a digital news media with influencers. Significant implications, both at a theoretical and practical level are evident in this work. On a theoretical level, it contributes to the existing literature by adding new information on the current topic of the promotion of digital news media. Practically, digital news media publishers and managers can formulate proposals based on more in -depth information about users' preferences in order to increase their business acumen and success.

Keywords Digital media · News organizations · Behavioral intention · Marketing communications · Greece

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1 Introduction

In our contemporary, diverse, media-rich landscape, consumers employ a variety of avenues in order to acquire information, including conventional media outlets as well as news platforms and social networking sites, as demonstrated in the research carried out by Vermeer [1]. Furthermore, news agencies are faced with an additional challenge: they need to engage with prospective audiences and viewers who are new to them as well as with numerous media enterprises, all of which are embracing the social media platforms as a novel means of cultivating relations and interactions with their target audiences. Moreover, it is worth noting that a significant proportion of the channels which disseminate information, are characterized by content streams based on algorithms facilitated and curated by other, third-party providers and platforms [2]. Therefore, it is clear that the landscape of social media and news usage is not only multi-faceted, but it may also present the end-user with a number of choices. The ways in which audiences choose to make use of these digital tools requires further detailed investigation.

The apparent expedited rate at which news and information is generated and transmitted in today's world has its basis in the rapid progression towards a media sphere that is fully digitalized by the news corporations. As a consequence, individuals increasingly find themselves overburdened—even overwhelmed—at the volume of information and news that they are being exposed to. In a clear "supply and demand" type of dynamic, it appears that the quantity and volume of news stories that people are exposed to far exceeds their cognitive processing capabilities. People not only have a sense of having been bombarded and inundated with the news [3], but it also seems that the task of remaining adequately informed and knowledgeable, has become too strenuous: it is a real challenge to remain well-informed in an era characterized by surplus news. As evidenced by Newman [4], this overwhelming sense of "too much information" may sometimes yield undesirable results, and, in particular, a propensity for complete disengagement from the activity of consuming and interacting with news stories. The consumer here is often at a loss as to how to manage the amount of information that is being thrust towards him or her, the end result being a used who might feel overpowered and negative about the process.

Given the present context as described so far, the pivotal strategic challenge that is crucial for the continued viability of the global news industry would be the examination of the variables that could potentially influence the sustainability and effectiveness of digital products on a global level [5, 6]. Media executives will by definition be required to reassess their marketing and promotional approaches as well as the methods for disseminating the content made available through the media. Additionally, the concept of achieving autonomy from intermediaries around the web will also be added to the challenges that managers can expect to be faced with in this new paradigm [7]. The part that 'findability' can play in this context is something that numerous studies [8] have focused on, with the outcomes of these studies contributing to the enhancement of the online visibility of digital media [9]. Techniques such as social media and search engine optimization (SEO) as well as other techniques related to software and data analysis, including artificial intelligence, all serve to increase the 'findability' of a source. This could work through the employment of algorithms that will increase and enhance findability—for instance going through a process of link, recommendation and research. Media content availability and findability is clearly enhanced when utilizing such techniques, nevertheless it remains crucially important that the results of the searches are not only easy to arrive at, but also that their pertinence to the end-user is ensured [10].

Therefore, it is imperative that we begin to recognize how the social media can be seen as a tool which carries considerable power. The fact that they offer a platform which is easily accessible to all, adds to the complexity of the issues that we need to consider, including the ways in which we should facilitate their strategic integration. The adaptive behavior of the social media that enables media firms to strategically resist and endure the pressures associated with the very emergence of social media and effectively include them in their new ventures in order to gain competitive advantage holds significant importance. As Masele and Joseph [11] have argued, given the pervasive nature of the social media platforms, it is clear that they facilitate a very broad sense of access to current affairs and news stories, thereby allowing media companies to capitalize on their competitive advantages. As emphasized by the aforementioned study, additional work should be done looking into this particular field of study. Such research is required in order to comprehensively investigate the success criteria which might lead to a competitive digital "newsroom", firmly ensconced within the realm of social media.

The primary aim of this study is to endeavor to investigate the choices and inclinations of the current digital news viewers and users, whilst also making reference to the relevant and numerous social platforms. The research is also concerned with "influencers" and with their utilization, whilst attempting to discern potential differences in usage based on the age demographic of users.

2 Literature Review

Media and news outlets—including larger news organizations—have historically been considered the custodians of news dissemination, and have been seen as having the power to exercise control over and regulate the selection of information channels that are made accessible to the general populace. Nevertheless, in today's intricate media landscape, users are exposed to a large number of digital information sources, including news websites as well as social media platforms, as evidenced by Vermeer et al. [1]. The accessibility to certain information streams, notably social media, is clearly primarily governed by algorithms as well as the institutions that support them. These notably large-scale entities which underpin the algorithms within social media, are exemplified by global corporations, like Meta and Google, as discussed by Diakopoulos [12]. It is noteworthy that trust in the media also fosters a heightened sense of exposure as well as a feeling of assimilation and acceptance of the information provided [13], whereas actually paying attention emerges as a significant—pivotal even—element with the potential to impact and shape information processing [2].

It has always been the aim of executives who find themselves in a newsroom, to endeavor to enhance the loyalty of their audiences—and obviously also retain that loyalty—through diverse avenues and channels. The target groups must be reached, their attention caught and their retention ensured [14]. Numerous media companies, including giant news organizations have recognized the power of social media and have already ventured into that realm, clearly recognizing its power to collect news stories, to interact and engage with an audience to disseminate journalistic content and to distribute news. Looney [15] illustrates the ways in which the BBC encourages the participation of its viewers more directly in the journalistic content utilizing web forums, blogs, comments, exchanges of opinion in the form of debates as well as the inclusion of comments into its website article pages. This trend is also corroborated by other researchers all of whom make a point of noting that journalists and media experts in European countries are clearly becoming more involved with social media, thus seeking to identify ways of connecting with diverse audiences [11].

In today's society, smartphones are in constant use. Individuals frequently utilize their devices because they display a versatility in usage, offering a wide range of opportunities for engagement, whether it be breaking news or news updates, gaming activities, perusing social media platforms, checking and responding to notifications, watching video content. There are constant opportunities to take a "short break" and engage in what Hepp [16] has termed the "media-life integration", an integration which exemplifies a clearly emerging trend and establishes a deeper and continuous—perhaps even more intimate—connection between social media and consumer. This "integration" clearly underscores the necessity—imperative even—for the media entities to comprehend the nuanced and multifaceted ways in which consumers incorporate media content and products in their daily routines—and all this as matter of urgency. As Olmsted and Kim [17] have pointed out, this transformative shift in media consumption by the general population emphasizes the paramount significance of value that is derived from their media interactions.

For organizations, it is clear that consumer engagement with their media content is considered an ideal state, one that is clearly desirable as it can be regarded as representing an advantageous market position. The term "media engagement" denotes the level and extent of interaction or active participation that consumers display, whether individually or as members of larger groups. This participation could take the form of engaging with content on a platform or on other media channels. The spectrum of activities within this scope is varied and could range from a mere passive consumption of media to more active forms of participation, including commenting, sharing information or even generating original content. It is the consumer's behavioral commitment to actively engage with a specific brand's media outlets and forums, home pages and any relevant social media content that helps us concretize the concept of "media engagement". We delineate and define this concept as a very specific and distinctive facet of consumer engagement, relating it specifically to the brand and its media outlets [18]. When thinking of this from the perspective of the actual users, the recognition of and association with well-established brand names, with prominent individuals, such as celebrities and influencers, as well as with figures who are known and respected for their work (e.g. certain journalists), clearly functions as a way of providing information services. These are all avenues—entry points possibly—for information retrieval and they act as a mechanism for assessing and evaluating the relevance of information sources and results [10].

The direct influence and role of age pertaining to consumer behavior, is an often-overlooked avenue of enquiry—one which would potentially assist researchers in gaining deeper insights into this subject. This facet of consumer behavior takes on particular significance within the context of online media organizations given the close association between the age of the consumers and the ongoing paradigm shift of digital transformation [18]. Furthermore, it is evident that the demand patterns exhibited by older digital users clearly diverge from those of the younger counterparts [10], thus rendering the variable of age an excellent point from which to begin to research into the contingent and inherent disparities within consumer behavior. While past studies [19, 20], have illustrated a general tendency for younger users showing that they are well-versed in the digital world and navigate digital issues with great ease, there clearly still is a pressing amount of research to be carried out—work that needs to be undertaken investigating and examining specifically age-related distinctions in this field. Thus, there is the need to incorporate age-specific considerations and place these prominently within the research, combining both detailed and finer points on the context of digital media and the distinctions pertaining to particular age groups [18]. This research aims to fill this gap.

3 Methodology

The field research took place in December 2022 and January 2023. Data were drawn from Greece. The questionnaire that was formed especially for this research based on prior studies and in-depth interviews. The questionnaire was distributed online and the sampling procedure consisted of a combination of methods (criteria, convenience and snowball sampling) and a non-probability sampling method was used [21]. The criterion to participate in the current research was that the individual uses online news media. An invitation was sent to acquaintances via Facebook or email to participate in the research. Participants were consequently asked to forward the link to their acquaintances that could possibly participate in the research. A total 305 valid questionnaires were collected. All answers rated on a 5-point Likert type scale (1 = not at all; 5 = very much). Data analysis included descriptive statistics and Anova.

4 Sample Profile

The sample consisted of 305 individuals, of which female individuals were slightly overrepresented (59.3%) compared to males (40.7%). Moreover, 42.6% of the respondents were in the age group of 18–25 years old; 16.4% of the respondents belong in the age group of 26–35 years old and 14.4% were 36–45 years old. Finally, 26.6% of the respondents are 46 years old and over. The majority of the respondents were residents of urban areas (86.9%) and a smaller percentage of the respondents (13.1%) are residents of rural areas.

5 Results and Hypothesis Testing

In order to examine whether there are differences between age groups and social media preferences regarding news information, the hypothesis is defined as:

Hypothesis 1 (H1). There are differences between age groups and users' social media preferences regarding news information. This hypothesis is presented statistically as follows: Hypothesis 1a (H1a). There are no statistically significant differences between age groups and users' social media preferences regarding news information ($a = 0.05$).

Hypothesis 1b (H1b). There are statistically significant differences between age groups and users' social media preferences regarding news information. ($a = 0.05$). The hypothesis was divided into four sub-hypotheses one for each social medium examined (Facebook, Twitter, Instagram and You Tube). One-Way Anova test was used to test the hypotheses and the outcome showed that there are significant differences only in the cases of Instagram ($p = 0.05$) and You Tube ($p = 0.004$). No significant differences were found in the cases of Facebook and Twitter. Consequently, in order to examine whether there are differences between age groups and the preference regarding the collaboration of digital news media with influencers, the hypothesis is defined as: Hypothesis 2 (H2). There are differences between age groups in terms of the collaboration of digital news media with influencers. This hypothesis is presented statistically as follows:

Hypothesis 2a (H2a). There are no statistically significant differences between age groups in terms of the collaboration of digital news media with influencers ($a = 0.05$).

Hypothesis 2b (H2b). There are statistically significant differences between age groups in terms of the collaboration of digital news media with influencers ($a = 0.05$). The Anova results revealed that there are significant differences ($p = 0.000$) between age groups.

6 Discussion and Concluding Remarks

The results of the study contribute to the need for the advancement of the knowledge regarding the promotion of online news media [11, 22], and indicate that there are differences in the preferences of users according to their age. In this context the study is aligned with prior research [18, 19] that also revealed age differences related to digital media use and engagement. The findings of the research indicated that as far as reading the news from social media, individuals who belong to the age group of 18–25 years old prefer more to read the news from Instagram and You Tube. Furthermore, as far as respondents' opinions on whether a digital news media should collaborate with an opinion leader/influencer, results indicated statistical significant differences between age groups. Again, younger individuals who belong to the age group of 18–25 years old have the strongest preference regarding such initiative.

Significant implications, both at a theoretical and practical level are evident in this work. On a theoretical level, it contributes to the existing literature by adding new information on the current topic of the promotion of digital news media [11, 18, 22]. Practically, digital news media organizations' marketing managers and publishers of are equipped with more in -depth information pertaining budget allocations as well as relevant improvements in order to increase their business acumen and success in an integrated multi- media platform and content environment [22]

Several limitations may be discernible within this work, and, as ever, these potential weaknesses present promising avenues for future investigations. The utilization of a non-probability approach in sampling clearly limits the ways in which the findings can be extrapolated beyond this study's particular context and can be considered to be a notable constraint for the research. The researchers' primary focus on the Greek demographic could also be expanded beyond this narrow context. To enhance the robustness of further research outcomes, any future work should adopt a probability sampling method which would potentially encompass a wider perspective from media consumers across different geographical locations or even regions. Despite the limitations described here, this research's contributions are substantial to our field of study, having identified and determined the concept of preferences exhibited in distinct age groups with regard to social media usage and engagement as tools that can promote a digital news media. The role of influencers and brands in the choice of digital news platforms is also displayed and this is certainly a field that warrants further in-depth investigation. Consequently, this research delivers critical insights into an increasingly relevant and significant topic for study—one which yields great potential for further work on the issue of digital news media.

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Exploring Determinants Regarding Visit and Revisit Intentions Considering Greece as a Medical Tourism Destination

Sofia Anastasiadou and Andreas Masouras

Abstract Medical tourism is associated with the act of travelling from of origin where an individual visits a foreign country to pursue healthcare services. Economically, medical travel has profited several southern countries, where the cost of medical procedures is extremely low compared to those of more northern countries. Greece is a medical tourism destination. The objective of the current study is to explore the issue of travel motivations, perceived risks, healthcare services quality, travel constrains, perceived destination image, as determinants regarding visit and revisit intentions considering Greece as a medical tourism destination. The topic is of great concern as this kind of tourism has been booming in current years. A survey was conducted on 540 Medical tourists who answered a questionnaire, which was distributed electronically. The study used multivariate data analysis as well as implicative statistical analysis. Results reveal that travel motivations are significantly correlated with visit and revisit intentions, perceived risks have a significant relationship with visit and revisit intentions. In addition, it was indicated that healthcare services' quality has a significant relationship with visit and revisit intentions. Travel constrains are significantly correlated with visit and revisit intentions and perceived destination is significantly correlated with visit and revisit intentions. Regarding managerial and marketing implications it is suggested that health providers and tourism services provide certified systems and procedures. Health and tourism providers should form partnerships and all-inclusive packages for patients and attendants to provide maximum care to patients and attendants.

Keywords Determinants · Revisit · Intentions

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1 Introduction and Literature Review: Determinants Regarding Visit and Revisit Intentions

Medical tourism generally means to the act of travelling to a foreign country to pursue healthcare services. Economically, medical travel has profited several southern countries, including Malaysia, Thailand, and India, Cuba, Costa Rica, Mexico, South Africa, where the cost of medical procedures is extremely low compared to those of more northern countries [1]. Greece nowadays is a great Medical Tourism destination. Determinants regarding Visit and Revisit intentions are Travel Motivation, Perceived Risks, Healthcare Services Quality, Travel Constrains and Perceived Destination Image. Rendering to International Genealogical Index (IGI) global, travel motivation is the internal situation of an individual, or particular needs and desires of the tourists that can be believed as one of the highly significant psychological influences of tourist actions [2] (IGI, 1988). Travel motivations is a topic of a key importance regarding and consumer behavior [3]. In [4] the authors argued that push and pull theory is the well accepted globally because is strongly connected in tourism destination choice.

The perceived likelihood that an encounter might reveal a human being to risk jerry can affect travel choices if the seeming risk is considered to be away from an appropriate concentration [5]. In tourist decision-making, perceived risks grasp the utmost effect regarding of destination choice [6]. In [7] the authors supported that Perceived Risks have a significant impact on Revision Intention in medical tourism.

According to studies [8, 9], satisfaction regarding healthcare services quality significantly predicts the revisit possibility and the commitment to recommend others to visit the same destination of international tourists. Quality services in business as well in travel industry is one of the goals of many public and private organizations [10–12] and their marketing strategy. Services quality have a direct effect on visit and revisit tourist behaviors [13] their satisfaction and commitment [14]. Many researchers apply Quality Models to evaluate Service Quality such as FEQM [15] and MALCOLM excellence model [16, 17].

Travel Constraints have been researched considerably in the field of tourism [18]. The existence of Travel Constraints does not inevitably cause the deny the choice of travelling. In addition, Travel constraints have an impact on travel behavior connected with individuals' decision regarding when, where and how they travel if the decide to do so including the frequency of traveling [19]. Remaining diseases might similarly limit patients from travelling, for instance in cases of cardiac, or orthopaedical conditions [20]. Ethical, economical, social and legal limitations regarding medical tourism regarding reproductive care are also consider as Travel Constraints [21]. In [7] the authors argued that Travel Constraints have a significant effect on Revisit Intentions.

Destination image suggests individuals' ideas, beliefs, and impressions of a travel destination [22]. Destination image consists of attribute-based and holistic parameters and impressions as well as psychological and practical traits [23]. In addition, it is the Perceived Destination Image that produces expectations which are possible to be unreal at the time of the visit due to various circumstances [24].

Internet endlessly delivers a constant viable market worldwide [25] creating a Destination Image. Medical as well as CBRC services industrialists used communication tools in order people get familiar of their amenities [26]. Internet entrance permit physicians to obtain various assistance from medical marketing plus patients requesting for particular provisions and facilities [27] worth to Visit and Revisit. In [28] the authors argued that there is a significant effect of Perceived Destination Image on Revisit Intentions. In [29] the authors define Revisit Intentions as the plans of visiting again a destination that fulfill visitors' expectations and satisfied their needs. In addition, Revisit Intentions could become evidence by giving with pleasure suggestions to others [29]. In Zhang, Chen and Li [30], the authors claimed that tourist travel motivations have a direct effect on Revisit Intentions.

1.1 Statistical Hypotheses

The research hypotheses are the following ones:

Ho1: Travel Motivations have a significant relationship with Revisit Intentions.

Ho2: Perceived Risks have a significant relationship with Revisit Intentions.

Ho3: Healthcare Services' Quality has a significant effect on Revisit Intentions.

Ho4: Travel Constrains have a significant relationship with Revisit Intentions.

Ho5: Perceived Destination Image has a significant effect on Revisit Intentions.

2 Sample-Methodology

To test the research hypotheses, a survey was conducted on a convenient sample of 540 medical tourists who answered a questionnaire, which was distributed electronically in the format of a google form. For the data analysis the study used multivariate data analysis. When the respondents made the choice claiming that there were medical tourists, a questionnaire was released for them. For other kinds of tourists another appropriated questionnaire was released according to their choice. 331 (61,3%) were females whereas 209 (38,7%) were males. For the data analysis the study used Multivariate Data analysis as well as Implicative Statistical Analysis. Implicative Statistical Analysis is a unique analysis providing a Similarity Diagram, a Hierarchical tree and an Implicative diagram [31–33].

3 Results and Discussion

3.1 Correlations

According to correlation analysis results the posed Ho1 null hypotheses is confirmed. More especially Travel Motivations are significantly correlated with Visit and Revisit intentions ($r = 0.703$, $p < 0.01$), result that is supported by other authors [4, 30]. In addition, the posed Ho2 null hypotheses is confirmed. More especially Perceived Risks are significantly correlated with Visit and Revisit intentions ($r = 0.337$, $p < 0.01$), result that is in line with the result of [7]. Furthermore, the posed Ho3 null hypotheses is confirmed. More especially Healthcare Services' Quality is significantly correlated with Visit and Revisit intentions ($r = 0.769$, $p < 0.01$), result which agrees with the result of [14, 34–36]. Also, the posed Ho4 null hypotheses is confirmed. More especially Travel Constrains are significantly correlated with Visit and Revisit intentions ($r = 0.791$, $p < 0.01$). This result is in line with the work of the authors [21–23]. Finally, the posed Ho5 null hypotheses is confirmed. More especially Perceived Destination Image is significantly correlated with Visit and Revisit intentions ($r = 0.805$, $p < 0.01$). The authors [29] have proof the same result [21].

3.2 Implicative Statistical Analysis

The similarity tree: The similarity tree presents classes of items grounded on similarity intensity. The similarity tree (see Fig. 1). Presents two distinct similarity classes (Group A, Group B). Group A entails two subgroups (Mot HsQ) and (VRI TRC). The first similarity subgroup (Mot HsQ) refers to similarity relation between Travel Motivations (Mot) conceptual construct and Healthcare Services' Quality (HsQ). This similarity relation appears to be the higher similarity regarding the whole similarity tree (similarity: 0.823915] and represent the alike way employed by the research interviews to recognized that the perception toward Healthcare Services' Quality is strongly connected with Travel Motivations. The second similarity subgroup refers to Travel Constrains (TRC) regarding Visit and Revisit Intentions (VRI). This is the second stronger similarity subgroup (similarity: 0.818806). According to this similarity group the influence of Travel Constrains to Visit and Revisit Intentions has been made evidence. The similarity group between the travel motivations, Healthcare Services' Quality, Travel Constrains and Visit and Revisit Intentions is of a medium importance (similarity: 0.459289). The third important similarity is between Perceived Destination Image (PDI) and Perceived Risks (PeR) regarding the second similarity group, group B (similarity: 0.809996). This similarity represents the similar tactic employed by respondents to recognize perceived risks grasp the utmost effect regarding of Perceived Destination Image. The similarity between the two similarity Groups (similarity: 0.208137) is of a least importance.

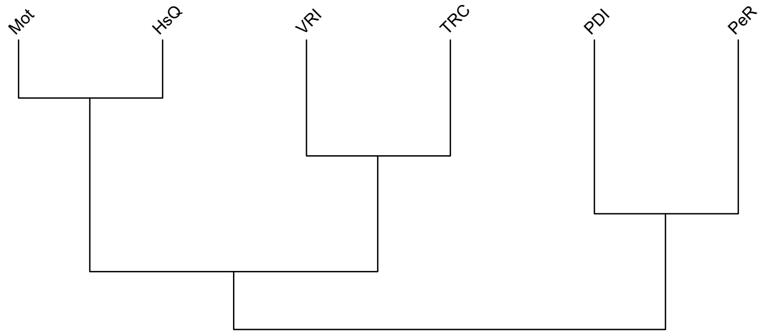
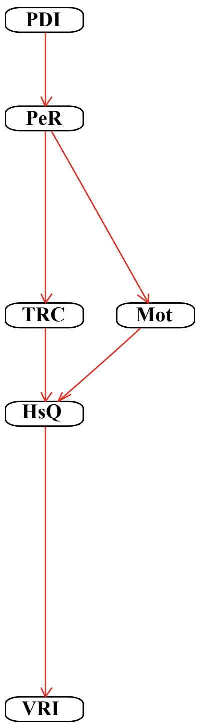


Fig. 1 Similarity tree

Implicative graph: In an implicative graph all the implications between variable, latent variables, or conceptual constructs and not only those that are the most statistically significant ones [37]. Implicative graph' shape based on a threshold 0.99. There is only one implicative chain, PDI → PeR → TRC, MoT → HsQ → V → RI, which has implication intensity equal to 0.99 and appears in red color (see Fig. 2). The rule of this implicative chain attitudes toward Perceived Destination Image (PDI) have

Fig. 2 Implicative graph



an impact on Perceived Risks (PeR) based on Travel Constrains (TRC) as well as on Travel Motivation (MoT), conceptual constructs that defined attitudes on Healthcare Services' Quality (HsQ) closing to Visit and Revisit Intentions (VRI).

4 Conclusions

The current study examined the interrelations of the conceptual constructs named Travel Motivations, Perceived Risks, Healthcare Services' Quality, Travel Constrains and Perceived Image Destination. Furthermore, the study evaluated their impact on Revisit Intentions in medical tourism. The study confirmed that all of them have a significant correlation with Revisit Intentions. It is worth noting that implicative chain begins with Perceived Destination Image (PDI) and leads to Visit and Revisit Intentions (VRI). Moreover, the attitudes toward Healthcare Services' Quality (HsQ), leads to Visit and Revisit Intentions (VRI). Regarding managerial and marketing implications it is recommended that health providers and tourism services offer specialized arrangements and actions and pursue certification concerning the excellence, transparency of their services from the main international administrations. Health and tourism suppliers ought to construct cooperation and all-inclusive packages for patients and attendants to supply maximum care to patients and assistants. Greece is a country in which crime is minimal, almost non-existent, which makes it attractive, relatively economical, with excellent climate and weather conditions that favor access to the country both winter and summer, and the health services and health infrastructure are of a high standard. Based on the above, the bet of investing in medical tourism is high. Still a lot of research is ought to be done using new research methodologies involving big data sets of individuals [38] and big data procedures [39, 40]. In addition, AI and Cloud Computing Techniques may analyze [41–43] social media networks regarding medical tourism using an unsupervised machine learning technique [44] well known as latent Dirichlet allocation (LDA) as well as using a bibliometric analysis on the condition of policy research on medical tourism.

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Characteristics of Romanian Travel Bloggers and Generated Content During COVID-19

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Abstract Tourism plays a vital role in the global economy and its promotion relies on a variety of methods, including advertising, social media, and blogging. Traditional travel writing has evolved into digital platforms such as blogs, micro-blogs, and travel apps, changing the way travellers document their journeys. This paper examines the phenomenon of travel blogging and its impact on the tourism industry, focusing on Romanian travel bloggers. We used content analysis to explore our research objectives: to understand the demographics of bloggers, to explore their travel interests, to analyse the topics covered, and to assess the effectiveness of travel blogs. This is particularly important given the challenges facing the tourism industry during the pandemic. In addition, our findings highlight the importance of travel-related blog posts, such as those discussing travel conditions and restrictions during the pandemic. These findings are valuable in both stable and disrupted travel industry contexts. In conclusion, this study reveals the evolving role of travel blogs and their importance in destination development and highlights the adaptability and relevance of travel blogs in different tourism scenarios.

Keywords Blogs · Blogging · Content analysis · Tourism · Travelling

1 Introduction

In the early 2000s, blogging became a fast-spreading phenomenon with a huge global impact. Thus, it began to play the role of influencing the population on various areas, such as daily routines, personal experiences [1, p 81].

Blog is "a hierarchy of text, images, media objects and data, arranged chronologically, that can be viewed in an HTML browser" [2, p 115] or a new form of mainstream personal communication, suitable for exchanging information as well as building different relationships [3, 4]. Reading and participating in blogs can be seen

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as relaxing, entertaining, enthusiastic activities that are undertaken in one's spare time [2].

With the emergence of new media, communication has taken on another form, a digital one, of which the blog is one. New media emerged as powerful communication and development tools, adding to the potency of mobile telecommunications as drivers of economic and democratic change. New media technologies have significant impacts on organizational, professional and individual reputations [5, p 174]. With the success of social media [6], blogs have also enjoyed a significant growth in the online environment [7, 8]. Some of the most relevant functions of blogs are interactivity, easy access to information, anonymity, low cost and global [4, p 151]. Some of the most important aspects of blogs that have led to such success are the unedited content and the social dimension, in comparison with the first versions of blogs [1, 9], which contained opinions, views, experiences of the authors related to many aspects of their daily life, travels, experiences. Over time, blogs have become more than just online journals, and are now an essential business tool [7, p 60].

Blogs allow users or readers to express their opinions in comments, interact with other users or even with the author of the blog. More and more people are looking to interact online, as it is a simpler, more convenient interaction. Scholars have called this type of bloggers "ordinary bloggers" because they are motivated to create content to interact with their readers, but also to seek information for their own development and documentation [10, p 170]. A blog can be viewed as a many-to-many and asynchronous platform that provides a personal, interactive process for communication and e-WOM exchange and produces interpersonal influences [11, p 788].

Therefore, the aim of the paper is to present demographic analysis of Romanian travel bloggers, followed by the content analysis of blog articles and the effectiveness of blogs, using an adapted research model [21].

2 Literature Review

Even though all blogs are an author's online diary, there are several types of blogs. The blogosphere is the category that encompasses all types of blogs, they are subcategories. Because blogs are often used for information and communication, each of the readers has different interests, so authors must please all readers. People who have a keen interest in fashion will look for blogs that deal with this [12, p. 65]. Those interested in education will look for blogs where they will find the necessary information on education [13]. Also, travel blogs are just a subcategory of the many types of blogs that the blogosphere holds under its wings [14]. According to Schmallegger and Carson [15], there are four broad general categories of blogs: consumer-to-consumer, business-to-business, business-to-consumer, government-to-consumer.

Tourism is one of the most sought-after and interesting topics that users search for [15, p 100]. Travel blogs have evolved very rapidly [16], which has been due to the higher perceived credibility of consumer opinions as compared to traditional tourist information sources [15, p 100]. In turn, travel blogs are divided into individual, corporate, collaborative and traditional. The individual travel blog is the one that reflects personal experiences, thoughts, feelings, photos related to the experience. Collaborative travel blogs are blogs owned by those who offer travel services and post details about travel services, travel tips, even guidebooks. Traditional travel blogs are written by bloggers who post details about travel regularly with updated information, or even about problems experienced as a tourist [17, p 15].

The most popular and obvious travel blogs are those where travellers post their photos, videos showing sights or something remarkable from their experience, recommendations or descriptions of specific products, dishes, restaurants, hotels and more. In countries such as New Zealand, Canada, Sweden and Austria there are travel blogs, written by a travel blogger and posted on the destinations' official websites. This greatly increases their credibility by being seen on official websites [15, p 101].

The topics covered in travel blogs offer a personal touch to the trip, more concrete descriptions of sights, activities, which is not often found in travel forums or other review sites. There the focus is on transport, accommodation, restaurants or other services. Blogs are easy to read, encourage interaction, exchange of ideas, information, experiences, feelings after visiting a destination, which is not allowed on any travel or review site. Bloggers also write about the anticipations they made before going on the trip, the actual experience when they arrived at the destination, and the overall impression at the end of the trip [18, p 300].

Therefore, blogs are a highly popular resource for gathering information both prior to selecting a travel destination and during the trip itself. They offer valuable insights into destinations as described by bloggers, helping users find experiences that align with their preferences.

3 Methodology and Research Approach

Volo [18] analysed the value of travel blogs and how they can influence travel decisions. As a research method, content analysis was used and applied on 103 travel blogs with articles about "South Tyrol", a province in Italy. In addition, it also analysed 246 comments on articles about the region to find out if they have the potential to influence future tourists. Both Italian blogs (71), and international blogs (32) were analysed, and the results showed that the Italian blogs had a greater potential to influence the travel decision, the comments also contain recommendations, advice, but do not contain the "essence of the experience". In another study [19], content analysis was used to find out if travel blogs are beneficial, if they bring results to travel companies, and at the same time the strengths and weaknesses of this method were highlighted for this study. It was shown that travel blogs can bring to the attention of the company what their opinions are about the destination, the offer that has been made to them.

The objectives of this research are to present the characteristics and interests of bloggers in Romania; to analyse the topics covered and to identify the effectiveness of blogs. The content analysis procedure we used is frequency analysis. Frequency analysis is the number of occurrences of variables in a sample [20, p 419]. It measures the frequency of an idea, theme, quotation marks or symbols. Following the analysis, it will be possible to see whether there is concern for the topic in the blog or not. Using the methodological design [21], the first part of the research is the demographic analysis of Romanian travel bloggers, followed by the content analysis of blog articles and the effectiveness of blogs.

The research universe [22] involves determining the objects to be researched. Thus, the universe of the research is the ranking that includes the best travel and tourism blogs in 2019 according to the ranking published by Biz Magazine in collaboration with Zelist, which annually deliver "Digital Report" [23], a synthesis of the online environment in Romania. Out of the total of 22 travel blogs from the Digital Report 2019 ranking [23, p. 94], a selection criterion was used regarding the approach of the COVID-19 topic during the analysis period within the content of the blogs [16], thus the volume of the sample being set to 20 blogs. The *corpus* of analysis includes the following travel blogs from Romania: aventurescu.ro, bloguldecalatorii.ro, extravita.ro, călătoruldigital.ro, impertortravel.ro, lipa-lipa.ro, lumeamare.ro, mihaijurca.ro, povestidecalatorie.ro, prinlume.com, ralucacalatoreste.ro, răzvanpascu.ro, simonamocanu.ro, tedoo.ro, tickettonomadland.com, travelwihasmile.net, travelzoom.ro, turismmarket.com, visatorprinlume.ro and xplorio.ro.

The period for which the blogs were analysed is 10 April to 10 June 2022. The research focuses on reasons for travel, tourist attractions visited, modes of transport, season of travel, topics covered by the author (whether providing details of accommodation or describing the destination visited).

Using the coding scheme adapted from Wegner [21, p 172], we were able to identify the main topics addressed by the bloggers during the research period, and these are grouped into categories. Thus, the first unit of context is the one related to the characteristics of bloggers in Romania, in particular demographic data related to age and gender [24]. The second unit of context is represented by the content of the articles, namely: tourist attractions visited, season of visit, accommodation offers, means of transport, as well as information about Covid-19, being the main disruptive factor of tourism in the last two years [25]. And the third unit of context relates to the effectiveness of blogs, as some blogs taken into analysis have been affected by the pandemic.

4 Results

The first part of the research is an analysis of the characteristics of Romanian bloggers. The indicators used (units of analysis) refer to age, gender and the number of authors who are blogging. The age of the blog authors varies from 20 to 50 years old. Another theme addressed is the number of blogging authors. Most blogs in the ranking used are written by a single author (16), and the other four blogs are written by several authors.

After presenting the demographics of bloggers in Romania, the next section analysed the content of their blogs. The Romanian bloggers prefer to visit the country's nature parks. Among these nature parks there are some that have been visited by many bloggers, such as the Danube Delta. This category also includes lakes, caves, forests, caves, hills. Outdoor attractions include statues, monuments, towers and other tourist attractions that do not require indoor access. Given that the period of analysis is a pandemic period, this preference for outdoor visits may be because travellers could not access museums or other tourist attractions indoors, as they were closed or access was restricted [26], they finally opted for nature walks, where there are no access restrictions.

On the other hand, although the analysis period also includes a part of the summer season, trips to the seaside rank last. The preference for the mountain over the sea can be seen as an avoidance of crowding, avoiding the risk of infection. It can therefore be said that Romanian bloggers have been responsible in terms of complying with the measures imposed because of the virus, avoiding the crowds formed at the sea and opting instead for nature hikes. There are some trips that can be done regardless of the season or the weather outside. Museums, castles, places that require indoor access can be visited in all seasons. Content analysis shows spring's preference for visits. The second place is occupied by summer, and winter being the favourite season for winter sports lovers, the ideal season to visit different towns located in the mountains, to experience different slopes, occupies the third place.

Cultural activities, visiting various attractions are in first place, and the next place is occupied by mountain activities. In the "Relaxation" category, only outdoor activities in nature are listed. There are some articles on the blogs analysed which only present accommodation options in different areas or cities. But there are also articles where bloggers have visited certain tourist attractions, been to different cities and recommend the guesthouse, hotel or cottage they stayed at. There is a significant difference in choosing guesthouses over hotels. Hotels were mainly chosen by winter sports enthusiasts, with chalets coming second.

Regarding the means of transport used to reach the destination, few authors felt the need to specify how to reach the destination. Thus, only three blogs mention the means of transport by which the travellers can reach the places, i.e., the car is their preferred means of transport.

Because at the time of the analysis there were still restrictions and measures in place due to the Covid-19 virus, it is an important factor to know to what extent the bloggers' activity was affected. In the category "Travel conditions" we identified discussions about colour codes used to access various areas, information about vaccination, PCR tests, European digital certificate of vaccination, and in the category "Restrictions" we found information about quarantine, wearing a mask, access to different places (e.g., restaurants, museums, etc.).

In the blog selection used for analysis, there were a few blogs (3) that had no articles posted at the time the research was conducted. There were blogs that were affected by the pandemic, as no activity had been identified since 2020, but there were also blogs that had ceased activity prior to the pandemic, the reasons for which are unknown. Therefore, the effectiveness of the blog is an important topic to be analysed to find out whether the articles written have the capacity to help readers or influence them to choose different destinations. There are blogs (7) that generated less than five articles posted during the research period, which suggests that most of the bloggers in the ranking were affected by the pandemic, with low blog activity. However, there are also blogs (4) that have more than 10 articles posted during the research period, which shows that they have overcome the difficult period in tourism due to Covid-19, with constant blog activity. Three blogs have between 5 and 10 articles posted during the research period, so their activity was partially affected by Covid-19.

5 Discussion

Following the application of the research tool, we were able to identify and observe the characteristics of bloggers in Romania regarding their demographics, their interests and the topics they have addressed.

Therefore, the demographic data reveals that most of the blogs in the ranking used [23] are written by people aged 30–40, followed by those aged 20–30, and at the end are those aged 40–50. Female individuals engage in blogging more than male individuals.

Regarding the topics covered, we identified that both female and male bloggers prefer nature trips, especially nature parks, with 41 appearances of this indicator in blogs. As for the preferred season for visiting, this is spring, followed by summer, with women preferring both seasons, aged between 20–30 and 30–40. Bloggers also like to provide information on accommodation options, recommendations for those visiting the respective areas, and guesthouses are preferred by bloggers. In general, guesthouses are preferred by women and men aged 30–40, followed by women aged 20–30.

The subject of means of transport is not frequently addressed by bloggers, with only three blogs specifying the means of transport used to reach the destination, but the car emerges as the preferred means of transport for women. Although there were many blogs where the main topics were about travel and tourist attractions, there are also exceptions where information about travel restrictions and conditions predominated. For the most part, these two topics were covered by women and men aged 30–40.

Considering the degree of effectiveness of a blog of at least 10 articles posted during the period of analysis, we observe that this was met by only four blogs, with women aged 20–30 having more than 10 articles posted during the period of analysis. Most blogs generated less than five articles, being owned by women and men aged 30–40.

6 Conclusion

Blogs are a useful element of expression and communication, an easy tool for readers to keep up to date with the different information they need and a key element of tourism. Even though tourism has been put to the test by the pandemic period, some travel bloggers have proved to be resilient and able to overcome the difficult period and keep their blogs as active as possible, even if they have travelled less than before the pandemic. They have adapted to the situation, informing readers with information about travel conditions, restrictions, etc. Unfortunately, not all bloggers have managed to cope with the unprecedented period tourism has encountered, and they have given up blogging.

In conclusion, from this research we can highlight that women are the most likely bloggers, aged between 20–30 and 30–40 years respectively; however, it is not an obvious criterion for the success of a blog. Bloggers have tackled different topics, have undertaken many activities, mainly those of visiting, but the pandemic was still felt by most of the bloggers analysed, most of them having less than five articles posted during the research period.

While the premise of our research initially focused on the impact of the pandemic on Romanian travel bloggers, the findings and methodology employed in our paper hold relevance beyond this specific crisis. The study focuses on the demographics of bloggers, their travel interests, and the effectiveness of blogs as a communication tool. For instance, the results can serve as a baseline for future research, allowing us to track changes in travel blogging trends over time. Additionally, the methods we used, such as content analysis, can be adapted to explore various industries and niches, offering a comprehensive understanding of how bloggers influence their respective fields.

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Psychometric Testing Procedures for Attitudes Toward Reproductive Tourism and Cross Border Reproductive Care (ATCBRC)

Sofia Anastasiadou

Abstract The study seeks to evaluate psychometric properties of Attitudes toward Cross Border Reproductive Care (ATCBRC) Inventory in terms of reliability and validity among Greek healthcare professionals. A total suitable sample of 315 doctors, 302 dentists, 356 nurses and 312 midwives were recruited to complete ATCBRC Inventory. To examine the applicability of the ATCBRC Inventory in different groups, its invariance was evaluated. The results certified the internal consistency, as measured by Cronbach alpha coefficient, test–retest reliability, composite reliability and AVE, convergent and construct validity of ATCBRC Inventory. The results revealed the internal consistency and reliability, convergent and construct validity of the ATCBRC Inventory for the group of doctors, dentists, nurses, and midwives. Furthermore, the four-factor structure of the ATCBRC Inventory was confirmed. Structural Equation Model (SEM) verified the model's good fit and its invariance. Until now the there was any Inventory that evaluates Attitudes toward Cross Border Reproductive Care. A valid and reliable Inventory will enable researchers, doctors, healthcare marketers to capture attitudes toward CBRC and develop healthcare strategies and policies.

Keywords Attitudes · CBRC · Legal · Economic · Ethical · Social justice

1 Introduction

The issue of Cross Border Reproductive Care is more relevant than ever. Millions of dollars are spent each year by would-be parents who travel abroad to other countries in the hope of either being able to access Reproductive Care services that are not available in their home countries, or in other countries where these services are incredibly cheaper or to look for surrogacy services for which the procedures are

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not completely transparent and legal. The legal dilemmas and ethical concerns, the economic consequences are many as are the human rights and social justice issues regarding human assisted reproduction and surrogacy. It is very important to research people's attitudes, opinions and beliefs towards Cross Border Reproductive Care. However, there is no Inventory so far that measures people's attitudes towards Cross Border Reproductive Care involving surrogacy. This gap is to be covered by the present research, a fact which also proves the originality of the present research. Attitudes toward Cross Border Reproductive Care (ATCBRC) Inventory is proposed and evaluated, in terms of reliability and validity. A reliable and valid assessment tool Attitudes towards Cross Border Reproductive Care will enable very important research in the field of Cross Border Reproductive Care to assess the legal, economic, ethical and human rights issues.

2 Literature Review

Today very low infertility rates have led to the search for modern techniques of assisted reproduction known as ART [1]. Cross-border reproductive care (CBRC) is a growing phenomenon in which national borders are crossed as people seek reproductive treatment [2]. CBRC is division of the spreading globalization and commercialization of health care [3] and access to it is differentiated based on the cost and quality of ART. The social, economic, educational level as well as the logistical means to access CBRC services differentiate the possibility of this form of medical care [4]. The legal, social, religious, political and cultural institutional framework of a country favors or not CBRC [5] as in other countries surrogate motherhood, the donation of hours and sperm, the transfer of embryos, pre-implantation genetics are legalized e-check etc. Internet continuously produces a coefficient competitive market globally [6]. CBRC services and the relatives' entrepreneurs used communication tools in order people aware of their services [7]. Internet access allow doctors to have some benefit from medical marketing as well as patients seeking for specific services [8].

By passing mostly legal restrictions of ART in a country and more cost-effective services are some of the main reasons why people choose CBRC [9] that become a huge industry. Particular concerns with legal, ethical and economic ramifications concern the case of surrogacy. Saxena et al. [1] distinguish between commercial and altruistic surrogacy. In the first case there is the financial transaction. McLean et al. [10] report in their research that patients who resort to CBRC indicate economic and legal components as factors for choosing CBRC. The cost and legality of ART in countries are decisive factors for the country of choice for the provision of these services. On the other hand, health providers listen to the code of risk regarding the safety of non-patients. McLean et al. [10]) in their research noted that according to clinicians competent and necessary global legislation regarding CBRC to remove the exploitation of economically and socially vulnerable social groups, the instrumentalization of the surrogate mother and the removal of her freedom and autonomy, etc.

The study of attitudes of social subjects of various professional, social, religious groups regarding CBRC is extremely timely because thousands of childless couples, same-sex couples, elderly women without a spouse, men without a spouse or a relationship with a woman, etc. seek fertility treatments in countries other than the country of residence [11]. In Greece today it is a country of choice for the CBRC. There are no surveys documenting attitudes to CBRC as Greece as a country destination. Also, there is no tool that will record these attitudes. The gap comes to be answered by the present research as Psychometric Testing Procedures Reproductive Tourism and Cross Border Reproductive Care (ATCBRC) Inventory Validity, Reliability evaluation are carried out.

3 Methodology

3.1 Sample-Statistical Methodology

To test the study hypotheses, a survey was conducted using 315 doctors, 302 dentists, 356 nurses and 312 midwives were recruited to complete CBRC Inventory. In addition, the sample consists of 748 females and 537 males aged 25–68 years old ($M = 34.357$, $SD = 8.0726$).

A cross-sectional research design was used in order the data to be collected. Explanatory Factor Analysis (EFA) and more precisely Principal Components Analysis (PCA) was used to examine the instrument' validity. Confirmatory Factor Analysis (CFA) and SEM of the ADF method was used to evaluate the structure of ATCBRC Inventory. Instrument validity was evaluated by factor loadings, %Variance, and AVE coefficients. The measurement model fits were evaluated $\times$ 2/df, CFI, GFI, AGFI, TLI, RMSR, RMSEA, IFI and CD indexes. ATCBRC Inventory' reliability was measured by Cronbach alpha (α), Test–retest reliability, CR and AVE coefficients.

3.2 Research Instrument

Attitudes toward Cross Border Reproductive Care (ATCBRC) Inventory of four conceptual constructs or latent variables named Legal, Economic, Ethical, and Social Justice. More especially, Legal conceptual construct consists of 8 items (e.g. Leg1: There are risks linked to issues of citizenship and nationality in case of a transnational surrogacy, Leg2: The citizenship and legal status of children resulting from surrogacy arrangements can be problematic, Leg3: There are important issues of children's right to nationality, especially in cases where the surrogate mother does not share her nationality with the intended parents, Leg4: In commercial surrogacy, the rights of the child are often neglected as the baby becomes a mere commodity in a financial transaction of a good and a service, Leg5: The intended parents should be legally bound to accept custody of the child/children regardless of any abnormality in the child/children, Leg6: It is possible to be a difference between the laws regulating surrogacy in a certain state and how they are actually enforced, Leg7: There is no transparency in the whole system and the possibility of getting involved in legal problems exists due to unpredictable regulations governing surrogacy in different countries, Leg8: Cross-border surrogacy leads to problems of citizenship, nationality, maternity, origin and rights of a child.

Economic conceptual construct consists of 10 items (e.g. Eco1:The cost of infertility treatment is one of the most basic reasons for me in order to seek an assisted reproduction service outside the borders of my country of origin and residence, Eco2: In the case of Cross-Border Reproductive Care, known as CBRC, costs are shifted from the private sector and private clinics to the public health system, Eco3: Those interested who choose CBRC belong to high economic strata and can comfortably but have access to every possibility of assisted reproduction, transparent and opaque, Eco4: Sperm, gamete, egg donors, surrogates belong to low economic, social and educational strata and it is easy for the CBRC industry to exploit them, Eco5: The choice of the surrogate mother does not come from altruistic motives but from extremely economic ones, Eco6: The cost of infertility treatment is one of the main reasons for those interested to seek assisted reproduction services outside the borders of their country of origin and residence, Eco7: A very important economic issue in the CBRC is that the prospective parents involved spend their income, which they earn in the country of residence/origin, in a different country thereby boosting the GDP of the country of destination, Eco8: The cost of care during pregnancy and the cost of birth and care of a newborn is transferred to the country of origin, which is considered a very large financial burden on the public insurance system of the country of origin by the country where the assisted reproduction takes place, Eco9: Countries of origin in the CBRC may refuse to cover such an expense from their insurance funds when the extracorporeal treatment takes place in a foreign state, Eco10: Interested potential parents choose destination countries where ART (Assisted Reproductive Technology) is more affordable, usually third countries, without considering success rates).

Ethical conceptual construct consists of 15 items (Eth1: The ability of a surrogate mother to manage her own body is nullified, Eth2: There is a potential violation of the surrogate mother's dignity in case she develops feelings for the life she carries, while, simultaneously, not being able to have any rights over it, Eth3: There is a potential postpartum depression that can have great consequences for the surrogate mother, Eth4: There is a potential minimization of fundamental freedoms like autonomy, Eth5: There is a potential minimization of fundamental freedoms like privacy, Eth6: There is a potential minimization of fundamental freedoms like self-determination, Eth7: There is a potential minimization of informed consent of any medical action regarding the surrogate mother, Eth8: Surrogate mothers from countries with a low income easily become victims of instrumentalization, Eth9: Commercial surrogacy commoditizes women's bodies in a manner akin to prostitution, Eth10: there is a possible violation of the surrogate mother's dignity, as surrogate mothers are forced to consent to predictive diagnostic tests, Eth11: There is a possible violation of the surrogate mother's dignity, in case she wants to terminate the pregnancy, as she would do, if she became pregnant by her own choice, Eth12: In case of surrogate mother's pregnancy termination there are ethical issues related to embryo health, Eth13: In case of a genetic disorder of embryo occurring in a predictive diagnostic tests, pregnancy termination arise ethical issues related to embryo's life dignity, Eth14: The application of NIPT otherwise non-invasive pre-genetic testing offers the possibility of carrying out diagnostic tests on the fetus from the first stages of its development and at the same time offers the path of DNA analysis where intervention can be done on its genetic material, which causes ethical issues, Eth15: Basic is the ethical dilemma that refers to the selection of suitable eggs or even suitable sperm with the aim of creating embryos during assisted reproduction).

Social Justice consists of 7 items (e.g. SoJ1: surrogate mothers from low and economic backgrounds do not have the possibility of legal support, SoJ2: only wealthy people can possibly hire surrogate mothers, fact that can arise issues regarding social justice, SoJ3: The financial transaction in the case of surrogacy alone entails risks of uncontrolled ethical challenges and protection of human rights of economically and socially vulnerable women, SoJ4: The financial transaction in the case of surrogacy grossly invalidates issues of women's autonomy and reproductive rights, SoJ5: Intended parents are subject to the same human rights laws and responsibilities as those that bind a biological or adoptive parent, SoJ6: In the case of surrogacy, fundamental rights of children are violated, SoJ7: The financial transaction in the case of surrogacy only entails risks of uncontrollable moral challenges such as in the case of same-sex couples being awarded the right to have a child who may have gender identification problems in the future.

4 Results

ATCBRC Inventory reliability was assessed by the very well coefficient named Cronbach alpha (α). In addition, ATCBRC Inventory reliability was valued by Test–retest reliability coefficient alongside with Composite reliability and AVE coefficients. Coefficient α for ATCBRC Inventory equals to 0.921 that confirms reliability [12–14]. Coefficient α for ATCBRC Inventory' conceptual constructs named Legal, Economic, Ethical, and Social Justice counts for 0.728, 0.847, 0.793 and 0.724 respectively. Composite Reliability or CR for Legal, Economic, Ethical, and Social Justice counts for 0.869, 0.907, 0.883 and 0.853 respectively. The above coefficients values are above the threefold of 0.7 suggesting internal consistency [15]. Average Variance Extracted or AVE for Legal, Economic, Ethical, and Social Justice counts for 0.488, 0.404, 0.431 and 0.430 correspondingly. The above values are above the threefold of 0.4 suggesting the ATCBRC Inventory reliability. Overall

ATCBRC Inventory reliability is confirmed [16]. In addition, the ATCBRC Inventory validity is also confirmed. Eigenvalue, %Variance, Loadings and Communalities are used for validity evaluation. These indices are acceptable and disclosed convergent and construct validity of ATCBRC Inventory [17–21]. CFA and SEM were used to evaluate the structure of ATCBRC Inventory. Nine common model-fit measures were employed to measure the model' overall fit [22, 23]. The coefficients of the proposed model fit, the model described by ATCBRC Inventory' conceptual constructs supported the model confirmation ($\times 2/df = 1.76$, CFI = 0.96, GFI = 0.94, AGFI = 0.95, TLI = 0.94, SRMR = 0.034, RMSEA = 0.035, IFI = 0.96 and CD = 0.976) [24–26]. All the fit indices of the model show a good fit. In particular, for X2, which shows the validity of the model, the observed level of significance is $p = 0.07 > 0.05$, which means that we have a good fit. The indexes: X2/df < 2 CFI index = 0.96 > 0.95, RMSEA index = 0.035 < 0.05, GFI = 0.94 > 0.90, AGFI index = 0.94 > 0.90, TLI = 0.95 > 0.90, SRMR = 0.034 < 0.05, RMSEA = 0.035 < 0.05 IFI = 0.96 > 0.90 support good fit. The CD = 0.976 > 0.95 index not only supports a good fit but also tends to approach the value 1 which indicates that it tends to approach the ideal fit. Consequently, the measurement model fits well the observed data [27].

5 Discussion and Conclusions

The current study asks for psychometric properties of ATCBRC Inventory in terms of reliability and validity among Greek healthcare professionals association. EFA and more precisely PCA, Confirmatory Factor Analysis (CFA) and SEM were used to evaluate the structure of ATCBRC Inventory. SEM validated the model of four conceptual constructs structured of ATCBRC Inventory. Consequently, the ATCBRC Inventory is a conceptualized model structured by four laten variables named Legal, Economic, Ethical, and Social Justice. Test–retest reliability coefficient alongside with Composite reliability and AVE coefficients confirmed ATCBRC Inventory' reliability. $\times$ 2/df, CFI, GFI, AGFI, TLI, SRMR, RMSEA, IFI, CD confirmed ATCBRC Inventory' validity. Along these lines, ATCBRC Inventory' is a four structured reliable and valid conceptual model defined by named Legal, Economic, Ethical, and Social Justice conceptual constructs. Besides there was not any statistical difference between males and females regarding Attitudes toward Reproductive Tourism and Cross Border Reproductive Care. In addition, respondents' specialty did not statistically differentiate Attitudes toward Cross Border Reproductive Care. Still, further research based on Big Data, AI, Cloud Computing and Cloud Analytics regarding Attitudes toward Cross Border Reproductive Care [28–31]. A picture of Big Data regarding Attitudes toward Cross Border Reproductive Care can be of major importance [32–34].

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The Effects of Memorable Tourism Experiences Dimensions on Revisit Intentions

Aikaterini Stavrianea

Abstract The impact of the Memorable Tourism Experiences (MTEs) on the behavior of a consumer offers substantial further research potential, despite the interest exemplified in recent academic work. The aim is to investigate the impact of the seven dimensions of MTEs with reference to the visitor's inclination to return to specific location. An online survey was used. 720 visitors to the Greek island of Santorini formed the quantitative research convenience sample. Reliability analysis as well as descriptive statistics and structural Equation Modeling (SEM) were carried out with the use of SPSS AMOS 23. Research revealed that the dimensions of hedonism, novelty, involvement and meaningfulness impact heavily on the traveler's intention to return to a destination. The work evaluates the significance of the different dimensions and identifies the location's key elements of MTEs. On a theoretical level, it adds to the existing literature by shedding new light on the emerging and underexplored topic of MTEs dimensions' impact on the desire to revisit a destination. Practically, the tourist businesses have guidelines at their disposal pertaining to budget allocations as well as relevant MTEs improvements.

Keywords Memorable tourism experiences (MTEs) · Revisit intentions · Consumer behavior · Marketing communications · Loyalty · Greece

1 Introduction

The idea of a Memorable Tourism Experience (MTE) has in recent years been at the center of many discussions and it has gained considerably in terms of significance. Its importance lies within the fact that a number of experts in the field of tourism hold that this notion plays a central role when attempting to differentiate between the competitive advantages that one destination may hold against another [1, 2].

It is possible that ways of behaving, as well as personal views and routine behaviors might be affected by memories. What is more, the ways in which the memory of

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an experience is recalled will influence how the individual chooses to behave in the future [3, 4]. According to [5], destinations and businesses apply their efforts and energy on delivering unique and memorable experiences for travelers. It follows, therefore, that the scholarly research relating to this field has revolved around the general qualities which an encounter that could be described as an MTE would incorporate, as well as the evolution, the measurement and the dimensions of MTE [2, 4, 6–8]. Nevertheless, there are fewer studies that have been undertaken on the behavioral intentions and effects of MTEs on behavior [5, 9–11] while the area of the effects of specific MTEs dimensions on behavioral intentions needs to be further explored [11, 12].

The objective of the present study is to examine the effect of the seven dimensions of MTEs, as stated by [13] on tourists' intention to visit again a destination. In this context the specific research question is: How are the MTEs dimensions influence revisit intentions (RI)?

The study contributes to the relevant literature on MTEs by providing a better insight on the effect of specific dimensions on revisit intentions. The study is structured as following. Firstly, the literature review and hypotheses are presented. Secondly, methodology and findings follow and lastly, discussion of the results, conclusions, limitations and directions for future research are presented.

2 Literature Review

2.1 MTEs

In recent years, academic literature and research has become increasingly interested in the notion of consumer experiences [2, 6, 11, 14]. The concept of "tourist experience" has been at the center of scholarly work within the context of tourism research, as exemplified by [5] and [9]. This work has highlighted and developed a number of concepts such as that of the MTEs. The idea of tourism experiences is multidimensional and, as a result, it is difficult to be defined. The traveler's own assessment and personal opinion of the phases leading up to, during and following his/her journey is included in the process [3, 7].

As defined by Kim et al. [13], MTEs are related to "the positively remembered tourism experience after the occurrence of the event". As a result, MTEs can be seen as the components of the travel experience that people remember [6, 8, 11]. MTEs are important because they are memories of past experiences which can be recalled and can therefore influence how potential tourists might make future decisions [5, 9, 15].

Different aspects and elements of tourism experience have been proposed by academics. Research has been conducted in order to investigate the activities, familiarity and quality of contact with other cultures, along with the emotional, interpersonal and intellectual qualities that acquaintance carries within it [5, 16]. Furthermore, researchers have also explored the aesthetic, educational, escapist as well as entertainment dimensions of such experiences [4]. A cross-cultural study designed and implemented by [13] confirmed a scale for measuring MTEs. Seven aspects of experience were identified within this scale: hedonism; refreshment; local culture; meaningfulness; knowledge; novelty and involvement. The pleasurable aspects of consuming the tourism experience are referred to as hedonism. This aspect of MTEs is consistent with prior studies which found that there is an emotional component to products relating to tourism [11, 17] which accompanies the travelers' need to seek pleasure through their tourism experiences. Critical to the tourist industry, the refreshment aspect on the scale, is concerned with the rejuvenation element inherent within the traveling experience. A sense of relaxation and a break from the typical everyday routines and patterns are also part of the refreshment that traveling experiences offer the tourist and these can also influence how memorable these experiences become [4]. Researchers also study the novelty dimension of MTEs, which is a crucial incentive with reference to the traveler's desire to encounter novel and unexpected experiences in the place they are visiting [6, 18]. Related to the tourists' interactions with local people at the place of destination is the notion of local culture and the contact extends also to cultural and linguistic experiences for the visitors. The encounters with locals can render the experience more memorable, as a result [9, 17]. Visitors' participation in the enrichment of MTEs has been previously highlighted by [11] in their research as it is evident that individuals have a tendency to recall events and experiences to which they have a more personal connection. In addition, one of the most compelling reasons for persuading individuals to travel is to learn more about the places one wants to visit, more about their geography and the historical background and context [5, 9, 17]. In this sense, travel can be perceived as a vehicle for personal growth and development, for evolution and advancement all of which add to the experience's lasting value [19]. Finally, meaningfulness refers to a person's feelings of a significant accomplishment, of a worthwhile outcome as a result of the specific travel experience [6, 11]. Therefore, the process of travel can add new perspectives, fulfill inner desires and add significance to the person's work [6]. Thus, it is through traveling that individuals can gain new perspectives, satisfy their innermost needs and also add significance and purpose to their lives [4, 6]. The current study adopts the above mentioned, widely used seven dimensions of MTEs of [13] which were also used by [4, 5, 9].

2.2 MTEs and RI

Marketing literature provides evidence that memories of past experiences which can be recalled, influence consumer behavior [2, 17]. Prior research has indicated the effect of MTEs on tourist behavior [e.g., 9, 4]. More specifically, researchers showed the effects MTEs on intention to recommend [5], while other research has indicated the effect on tourist revisit intentions [2]. Limited research has examined the effects of MTEs dimensions on tourist behavioral intentions. Studies [6, 11] have supported that certain dimensions of MTEs, such as hedonism increase behavioral intentions.

Thus, it is expected that MTEs dimensions will positively influence RI. Therefore, hypotheses of the research are stated as following:

H1: Hedonism experience has a positive and significant influence on RI.
H2: Novelty has a positive and significant influence on RI.
H3: Local culture has a positive and significant influence on RI.
H4: Refreshment has a positive and significant influence RI.
H5: Meaningfulness has a positive and significant influence on RI.
H6: Involvement has a positive and significant influence on RI.
H7: Knowledge has a positive and significant influence on RI.

3 Methodology

The dimensions and items of the MTEs and RI were evaluated through the review of the literature. More specifically, the seven MTEs dimensions (hedonism, novelty, local culture, refreshment, meaningfulness, involvement, knowledge) and items were adopted from [4, 5, 13, 20, 21] and are shown in Table 1. In regard to RI three items were adopted and modified from [22]: All answers were rated on a 7-point Likert scale (1 = Completely/totally disagree; Completely/totally agree).

The field research took place in September 2019. The questionnaire was distributed online and a non-probability mixed sampling method (criterial, convenience and snowball sampling) was employed. The criterion to participate in the study was that the individual had to have visited the island of Santorini in the past three years. Invitations were sent to the researcher's acquaintances via Facebook or email to participate in the research. Participants were then asked to forward the link to their own acquaintances that could potentially participate in the research. A total 720 valid responses questionnaires were collected within the time during which the link was open to receive participants' responses. Descriptive statistics, reliability analysis and Structural Equation Modelling (SEM) using SPSS AMOS 23 were included in the analysis.

4 Sample Profile

Altogether 720 individuals participated in the study, of which female individuals were slightly overrepresented (44% and 56% respectively). Furthermore, 24.2% of the respondents belong in the age group of up to 24 years old; 25.1% of the respondents belong in the age group of 25 to 34 years old and 31.7% were 35 to 54 years old. Finally, 19% of the respondents are 55 years old and over. In regard to the educational level, 28.4% have secondary or post-secondary education, 46.8% have graduate and 9.5% have postgraduate education. The majority of the respondents were employees (47.2%). A smaller percentage of the respondents (14.4%) are self-employed and

Table 1 Descriptive statistics and reliability

Dimensions/items	Mean scores (SD)	Cronbach's Alpha
MTEs		
Hedonism	5.55 (1.411)	0.96
Thrilled about the experience	5.59 (1.595)	
Indulged in the activities	5.49 (1.434)	
Enjoyed the experience	5.61 (1.462)	
Exciting	5.5 (1.492)	
Novelty	5.04 (1.395)	0.91
Once in a lifetime	4.84 (1.609)	
Unique	5.06 (1.651)	
Different from previous experiences	5.12 (1.581)	
Something new	5.31 (1.482)	
Local Culture	5.08 (1.348)	0.85
Good impressions of local people	5.13 (1.533)	
Experienced the local culture	5.02 (1.577)	
Local people were friendly	5.11 (1.449)	
Refreshment	5.13 (1.399)	0.94
Liberating	4.94 (1.508)	
Enjoyed a sense of freedom	5.11 (1.544)	
Refreshing	5.36 (1.484)	
Revitalized	5.12 (1.571)	
Meaningfulness	4.84 (1.062)	0.89
Did something meaningful	5.04 (1.518)	
Did something important	4.85 (1.555)	
Learned about myself	4.64 (1.609)	
Involvement	5.25 (1.372)	0.89
Visited a place, I wanted to go	5.48 (1.507)	
Enjoyed activities	5.19 (1.540)	
Interested in the activities	5.07 (1.490)	
Knowledge	4.84 (1.456)	0.92
Exploratory	4.74 (1.566)	
Knowledge	4.90 (1.577)	
New culture	4.87 (1.581)	
RI	5.27 (1.558)	
Plan to visit this destination again	5.38 (1.632)	
Would like to visit this place again	5.42 (1.613)	
Believe I will return	5 (1.713)	

32.2% are students or unemployed. Pensioners consisted of 6.2%. Finally, as regards the family's net monthly income, 26.7% had up to 1000.00€; 43.5% had 1000.01–2000.00€, and 29.8% had more than 2000.00€.

5 Results and Hypothesis Testing

Table 1 presents the results of the descriptive analysis and Cronbach's alpha values. All Cronbach's alpha values are greater than 0.8 and therefore, internal reliability for the MTEs dimensions is ascertained [23]. As far as descriptive statistics, hedonism received the higher mean score (5.55) and meaningfulness (4.84) as well as knowledge (4.84) have the lowest. In regard to specific items, the statement "Enjoyed the experience" of the hedonism dimension received the highest score (5.61). The item "Learned about myself" in the knowledge dimension showed the lowest score (4.64). Figure 1 presents the regression model.

Table 2 shows the results of the regression analysis and hypothesis testing. The explanatory power of the regression model is 41.7% for the relationship between MTEs and RI. The findings of the study reveal that hedonism, novelty, meaningfulness and involvement positively influence revisit intention. On the contrary, results indicate that the dimensions of local culture and refreshment had positive but not significant influence on revisit intentions. Furthermore, knowledge had negative but not significant results on RI.

Specifically, results indicate that hedonism experience had a positive and significant influence on RI (0.223) and therefore H1 is supported. Novelty had a positive and significant influence on revisit intention (0.131) and therefore H2 is supported. Local culture had a positive but not significant effect on RI (0.009) and therefore H3 is rejected. Refreshment positively but not significantly influenced revisit intention (0.083) and therefore H4 is rejected. Meaningfulness had a positive and significant influence on RI (0.116) and therefore H5 is supported. Involvement positively and

Table 2 Results and hypothesis testing

Hypothesis		Coefficient	Significance	Result
H1	Hedonism	0.223	$p < 0.05$	Supported
H2	Novelty	0.131	$p < 0.05$	Supported
H3	Local culture	0.009	$p > 0.05$	Rejected
H4	Refreshment	0.083	$p > 0.05$	Rejected
H5	Meaningfulness	0.116	$p < 0.05$	Supported
H6	Involvement	0.184	$p < 0.05$	Supported
H7	Knowledge	−0.032	$p > 0.05$	Rejected
Model abstract	$R^2 = 0.417$	Adj. $R^2 = 0.412$		

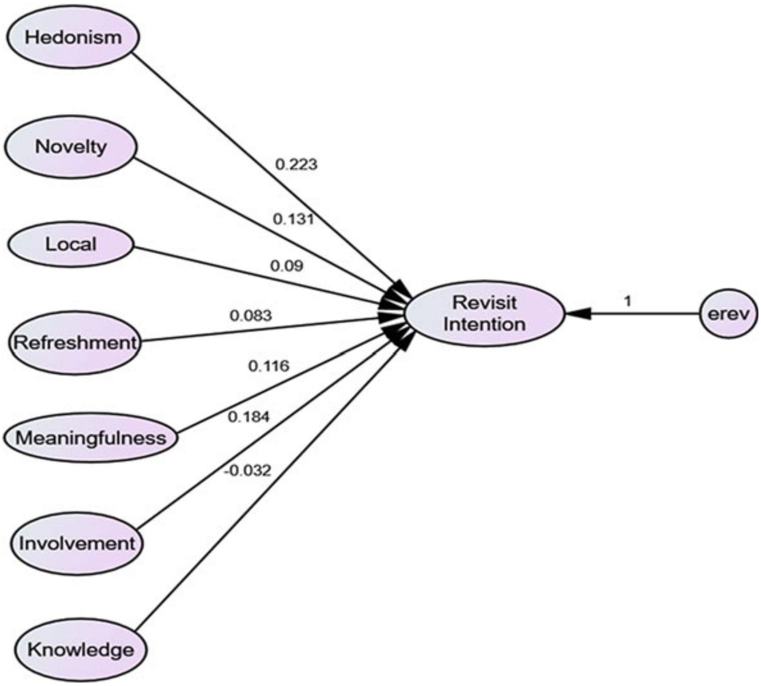

Fig. 1 The regression model

significantly influenced RI (0.184) and therefore H6 is supported. Finally, knowledge had a negative and not significant influence on RI (-0.032) and therefore H7 is rejected (Table 2).

6 Discussion and Concluding Remarks

The study identified MTEs for the visitors of Santorini island. The findings of the study underly the importance of MTEs and offers insights in regard to the influence of the hedonism, refreshment, novelty, knowledge, local culture, involvement and meaningfulness experience on tourist RI. The significance of each dimension is assessed and important aspects of MTEs for the destination are identified. The results of the study contribute to the advancement of the knowledge regarding MTEs, and indicate that hedonism, involvement, novelty and meaningfulness have positive influence on tourists' RI. On the contrary, results indicated the non-significant effect of refreshment, local culture and knowledge on tourists' intention to visit again the destination. The results of the study are aligned with previous research by [11] that also indicated the significant effect of hedonism and involvement on revisit intentions in the context of forests recreation destinations. Nevertheless, and in contrast with the study of [11], the present study showed the influence of novelty and meaningfulness on tourist intention to visit the destination again in the future. Results also indicate that local culture, refreshment and knowledge did not have a positive influence on RI. In regard to local culture experience, one might assume that visitor may not have adequate contact with the locals since the destination offers more opportunities for relaxation or entertainment. Also, the findings regarding knowledge are aligned with the studies of [6] and [11] who also found that knowledge negatively affected RI, arguing that visitors possibly wanted to relax and have fun than be interested in acquiring knowledge about the destination. Overall, the findings denote the importance of MTEs on revisit intention, and the great importance of certain elements that relate to the pleasure (hedonism) and novelty of the experience. Moreover, the results show that enhancing participation and involvement will further reinforce tourists' RI.

The research has important implications both at a theoretical and at a practical level. Theoretically, it contributes to the relevant literature by providing new insights into the underexplored issue of the effects of specific elements of MTEs on RI. At a practical level, it has a significant contribution to the managers of destination organizations and tourism businesses, since it provides practical guidelines and suggestions for budget allocation and the improvement of different aspects of MTEs. In such way, innovation concerning new products and services can be achieved and strategies and programs can be planned and implemented in a more targeted way.

A number of limitations can be identified in this research and these shortcomings provide opportunities for further studies to be carried out in the future. The researcher has used a non-probability sampling method, which restricts the ways in which the results can be generalized. In addition, the work concentrated on a specific location and on domestic tourism. In order to further corroborate the findings of the research, future work should also be conducted which would include a probability sampling method, and would potentially also incorporate the study of the influence of MTEs' dimensions on RI of foreign tourists as well as diverse destinations.

The current limitations of this work notwithstanding, this study has made some major contributions in terms of analyzing MTEs and their influence on RI, an area that needs further exploitation. In that way, the study offers vital insights regarding an increasingly pertinent and noteworthy issue in the area of tourism marketing.

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Health Tourism in Greece: The Fertility Center in Crete

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Abstract According to global health tourism data there were over 23 million health tourists in 2019 and medical tourism is growing rapidly. Greece is one of the most preferred destinations for medical tourism and particularly for fertility treatment. However, research on medical tourism is limited. The purpose of this study is to investigate the inbound tourism for fertility treatment in Greece. A survey was administered to a sample of 60 women that came for fertility treatment in a fertility Centre in Crete. Results show that most patients come from Russia, Italy and the Netherlands and select Greece because of high success rates, positive word of mouth, wide range of treatment options available, ease of travel and the perceived safety of Greece as a country. Sources of information include their doctor, direct communication with a clinic, the internet and word of mouth from past customers or personal sources. The perceived quality of services is high and 75% of respondents believe their treatment was effective and are willing to recommend the Fertility Center to friends/relatives. Also, 55% of respondents combined the fertility treatment with a vacation. Results have implications for the management of businesses that offer medical tourism services and of Greece as a medical tourism destination in terms of targeting, promotion and brand building.

Keywords Health tourism · Medical tourism · Greece · Destinations · Fertility center

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1 Introduction

Travel for health purposes has led to the emergence of health tourism. According to Coghlan [1], health tourism refers to "a well-organized journey away from home country for the improvement, melioration or betterment of an individual's mental and physical well-being".

Medical tourism is a big part of health tourism and includes travelling to a different country from the one a person resides with a purpose to get medical treatment or investigate the possibility of such treatment. In the last two decades, there has been a rapid growth of medical tourism. Medical tourism is expanding because more and more people increasingly travel for health reasons because of cost considerations, safety, and availability of medical procedures, service quality, waiting lists or success rates [2, 3].

Europe attracts a lot of medical tourists and Greece is considered a preferred destination especially for fertility treatment. However, research on medical tourism services is limited. The purpose of this study is to investigate the inbound tourism for fertility treatment in Greece.

2 Literature Review

The World Tourism Organization and European Travel Commission [4] provides an encompassing definition of health tourism as tourism with the primary motivation of contributing to physical, mental and/or spiritual health through medical and wellness-based activities [5, 6]. A definition of medical tourism describes it as "travel to destinations to undergo medical treatments such as surgery or other specialist interventions" [7, p. 101].

Medical and wellness tourism form together health tourism [8, 9]. Medical tourism is described as a form of reactive health tourism because the aim is to treat illness whereas wellness tourism is considered proactive because it aims to prevent illness or maintain a good health without a medical procedure [9]. Therefore, medical tourism is a considerable part of the health and tourism industry and can be described as an economic activity that involves the sale of both tourism and medical services [10]. Tourism services sold include accommodation, food and beverage, transportation, and entertainment services. Such services are a source of economic growth for destinations and consequently many countries have sought to promote and expand health and wellness tourism [11]. Health tourism helps to increase foreign exchange and enhance the gross domestic product and of course expand the health care industry of a country [12, 13]. Consequently, there are more than 50 countries worldwide that have declared medical tourism as a national industry [14].

For all these reasons, in the last two decades, there has been a rapid growth of medical tourism. The global medical tourism market size was valued at USD 10.3 billion in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 32.51% from 2022 to 2030 to reach USD 97.7 billion by 2030 [11]. According to global health tourism data there were over 23 million health tourists in 2019 [15] Covid-19 has decreased medical tourism considerably (86.2%) in 2020 but the market is rebounding fast [11].

Europe attracts more than 2.6 million tourists yearly, accounting for a quarter of the global health travel market [16]. Greece is one of the most preferred destinations for medical tourism and particularly for fertility treatment [16] at present and is continuously exploiting the growing global medical travel market. The medical fields that attract medical tourists to Greece include in vitro fertilization, plastic surgery, ophthalmology, dentistry, and rehabilitation as reported in Greek Travel Pages [16]. The main advantages of Greece as a medical tourism destination are a good climate, highly skilled personnel, cutting-edge medical innovations and high success rates, liberal laws and the possibility of having a beautiful vacation while undergoing treatment in a safe travel destination.

However, research on medical tourism is limited. Previous studies mainly focus on identifying sources of information for health tourism [17, 18] the perceived risks and benefits of travelling for health care [19, 20], push and pull factors that create the demand and supply for medical tourism services [9], and factors affecting the choice of a country as a medical tourism destination [9, 21, 22].

The purpose of this study is to investigate the inbound tourism for fertility treatment in Greece. Specifically, we aim to find out the typology of foreign patients that come to Greece for fertility treatment, the types of treatment they use and the success rates of each treatment, patients' motives to travel to Greece for fertility treatment, the sources of information they use to learn about health tourism in Greece, the perceived quality of fertility treatment services, and the competitor countries that are considered by tourists as a health tourism destination.

3 Methodology

The study is quantitative and descriptive in nature. A survey with a structured questionnaire was administered to a sample of 60 women that came for fertility treatment in a fertility Centre in Crete. Data collection was done electronically through emailing the questionnaire to past patients treated at the fertility center. 60 patients responded to the survey out of 100 emailed. The sample was purposive in nature. Crete was chosen as one of the top destinations for health tourism in Greece. In fact, ancient holistic rituals and cutting-edge therapies for the skin, body, mind, and relaxation can both be found in Crete [23]. Also, the specific fertility center was chosen because the researcher had access to past patients and the centre's customers were mostly foreign citizens. Data analysis involved descriptive statistics.

4 Results and Discussion

Results show that in terms of country of origin most patients are from Russia (26.7%), Italy (21.7%), and Netherlands (20%), followed by France (10%), Germany (10%), Turkey (5%), United Kingdom (3.3%) and Hungary (3.3%). More than half of the sample is aged 35–44 years old (58.3%) and another 21.7% is 25–34 years old.

Furthermore, health tourists surveyed came to the fertility center in Crete mainly for 3 types of treatments in vitro fertilization (IVF) using their own eggs (43.3%), ovarian rejuvenation therapy (PRP) (33.3%), and fertility treatment with sperm donation (21.7%). Also, the reasons for selecting Greece for fertility treatment are the high success rates (61.7%), the extensive positive word of mouth from other patients who have received treatment in the past (23.3%), the wide range of treatment options available (38.3%), the ease of travel (35%) and the perceived safety of Greece as a country (38.3%). In fact, for 80% of the sample Greece was their only choice for fertility treatment. No other country was considered.

Another important finding concerns the sources of information used for learning about fertility clinics available in other countries. The most important sources are the patient's doctor or fertility specialist (40%), direct communication with a clinic (36, 7%), the internet (35%), word-of-mouth communication from past customers of clinics and information from a family member, friend or colleague who has gone through the treatment in the past. Moreover, the sample agrees that the perceived quality of services provided by the Fertility enter is high. In fact, 75% of respondents said that their treatment was effective, and that they were willing to recommend the Fertility Center of Crete to friends/relatives. Finally, 55% of respondents stayed for fertility treatment in Greece for 8–14 days and during their treatment they also had a vacation in Crete.

The findings of this study present implications for managing country image and specific businesses that want to attract medical tourists. First, it is important to note the importance of foreign doctors or fertility specialists as sources of information for appropriate places of treatment as well as the importance of personal and impersonal word of mouth (friends, family and reviews). So, businesses in this industry should reach out to medical professionals in other countries and form allegiances in order to boost sales. Also, communication efforts of clinics should be professional and use trained employees that can communicate effectively with potential customers. Furthermore, Greece should link its promotion as a destination with medical purposes and in particular promote the high success rates of medical procedures. Finally, the Greek brand should include two very important characteristics of the country, ease of travel and safety. This way, a successful Greek brand can be built in the medical community globally. Finally, the study shows that the main target market for medical services is people between 25 and 45 years old. So, targeting and promotion both of medical facilities and of the country as a medical tourism destination should be based on this target market.

5 Conclusion

This is a study limited in scope to one fertility center in Crete with a small sample. Future research can extend the sample, investigate other forms of medical procedures that attract health tourists and the factors that affect tourists in their choice of Greece and of the specific medical centers. Finally, research can focus on the optimal marketing mix of medical and tourism services for medical tourists.

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Greek Consumers' Perceptions of Traceability in the Food Supply Chain

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Abstract Traceability is an issue of major importance and is related to the provision, sharing and tracking of information about products in every part of the food supply chain. However, traceability faces issues and challenges that eventually lead to increased consumers' concerns. This paper examines Greek consumers' perceptions of traceability in the food supply chain. The research was based on the Theory of Planned Behavior, as modified and used on previous studies, and was conducted with a structured questionnaire between April and May 2023, in a sample of 222 respondents. Findings indicate that consumers' perceptions about traceability influence their intention and behavior in buying traceable food. Attitude, subjective norm, trust and perceived behavioral control influence positively-but rather weakly-the intention to buy traceable food, whereas the perceived behavioral control affects the Greek customers' behavior in buying traceable food. Finally, consumers' intention to buy traceable food influences their behavior in buying traceable food. The results can be used by academics in order to explore food traceability in a national context or validate results from similar studies in international context. They may also help food sector managers to better understand consumers' perceptions about food traceability and formulate their strategy accordingly.

Keywords Food supply chain · Traceability · Consumer behavior

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1 Introduction

During the past years several food crises have occurred [1, 2], with serious impact on human health [3] and economies [4], underlining the great importance of food security, safety and quality. Towards this direction, the Food and Agriculture Organization of the UN recommends implementing efficient logistics arrangements and traceability to ensure food safety, increase efficiency and reduce loss [5].

According to the regulation of the European Parliament [6], traceability means "the ability to trace and follow a food, feed, food-producing animal or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing and distribution". Traceability also means the use of technologies (such as IoT, Cloud computing, RFID, QR-code, Blockchain) in order to track and share information about a product in every stage of the supply chain [7, 8]. These technologies enable consumers to access all the above information easily through their mobile phones. Finally, traceability in the food supply chain means the development and use of a food safety information system, powered by digital technologies and health and safety quality assurance systems (such ISO, HACCP etc.) in order to achieve internal and external traceability and information exchange in every part of the supply chain [9]. All the above will overcome consumers' concerns about the ability of traceability systems to guarantee food safety [1] and eventually lead to the improvement of confidence in the food system, which is currently low [10, 11].

A number of studies indicate that food traceability has become increasingly important [e.g. 3, 4, 12, 13] and highlight the need for empirical studies that will examine consumers' perceptions, as well as the factors that affect their purchase of traceable food [2, 10, 14, 15]. Moreover, due to differences in consumer culture, purchasing preferences and consumption habits [1], such studies in different countries and continents shall contribute to the better understanding of the topic.

Based on the above, the aim of this paper is to investigate the Greek consumers' perceptions about traceability in the food supply chain through an online structured questionnaire.

2 Research Purpose, Questions and Methodology

Exploring consumers' perceptions about traceability in the food supply chain is an area of growing interest among researchers, who are trying to determine and analyze the factors that influence consumers' behavior concerning traceable food.

Therefore, the objective of this research is to investigate the Greek consumers' perceptions about traceability in the food supply chain, trying to answer the following three questions: RQ1: which factors affect the Greek consumers' overall perceptions about traceability in the food supply chain, RQ2: what is the level of intention to purchase traceable food and RQ3: which factors influence their behavior in purchasing traceable food. The theoretical model of the research was based on the Theory of Planned Behavior (TPB), as modified and used by previous studies [2, 12, 16, 17].

The method chosen was an online survey with the use of a structured online questionnaire. It consisted of questions about demographic characteristics and overall consumers' perceptions on food traceability, as well as questions about the constructs of our model, measured with a five-point Likert scale. Cronbach's alpha reliability test was conducted and showed values greater than 70% (up to 91%) for all the constructs of our model, resulting in a high degree of internal consistency and reliability. The sample of the research was randomly chosen and consisted of individuals—consumers aged above 17. The research was conducted in April–May 2023 and a total number of 222 valid responses were gathered and used for further processing.

From the sample, 140 (63.1%) were females and 82 (36.9%) males. As for the age, 64 (28.8%) were between 17 and 24 years old, 112 (50.4%) were between 25 and 39, 39 (17.6%) were between 40 and 54 and 7 (3.2%) were between 55 and 64 years old. Regarding level of education, 46 (20.7%) finished secondary education and 26 (11.7%) post-secondary education, while 88 (39.6%) have a university degree, 61 (27.5%) a master's degree and 1 (0.5%) a PhD.

3 Research Findings and Discussion

Concerning the overall perceptions on food traceability (Table 1), consumers seem to look only for some basic information (e.g. area of origin, ingredients and nutritional value) when they purchase food, and not for information about the producer, the production process or the transportation and storage conditions. Furthermore, a high percentage of the respondents rarely scan the QR-code to access product information, a result that is also highlighted in similar studies [e.g. 15] and pointed out as an issue for further research, especially on consumer acceptance and perceived usefulness of QR-code use [18]. At the same time, consumers argue that they can understand the information included on food products packaging, but they do not feel adequately covered with this information. Furthermore and contrary to other studies [1], consumers do not think that food that provides all this information is more expensive than others.

From a cross-tabulation analysis between age groups and overall perceptions, it is found that consumers between 25 and 39 look more often -comparing to the other age groups- for information about the producer, area of origin, method of cultivation/production, ingredients, nutritional value, as well as the transportation and storage conditions. They also scan more often the QR-code to access information about a product. At the same time, a similar analysis between gender and overall perceptions showed that women -comparing to men- focus more on information about the ingredients, area of origin and method of cultivation/production, whereas men on information about the producer, as well as the transportation and storage conditions. Moreover they use the QR-code more frequently to access product information, have a stronger belief that a food providing all the information is more expensive and feel

Table 1 Overall perceptions on food traceability

Overall perceptions	Frequencies			
	Never + rarely	Sometimes	Often + always	Mean
When I buy food, I look for information about the producer	49.6%	29.7%	20.7%	2.55
When I buy food, I look for information about the area of origin	31.5%	30.2%	38.3%	3.10
When I buy food, I look for information about the method of cultivation/production	66.2%	23.0%	10.8%	2.16
When I buy food, I look for information about the ingredients	14.4%	30.2%	55.4%	3.54
When I buy food, I look for information about the nutritional value	23.9%	26.1%	50.0%	3.31
When I buy food, I look for information about the transportation and storage conditions	61.7%	19.4%	18.9%	2.33
In food packaging that has a QR-code, I scan it to see the information	76.1%	17.6%	6.3%	1.81
	Strongly disagree + disagree	Neutral	Agree + strongly agree	Mean
I think that a food that provides all the above information is more expensive	45.9%	32.4%	21.7%	2.71
Overall, I am covered with the information included on food products packaging	19.4%	59.0%	21.6%	3.04
Overall, I can understand the information included on food products packaging	11.3%	42.8%	45.9%	3.38

more covered with information included on food products packaging, while women seem more confident that they understand this information.

The next step of our analysis refers to the responses concerning the constructs of our model. Beginning with attitude, consumers show a strong positive attitude towards buying traceable food (confirming the study of Menozzi et al. [12]) and find it pleasant, good idea, important, useful and beneficial (Table 2).

As far as the subjective norm is concerned, respondents seem neutral about the influence of other people on their buying traceable food. Additionally, they are not sure if most consumers like them buy traceable food (Table 3).

Regarding trust towards information provided/included in traceable food (Table 4), respondents (in contrast to the study of Zhao et al. [14]) agree that the information provided in traceable food is valid, precise, reliable and trustworthy. There is also a strong belief that a food product with a quality certificate is more trustworthy than others.

As far as perceived behavioral control is concerned, respondents stated that they could buy traceable food often if they wanted to and had higher income. However, they seem rather neutral about the ease of buying traceable food (Table 5).

Despite the positive attitude towards buying traceable food, consumers' intention to buy traceable food is rather low, taking into account the answers provided in Table 6.

Table 2 Attitude towards buying traceable food

Attitude	Frequencies			
Overall, I find buying traceable food as:	Unpleasant	Neutral	Pleasant	Mean
	4.5%	43.2%	52.3%	3.72
Overall, I find buying traceable food as:	Bad idea	Neutral	Good idea	Mean
	1.0%	30.5%	68.5%	4.06
Overall, I find buying traceable food as:	Not important	Neutral	Important	Mean
	4.1%	30.2%	65.7%	3.92
Overall, I find buying traceable food as:	Useless	Neutral	Useful	Mean
	5.0%	38.2%	56.8%	3.77
Overall, I find buying traceable food as:	Non-beneficial	Neutral	Beneficial	Mean
	1.8%	32.9%	65.3%	3.92

Table 3 Subjective norm towards buying traceable food

	Frequencies			
Subjective norm	Strongly disagree + disagree (%)	Neutral (%)	Agree + strongly agree (%)	Mean
Most people who are important to me, approve of my buying traceable food	7.7	49.1	43.2	3.40
Most people who are important to me, want me to buy traceable food	10.4	55.4	34.2	3.27
Most consumers like me buy traceable food	25.7	50.9	23.4	2.97

Table 4 Trust about information in traceable food

	Frequencies			
Trust	Strongly disagree + disagree (%)	Neutral (%)	Agree + strongly agree (%)	Mean
I perceive information provided in traceable food as valid	4.1	37.8	58.1	3.60
I perceive information provided in traceable food as precise	7.7	42.8	49.5	3.45
I perceive information provided in traceable food as reliable	8.6	38.3	53.1	3.52
I perceive information provided in traceable food as trustworthy	9.0	38.3	52.7	3.49
I trust more food that has a quality certificate	3.2	14.8	82.0	4.07

Table 5 Perceived behavioral control regarding purchase of traceable food

	Frequencies			
Perceived behavioral control	Strongly disagree + disagree (%)	Neutral (%)	Agree + strongly agree (%)	Mean
It is easy for me to buy traceable food	18.5	41.9	39.6	3.23
If I wanted to, I could buy traceable food often	10.8	27.9	61.3	3.62
If I had higher income, I could buy traceable food often	6.3	34.2	59.5	3.74

Table 6 Intention to buy traceable food

Intention	Frequencies			
	Strongly disagree + disagree	Neutral	Agree + strongly agree	Mean
I perceive information provided in traceable food as valid	14.4%	55.0%	30.6%	3.16%
I perceive information provided in traceable food as precise	8.1%	52.3%	39.6%	3.35%
I perceive information provided in traceable food as reliable	23.4%	46.4%	30.2%	3.06%
	Unlikely	Neutral	Likely	Mean
I trust more food that has a quality certificate	19.4%	44.6%	36.0%	3.19%

Table 7 Behavior towards purchase of traceable food

Behavior	Frequencies			
	Strongly disagree + disagree	Neutral	Agree + strongly agree	Mean
I am used to buying traceable food	31.5%	46.0%	22.5%	2.90
	Never + Rarely	Sometimes	Often + Always	Mean
I buy traceable food	24.3%	50.0%	25.7%	2.98

As a result and concerning the last construct of the model (behavior), consumers are not used to buying traceable food and they don't buy it on a regular basis (Table 7).

Finally, the Spearman's Rho test showed statistically significant and positive correlations between attitude and intention ($r = ,571$, $p < 0.01$), subjective norm and intention ($r = ,446$, $p < 0.01$), trust and intention ($r = ,230$, $p < 0.01$) perceived behavioral control and intention ($r = ,394$, $p < 0.01$), perceived behavioral control and behavior ($r = ,504$, $p < 0.01$), intention and behavior ($r = ,522$, $p < 0.01$).

4 Conclusions and Suggestions for Further Research

Traceability in food supply chain is an issue of growing interest, with topics and challenges that need further study, such as the development, adoption and use of traceability systems and technologies, as well as the investigation of consumers' perceptions.

The findings from the present research indicate that Greek consumers' perceptions about traceability in the food supply chain influence their intention and behavior in buying traceable food. However, consumers seem to look only for some basic information when they purchase food and rarely scan the QR-code to access the information. They also feel uncertain about the completeness of information provided by the food products packaging and have a positive attitude concerning traceable food. Moreover, attitude, subjective norm, trust and perceived behavioral control influence positively -but rather weakly- their intention to buy traceable food. The study also reveals that the perceived behavioral control affects the customers' behavior in buying traceable food, as well as consumers' intention to buy traceable food influences their behavior in buying traceable food.

The study contributes to the scientific knowledge on a research field of a great importance for the health and safety of consumers. Moreover, it provides results which can be used by academic researchers to study and explore food traceability in a national context and question or validate results from similar empirical studies in international context. Finally, the outcomes of the study may help managers of the food sector to better understand consumers' perceptions about food traceability and to formulate their strategy accordingly. Future research may apply an extended version of the model, taking into account factors such as consumer expertise on recognizing and purchasing traceable food, consumption habits, perceived health and sustainability benefits etc., in order to have a more complete coverage of the subject. Finally, a future research may be conducted in a form of cross-country analysis, in order to examine if there are differences in perceptions among consumers with different culture and consuming preferences.

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Digital Literacy Education and Cyberbullying Combat: Scope and Perspectives

Josélia Fonseca and Teresa Borges-Tiago

Abstract The growing globalization process has boosted the rapid development of the digital era and technology and given rise to a new concept of citizenship, that of global citizenship and cyber-citizenship, which imposes a new way of being and knowing how to act with others. The cyberbullying phenomenon and the preoccupation to combat it emerged in this context. This paper reflects on the role of education in digital literacy to prevent cyberbullying using a citation-based literature review conducted using this trilogy. Digital literacy was found to help individuals understand appropriate online behaviour and ethical guidelines, enabling them to recognize what constitutes cyberbullying and understand the potential consequences of their actions. By promoting responsible online behaviour, digital literacy can reduce the incidence of cyberbullying. Digital literacy empowers individuals to recognize signs of cyberbullying, whether they are victims or bystanders. By being aware of different forms of cyberbullying, such as harassment, impersonation, or spreading rumours, individuals can identify when they or others are being targeted. This awareness allows for early intervention and support. Moreover, digital literacy encourages individuals to be active bystanders and intervene when they witness cyberbullying. It gives them the knowledge and skills to respond appropriately, such as reporting the incident to relevant authorities or supporting the victim. By empowering bystanders, digital literacy promotes a collective effort to combat cyberbullying. In conclusion, digital literacy is crucial in comprehending and addressing cyberbullying, equipping individuals with knowledge, skills, and a responsible mindset for engaging in the digital world.

Keywords Digital literacy · Cyberbullying · Citizenship · Education

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1 Introduction

As the world becomes increasingly digitalized, people need to have the ability to navigate, comprehend, and utilize technology effectively in various aspects of their lives [1]. While it provides numerous advantages, online environments and communities [2] are also filled with clever and adaptable structures to maximize commercial interests, capture and retain users' attention, monetize user data, and forecast and influence future behaviours [3].

The rampant process of globalization and the consequent worldwide digitalization is giving rise to a new concept of citizenship, cybercitizenship, to which a new set of challenges and responsibilities is added. In Greek antiquity, Aristotle (384 BC–322 BC) stated that man is zoon politikon, that is, he is by nature a social animal. Since this historical period, man has been conceptualized from the point of view of his civic dimension, seen in its political and ontological dimension as a constitutive element of the human being. The Greek citizen was the one who had an active participation in the life of the polis, mediated by an interaction between all, in search of the common good.

This Greek conception of citizenship is essential to understand the meaning of citizenship in the contemporaneity, the global and digital citizenship of the twenty-first century. In modern times, the concept of citizenship was held hostage by a set of civic rules, rights, and duties that man had to know and fulfill in order to establish peace. In contemporary times, the Greek sense of participation [4] has been taken up, albeit in a different form, which includes, in addition to the ontological dimension, the ethical dimension of citizenship, seen in the dialectical interaction "Self"/"Other", under the aegis of autonomy, justice, and responsibility [4]. As Pangrazio [5, p.17] states, "citizenship is as much a question of ontology—of being—as it is a question of belief, understandings or action". The democratic citizen of the twentieth century is the one who exercises his freedom concerning the other, who is also free, assuming his responsibility to act in favor of a more just community.

In the twenty-first century, in the global and digital world context, this community is not confined to borders. It takes on a global configuration founded on a cyber citizenship, understood as "a sense of belonging to the global community and common humanity, with its presumed members experiencing solidarity and collective identity among themselves and collective responsibility at the global level." [6, p.3].

This common humanity develops in a plural cultural and axiological matrix that requires an educational process for knowledge and dialogue with the different in the establishment of a social pact embodied in acceptance and cooperation. This is how the educational philosophy and aims published in the UNESCO Report Reimagining our future together: A new social contract for education [7] are understood.

It proposes an education for cybercitizenship based on a global democratic culture [8], which promotes the development of social and ethical rationality in line with global peace, knowing that this implies the well-being of each person in their singularity and of all as a community. It postulates a global citizen education based on the development of digital literacy skills [9], including media and information literacy, empathy, and ethics. This paper aims to unveil seminal works and understand the evolution of ideas underlying these concepts, considering that the context where it happens nowadays—digital context- has fewer boundaries, is ubiquitous, and provides anonymity to users, which may shape behaviors.

2 Methodological Considerations

Considering the exploratory nature of the work, a citation-based literature review was conducted based on data gathered using Dimension artificial intelligence tool, providing support to a grounded theory approach. This approach involves analyzing and synthesizing the most frequently cited works in the field of study to gain insights into the key concepts, trends, and influential authors within the area. It can help to identify seminal works and understand the evolution of ideas within the trilogy of analysis: digital literacy, education, and citizenship.

3 Digital Literacy, Education and Citizenship: A Dialectic Net of Interaction

The proliferation of digital interactions between users not only brings opportunities, as it poses risks in terms of misinformation, fake news, and cyberbullying [10]. The use of technology, both intentionally and unintentionally, enables the spread of non-verify information at scale, which can have broad-reaching societal effects, especially because not all individuals can identify misinformation online [11]. In a certain way, misinformation compromises the ability of societies to form informed opinions and affects decision-making processes in various domains [12]. For instance, Adjin-Tettey [13] noted that accessibility of expert knowledge on the internet can lead to misunderstandings and misinterpretations by non-experts, potentially resulting in negative consequences.

Ciampaglia [14] examines how digital misinformation flourishes due to cognitive, social, and algorithmic biases, posing a significant risk to society. This analysis underscores the importance of creating a research pipeline dedicated to detecting, monitoring, and verifying instances of digital misinformation. In this sense it is essential for individuals to be digitally literate in order to participate fully in today's digital society and take advantage of the opportunities and resources available.

Digital literacy is a tool that enables users to use properly information and tools available online [15]. To Tamborg et al. [16] digital literacy can be defined as the combination of skills, knowledge, and reflective practical abilities required to achieve digital literacy. Additionally, it is viewed as an emerging empirical phenomenon that warrants explorative study.

Digital literacy refers to the ability to use digital tools and technologies to access, evaluate, create, and communicate information effectively. It encompasses skills such as reading, writing, listening, speaking, composing, and interacting within digital environments. Digital literacy includes both the technical ability and emotional skill level needed to generate thought and communicate in multiple formats within digital environments. It also involves the consumption and generation of text and the practices used to create and consume them, both inside and outside of school. Thus, digital literacy is an evolving field that requires cognitive and technical skills to navigate and utilize information and communication technologies.

According Rusdy and Fauzi [17], the lack of proper understanding in digital literacy can indeed have negative effects on children and young' adults' psyche. When they are not adequately educated about responsible online behavior and ethical guidelines, they may be prone to developing harmful attitudes and behaviors.

Poor digital literacy has several consequences (see, Fig. 1). It hinders students' ability to effectively engage in digital learning environments, leading to lower performance [18]. It also perpetuates inequalities in access, skills, and outcomes, particularly among disadvantaged youth [19], creating a gap between secondary and tertiary education, as students who lack digital literacy skills struggle to bridge the technological divide [20].

Poor digital literacy also results in exclusion from participation in society, as individuals with low digital literacy can only partially engage in various areas of life, such as work, finance, and informed decision-making [21] (See, Fig. 1).

Furthermore, the absence of digital literacy can make children/young's adults susceptible to being attracted to forwarding harmful content. They might share or disseminate inappropriate, hurtful, or false information, not fully comprehending the consequences of their actions. This behaviour contributes to the spread of hoaxes and

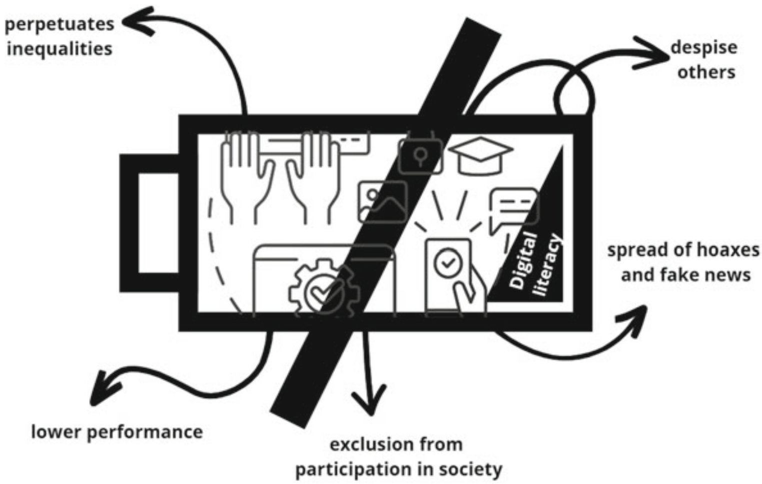

Fig. 1 Consequences of poor digital literacy [21]

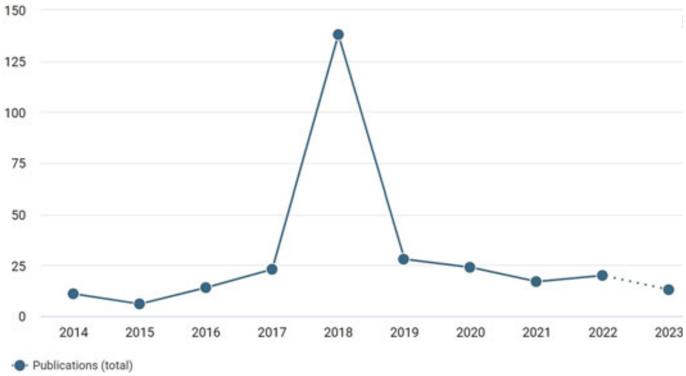

Fig. 2 Evolution of publications retrieved from dimension tool

fake news, as individuals with low digital literacy are more susceptible to misinformation [22] and can perpetuate misinformation, spread rumours, or cause harm to individuals and communities [23].

Another consequence of poor digital literacy is a tendency to despise others. Without the knowledge and skills to navigate the digital world respectfully, children/young's adults may engage in cyberbullying or discriminatory behavior, spreading hate and negativity towards others. This can have serious psychological effects on both the victims and the perpetrators [24]. Underlying cyberbullying is the moral disengagement associated with a low level of empathy [24–26].

The link between digital literacy and cyberbullying is well-known and established in the literature as found in the search conducted using the Dimension tool and observed in Fig. 2.

Some authors suggest that digital literacy education can play a crucial role in preventing cyberbullying by enabling individuals to use the internet wisely and correctly [27]. Digital literacy programs, such as workshops and sharing sessions, can help raise awareness about cyberbullying and teach individuals how to combat it effectively [28]. This includes teaching students to think critically about online content, understand the context in which information is presented, and communicate responsibly. Education providers can mitigate the risks associated with poor critical thinking and cyberbullying by providing students with the necessary skills to navigate digital platforms and online environments.

Additionally, analyzing the sentiment of social media messages using machine learning algorithms can help identify abusive messages and take appropriate action [29]. Developing digital literacy skills can empower individuals to critically evaluate internet and social media information, enabling them to identify and counter cyberbullying behavior [27]. By promoting digital literacy and violent literacy, society can address the negative consequences of violent language and the sharing of violent content on social media platforms.

In this context, it is urgent to emphasize cybercitizenship education in schools, focused on the four categories listed by Choi [9]: ethics, media and information literacy, participation and commitment, and critical resistance. To promote the development of a digital awareness based on digital literacy, which favors not only the knowledge of how to access the digital world and which develops technical skills but also levels of ethical-moral development and superior psychological capacities. The latter is understood as self-control and empathy skills in the face of situations and new emotions. But it also means recognizing the dignity of the other, as autonomous and equal, and understanding the importance of establishing global social justice.

4 Final Considerations

To mitigate the negative effects of less expert and social-fit behaviour, it is crucial to prioritize digital literacy education for children and young's adults. By teaching them about responsible online behaviour, empathy, and critical thinking, we can help them develop positive attitudes toward others and use digital platforms responsibly. Acknowledging the importance of integrating critical digital literacy education into the curriculum to empower students with the necessary skills for navigating the online environment and discerning 'fake news'.

Proper digital literacy education can empower children and young adults to become responsible digital citizens and contribute to a safer and more respectful online environment for everyone. Moreover, digital literacy education can enhance digital connection and inclusion, particularly for those lacking skills [4]. By improving digital literacy, individuals can better discern between reliable and unreliable information, reducing the spread of hoaxes and fake news. Furthermore, digital literacy education can strengthen citizens' resilience to misinformation and 'fake news' by promoting critical dialogue and teaching about specific subgenres such as YouTube and TikTok.

Thus, it's crucial offering continuous training and support for educators to enhance their own digital literacy skills and remain abreast of the latest trends and challenges in the online realm. And enhance the educational network, promoting collaboration among librarians, faculty, and other stakeholders to create and execute information literacy initiatives that cater to the specific requirements of students.

Formulating impactful approaches for digital literacy education that surpass mere technical competencies and emphasize critical thinking is essential to foster real digital citizenship. But requires continuous assessment and information analysis since the digital realities and environments face continuous changes.

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History, Management and Development of Infrastructures in the Port of Piraeus in Greece

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Abstract The port of Piraeus, is an inextricable influential factor both for the Athenian community and for the Mediterranean societies since the ancient times, up until todays globalized societies thanks to its geographic location. The content of this research is conducted in line with a wide spectrum of management via retrospect research. The operation and the management of a port establishment influences all aspects of the community in which the port operates. Its spatial planning, the services it provides, its adjustment to challenges of the times, have direct impact and cultural significance, not only in the local community, but also in the broader maritime lines of communication, in which the port is integrated. In our research, we conclude that management wise, there aren't many differences between antiquity and modern times, besides cruises and touristic expeditions in the port of Piraeus whose function for 2500 years has been an operational prototype beneficial for modern port industry.

Keywords Port of Piraeus · History · Management · Cultural significance · Greece

1 Background of Research

The sea in the ancient world, but also nowadays, offers the possibility of communication, interaction and transaction between different cultures, continents and systems [1]. The importance of this phenomenon has been identified but not studied enough, even though its effects, positive and negative respectively, affect not only the Mediterranean Sea but also the global reality. The port of Piraeus, is one of the most ancient ports in the world that is still in use today [2]. Its active use began in the time of ancient Greece and it flourished to an outstanding degree up until the end of the Hellenistic period. The content of this research is conducted according to a wide spectrum of management analysis in order to investigate the influences of the port of Piraeus in all aspects of the local community of Piraeus and the city of Athens

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but also in the broader geographic area in which the specific port operates from the classical period.

2 Methodology of the Research

For the purpose of this research, a systematic review of bibliographic sources and published articles was chosen, with the criteria of choice the validity, relevance and timeliness in the history, management and cultural significance of the port of Piraeus.

2.1 Search Strategy and Databases

This systematic literature review was conducted in April 2023 in electronic databases as well as in Scopus Google Scholar seeking peer-reviewed articles related to the topics. After a detailed study of the literature and the simultaneous search for additional information, some questions were raised for research: Was the port of Piraeus a significant economic and cultural factor that influenced the community of Athens and its democracy in ancient Greece? Was the port of Piraeus contributed to the phenomena of Mediterraneanization and globalization? What are the differences between antiquity and modern times in the port of Piraeus in management wise?

2.2 Eligibility Criteria

For the purpose of this research, a systematic review of bibliographic sources and published articles was chosen, with the criteria of choice the validity, relevance and timeliness in the history, management and cultural significance of the port of Piraeus (4 peer-reviewed articles, 4 books, 6 web sites in English and 5 books in Greek). Therefore, doctoral dissertations or any other document types were not included. In Google Scholar search, patents and citations were excluded.

3 Results and Discussion

3.1 The Port of Piraeus as a Significant Economic and Cultural Factor in Ancient Greece

In ancient times, the central idea for the design of Piraeus was made by Themistocles in the fifth century BC, in order to create a coastal city with a port, which would directly connect Athens with the Aegean islands. The port facility consisted of three ports (Cantharos, Zeas and Mounichia), all of which housed military equipment, with the exception of the main port of Cantharos, which, in addition to military facilities, also housed five wharves, which belonged to the "Emporion" for commercial transactions, (storage of products such as wheat flour etc.) [3]. After the completion of the walls in 471 century BC, the port of Piraeus is fortified with Athens and becomes not only an important military port, but also an excellent commercial center. Already from that time it was a pole of attraction for ancient sailors, who were willing to pay high fares in order for the end of their journey to be the port of Piraeus. Themistocles for the development of this port used revenues from the mines of Lavrio. By turning Athens into a naval power, Themistocles laid the foundations for the creation of a powerful new class, the "naval mob" i.e. oarsmen (about 20,000), which acted as a guarantee for the preservation of both the first democratic reforms and as a driving force for the completion of democracy [4]. Later, Pericles gave an even greater breath of development to the port and the wider area of Piraeus, turning the port into one of the most important hubs of development in the ancient world. At the same time that Hippodamus designed the city of Piraeus, in addition to the commercial market of the port, he designed a commercial market within the city near the port, the Hippodamian market, in such a way that his urban planning became a model for other cities of that time. Within the Agora was the "Agoranomion", which controlled the weighing of food, adulterated food and determined the prices of the products. In addition, citizens gathered in the Agora to protest or express their opinions, while the southern part of the market near the military naval station Zeas served as a gathering place for the crews during recruitment. In the center of the port is "Deigma", the geographical and operational center of the Trade. It was an exhibition area for samples of the imported goods on which the transactions were made, where all the banks were located, a kind of commodity exchange and banking center, as we would say today. Even in Deigma, copies of the municipal resolutions were usually placed on a pedestal, which probably bore the column of Poseidon, around which were established the offices of the bankers and the tester of the authenticity of the coins circulating in Commerce. It should be noted that the stock exchange price of the goods was formed in terms of trade and on the basis of this the amount of the freight rates and in general all shipping transactions were formed. Piraeus became the "clearing house" of the Mediterranean, the mandatory meeting place for the merchants of the world, the first banking center and commodity and freight exchange and, at the same time, a rapidly developing center of craft activity [5]. Together with the silver ore of Lavrio, constituted the richest source of revenue for the state treasury, as well as the material condition of an unprecedented flourishing of arts and letters. As a result of the economic, there was the rapid demographic development of Piraeus, to which the settlement of an increasingly large number of non-residents, Greeks and foreigners, contributed to a large extent. From the surviving tomb inscriptions, the origin of foreigners (outside Greece) is almost exclusively from the eastern Mediterranean, Asia Minor, Phoenicia, Cyprus and Egypt. After Hellenistic era, Piraeus faced significant periods of crisis. In 86 BC the roman senator Silas destroyed Piraeus and Athens interrupting the operation of the port of Piraeus until the nineteenth century.

3.2 The Port of Piraeus and Mediterraneanization/ Globalization

The position of the port of Piraeus is favorable for the service of goods, not only for our country but also for the wider region of the Balkans, the Black Sea and the states of the North East Mediterranean [6]. Its geographical position, at the junction of three Continents and important sea routes connecting the Mediterranean with Northern Europe, as well as its proximity to the Suez Canal, make it quite attractive as a transit port for large ships of the line as they can approach it without significant deviation from the route followed by the trade of central and eastern Asia with Europe. Extensive cross-border interaction between cultures in ancient times took place only through the sea. The Classical period is regarded as the golden time when Piraeus ruled the Mediterranean Sea, hosting trade inquires like no other port in the region. The entire city of Piraeus was equipped to serve the port's activities both on shore and on the docks. Supplies from all over the Mediterranean peninsula were transported through the Piraeus, sold in it' s markets and stored on it' s warehouses [3]. All activities were conducted according to legal regulations and inspections that protected interests on all sides. This vast trading activity, combined with the military achievements that Athens secured thanks to the mindful use of the Piraeus geostrategic position, made the Hellenic influence spread outside it' s borders on a linguistic, cultural, political and many other sectors. Beyond the movements and temporary stays of individual cases in foreign regions, the establishment of colonies is a phenomenon that intensifies attention and impresses for the first time in Greece of the fifth century BC [7]. In the fifth century, the favor of the Greeks in the Mediterranean prevailed, ensuring untold wealth to the elites of Selinunda and Akraganta. However, this was not the case for the years that followed. In short, during the Roman, Byzantine and Ottoman eras the Piraeus was pretty much overlooked, especially in comparison to the Classical times.

Everything was bound to change in the nineteenth century, when in the newly liberated Hellenic state, began to reconstruct and reform the port of Piraeus. Up until the twenty-first century the port had complied with the international standards of a legitimate operational port. Only in the 80s, in the light of the world developments at the time, scientists began to record and study the phenomenon that was later called

Mediterraneanization [7]. The environment and the unstable availability of resources for the production of a product determined its price and the conditions of its storage and redistribution. Whether it is food or utilitarian material goods, the interdependence of the Mediterranean was a given throughout its history, through a system of communication, trade and exchange that operated between different political, economic and social conditions. Mediterranean opportunism, i.e. the responsibility of keeping everything under control so that the shortages that may arise from possible accidents and damages can be covered to deal with uncertainty was the main philosophy around the distribution and redistribution of products in Mediterranean, as well as for food production. This, of course, was true for both sea and land transport, as the topography played a key role for each Mediterranean region separately. This coherent model unites the entire Mediterranean region from prehistoric times up to the twentieth century.

This discovery of fluidity and interconnectedness in the late 1980s was preceded by the recent phenomenon of the last twenty years, globalization. The researchers saw in the ancient Mediterranean the same connection that shakes our world today. Globalization according to Campbell and Milanovic, is described as the increase of cross-border interdependence and total integration, as a result of the increased mobility of factors such as the production and management of goods and services [7]. The liberalization of trade through the abolition of national borders for rapid transportation with the help of advanced technology, advertising and secularization create global cultures and patterns of consumption, resulting in larger international markets and increased competition. Economic integration through capital markets and the virtual abolition of currency controls is expected to lead to economic growth, while key developments in transport and communication technologies have increased the speed of transport efficiency and lowered communication costs.

Globalization, like Mediterraneanization, has winners and losers. Under these conditions of expansion, the ports were called to reforms and reforms (port reform) in order to adapt to the new reality. The reformation of a port manifests itself in a variety of ways, from a simple reorganization to full privatization. Most countries that make this choice attempt to establish public–private partnerships, as this is considered the most attractive solution for both parties. In this way, the public can reduce administrative and financial burdens, improve efficiency and promote competition. The port of Piraeus is now a typical example of this fact, having been privatized by a Chinese company (COSCO Shipping) for which it is its biggest investment in the European area since 2009. The management of a port, with the geographical location of Piraeus, establishes power and provides possibilities for strategic intervention, which would otherwise be unthinkable. At the same time, the port, in addition to being a commercial and economic hub, is also a cultural one [8]. The port of Piraeus became the 1st major European Port after Swez Canal in terms of revenues (33% increase in 2021) mainly driven by the increase of tariffs, contracts and local cargo [9]. Finally, the city of Piraeus is becoming a haven of galleries and design studios attracted by its abundant warehouses and growing creative community [10].

3.3 Management in the Port of Piraeus in Antiquity and in Present

The management of the naval station and the maintenance of the condition of the ships and their equipment were in the fifth century BC special annual supervisors, called “neoroi”, who were assisted by a committee of ten curators [1]. In the 4th BC the same annual committee, with a secretary and a treasurer, maintained these duties, while the construction and repairs of the ships were supervised by the committee of ten trireme makers. As the place where the relevant inscriptions were found shows, the curators were established near the new residences of Cantharos, at the southern limit of the commercial port, where today the customs office for passengers is located. There next to it, in the seat of the curators, was probably the seat of the general, who was in charge of the “neoroi”, from the middle of the fourth century. At this point, the ships and their vessels were handed over to the trierarchs. Each time the ships were handed over to the commissioners’ committee the following year, they were accompanied by a report (a diagram) of the exact content of the naval station. The reading of these detailed diagrams is particularly interesting for the meticulous spirit and transparency of the democratic bureaucracy that characterizes them, but also for the most accurate picture of the state of the fleet during the period from the renaissance to the end of the naval power of Athens that they give. The content is classified into three main sections, receiving and processing, financial data and delivery.

Organization of internal control was carried out through administrative bodies, which carried the respective title either individually or collectively. Like the naval station, the “Emporion” was a very well-organized, separate sector of the city. The management of so vast and so active a place, with upwards of ten ships unloading and loading every day, while others stood waiting outside for all this world of sailors and merchants, who tuned in to the market and workshops of the port, or traded daily in “Deigma” and around the banks, it requires, in addition to building facilities, specialized technical facilities, cranes and a staff of specialist operators, loaders, boatmen and other activities. All this requires effective organization and policing. The policing of the port, depending on their responsibilities, was carried out by the authorities of the market, policemen and granary guards. From the middle of the fourth century, the main role is played by the ten curators of commerce. Over the years and the gradual entry into the Hellenistic era, Piraeus was faced with periods of crisis, which significantly affected the operation of the port.

The port of Piraeus, today, as then, is a vital hub of transport, trade, supplies and communications. The evolution of investment in the port allows it to host a wide range of activities, including ferry/passenger transport (it is the largest passenger port in Europe), handling almost all types of cargo, ships and cruise passengers as well as repairs ships. The Piraeus Port Organization S.A. is the legal entity that has been granted the management and use of the land area of the Port of Piraeus since 1930. The Hellenic Naval Academy has been functioning in the port since 1845. The military port was transferred to the island of Salamina while the main port remained commercial (Cantharos) and touristic marinas (Zeas, Munichia). The port of Piraeus has been privatized by a Chinese company (COSCO Shipping) since 2009 and has gain the 8th shipping center position in the 2021 Xinhua Baltic World Ranking. The aim is to become Europe's largest port [9, 11].

3.4 Development of Infrastructures for Coasting and Cruises

In ancient times there were no purely passenger ships. Those passengers who traveled by ship boarded, for hire, mainly commercial ships, which ran established routes to specific destinations. However, trips were more frequent in the summer months (May–October), because in winter, visibility was more difficult due to the lack of light. At that time there was coastal shipping with mixed cargo ships. There may not have been cruise ships in ancient Greece, but the necessity of staying at the port existed just as it does today. For this purpose, there were suitable spaces for all travelers as well as for the merchants of the port (kapilia) which, in addition to staying, were suitable also for philosophical discussions.

Today, the cruise is a main pillar of a port's operation since large cruise ships of 4–5 thousand people use port areas for embarking and disembarking customers for a certain period during which they require many port services. Ports and cities seek the approach of such ships because of the positive economic effect [12]. The cruise port is located on the Saronic Gulf (part of Aegan Sea) and was initially used as a terminus for passenger ferries connecting to the largest Greek islands [13]. In 2013, a new passenger station named Themistocles was opened in an old stone building. In 2019, a new cruise terminal project begun related to Pier 3 (port's southern zone), committed to modernization investments worth EUR 800 million. At the new cruise terminal, Piraeus will be able to handle even the world's largest passenger liners as both berths can dock vessels with length 400 m (1312 ft). After completion, Port Piraeus will become one of Mediterranean's largest by capacity homeports, attracting an additional 580,000 cruise ship tourists (near 1.7 million) annually [13]. The station has modern control systems, large enough spaces for the entry and exit of passengers, and sufficient surrounding space for parking tourist buses and private cars. There is still an inability to plan passenger movements on the existing transfer itineraries for the approach to the port. Today, the problem is addressed with hotels near the port. The port of Piraeus decided to create four hotel units near the port with programs of stay and travel to the archaeological sites of Piraeus and Athens in order to satisfy the passengers and prepare them for their cruise. Passengers will remain in the same areas after the end of the cruise until the final departure (homeport).

In ancient times, the concept of yachts did not exist. In today's port of Piraeus there are two areas for small yachts, Zeas and Microlimano (former Munichia). In ancient times also, there were no high safety requirements for passenger transport. Nowadays, port security is a crucial industry with experience and use of new technological means [14].

4 Conclusion

Back in ancient Athens where democracy was first created, the democratic constitution as well as the later superiority of the city was established largely due to the array of services and activities that were conducted through the port of Piraeus. Managing a port means managing both internal and external affairs of a city/state at the same time. It is exactly the place where order is either bestowed or lost. For that reason, there need to be substantial infrastructures for each and every activity and service both at sea and on shore. For many cases the port is of vital importance to the place it accommodates. Military power at sea, commerce and taxation are few of the primal factors that support this. Back in ancient Athens, at the time when Piraeus became the clearing house of the Mediterranean the demands became so high that there wasn't room for any sloppiness. Effective coordination of activities and division of task amongst qualified personnel was essential for the port city. From the study it can be seen that in the port of Piraeus, ideas such as democratic bureaucracy, product sampling and quality, auctioning, banking transactions, logistics, tourist accommodation for a fee, ship shelters and repair activities etc. were developed and implemented. Therefore, it would be educationally necessary to use the port of Piraeus as an example of data analysis 2500 years ago, but also as a source of inspiration and understanding of the participation of Greeks in the modern sciences of shipping, trade, logistics and culture.

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Cultural Tourism and Cultural Heritage Connected with Digital Marketing in Western Macedonia

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Abstract Culture and cultural organizations are directly linked to the course of a place. Culture also influences travelers, causing a wave of cultural tourism. Many archaeological sites throughout Greece are of particular interest and are visited by Greeks as well as foreign visitors. However, technological development and the continuous spread of social media, in combination with the evolution and change of marketing to digital marketing, is expected to raise the question of whether cultural tourism can be connected to the digital form of marketing. By carrying out a research questionnaire, we aimed to study how culture and cultural monuments in the region of Western Macedonia are connected with promotion, advertising, and marketing in the digital space to boost cultural tourism in the region. The total convenient sample comprised 412 responses, with the majority coming from the wider area of Western Macedonia. The purpose of our research is to approach, understand, and present the necessity of connecting cultural heritage to the development of technology. As a result, we obtain the drawing of conclusions about the behavior of individuals regarding cultural tourism. Cultural organizations using social media can promote their work and achieve interaction with their audience.

Keywords Cultural tourism · Culture heritage · Cultural monuments · Social media · Digital marketing

1 Introduction

Culture is associated with tourism and with the intention of people to visit a monument or an archaeological site during a trip, in their effort to get to know the place better, and to enrich the trip with the intention of reducing it and developing it into an experience.

Cultural tourism is the evolution of this habit. Through this process, someone will organize a trip or an excursion with the main objective and, as a core, initially

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visit an archaeological site or a monument with cultural or cultural interest and content. Furthermore, to follow a cultural monument, it is necessary to be digitally transformed in order to introduce it as a product in the market to claim its share of the purchasing public and clientele. To achieve this, an organization must enter the digital world dynamically by following and using marketing strategies that will be displayed and promoted through digital marketing tools. This paper investigates people's interest in culture and monuments in relation to their tendency to organize a trip to a cultural destination. Additionally, it is projected or even organized with the help and contribution of digital marketing and promotion through internet tools.

2 Cultural Tourism

Alternative tourism is based on the principle of sustainability, which always respects nature and the environment. The most common forms include agrotourism, culinary tourism, conference tourism, health tourism, spa tourism, sports tourism, social tourism, marine tourism, cultural tourism, and religious tourism [1, 2]. The relationship between tourism and culture highlights the course of a very importance of convergence [3].

In addition, tourism is increasingly acquiring a cultural character, mainly through the development of cultural tourism and the enormous importance of promoting and selecting specific tourist destinations. Tourism, therefore, has become a distinct form of culture [3]. Cultural tourism includes various destinations and cultural activities, such as visits to UNESCO World Heritage Sites, architectural sites, battlefields and cathedrals, trips to museums or ethnic neighborhoods, tours of historic cities, and travel in various villages, including monuments and visits to festivals and cultural performances [4, 5].

In addition, Mousavi et al. [6] emphasize that cultural tourism presupposes various cultural events on the part of tourists, while it is considered a reflection of the socio-cultural relationship that exists between people. Many international organizations aim to protect and promote cultural heritage. This is because of the need to preserve cultural monuments due to damage and to protect them through appropriate security measures, so that they can be exposed to the public. This fact also demonstrates the special nature of cultural tourism [7]. Thus, plays an important role in preserving and promoting cultural identity to improve tourism consumption [6]. Cultural tourism has various subcategories, such as heritage tourism, cultural thematic routes, traditions, cultural cities, religious tourism, creative tourism, and festivals [8, 9].

Cultural tourism can significantly improve many sectors of society. Its aim is not only to attract the interest of tourists, but also to help spread the cultural heritage of the regions [10]. Most of the benefits of cultural tourism are focused on the dissemination of cultural heritage and tourism development in regions [11]

3 Cultural Heritage

Cultural heritage, as a concept throughout the world, can be characterized as complex and multifaceted, something that can be seen from its evolution over the years. The result includes a multitude of different dimensions and aspects [12]. The cultural heritage's ultimate goal is to achieve a harmonious coupling between the protection of natural resources and the corresponding cultural and historical heritage to achieve social cohesion and economic development [13].

At the same time, the great value of culture is emphasized because it is one of the most important development resources worldwide, and at the same time, a framework through which new business actions and tasks can be promoted. Therefore, various measures have been put in place with the aim of protecting and promoting cultural heritage to ensure the highest benefits for society [14].

Cultural heritage can be categorized as tangible or intangible. More specifically, material cultural heritage includes every material object created by a man in the past. The first is mobile, which includes all material cultural goods that, as soon as they are created, can be moved. The second sector is immovable, which includes material cultural goods [15]. On behalf of UNESCO, knowledge, expressions, representations, or skills that belong to the cultural heritage of any people are considered intangible cultural heritage. It includes nonphysical spiritual wealth such as language, knowledge, traditions, beliefs, customs, and folklore [16, 17].

4 Digital Marketing in the Cultural Field

Recently, marketing in cultural organizations, whether digital or not, has mainly been implemented in the form of relationship marketing, which focuses on the relevance that exists between the museum and the public and serves the needs of the former and the goals of the second [18, 19]. A museum should develop a proper digital marketing strategy to ensure its strong online presence [20] and provide new experiences to its visitors with the use of new technologies [21, 22].

All of this, combined with the changes seen over the last few years in the speed and ease of these interactions, is completely changing digital communication [23]. Therefore, Social Media offers every museum the opportunity to redefine its relationship with its visitors. In addition, they offer the opportunity to utilize them as a new type of open exhibition space and storage [24, 25].

According to Sotiriadou and Papadakis et al. [26], social media must be an active system to create new relationships between the public and museums. Through Social Media, museums use various interactive tools to reach the public and transform them from passive observers to active participants et al. [27]. Social media's utilization is the key to attracting a young audience. If cultural organizations adopt more social media, they will be able to claim greater visibility [28, 29].

5 Methodology

5.1 Data Collection and Analysis

The research was an online survey using an online questionnaire with 412 Greek respondents. In particular, 131 men, 277 women, and four other gender identity people of various ages from 18 years and above. The study involved an online survey that took place with Google Forms from 10th of June 2023 until 30 h of June 2023. The responses were anonymous.

The sample is satisfactory and has been collected by objective methods and random sampling techniques. It is also able to generalize and provide predictions for the rest of the similar population [30].

The questionnaire contained different scales to measure the variables, which were adapted from the works of several authors. All items were measured using a five-point Likert scale, where 1 indicated 'never' and 5 indicated 'always.' SPSS was used to answer the research questions guiding this study. An exploratory factor analysis was run on the frequency of mentioning cultural tourism and updating cultural events on social media to identify underlying factors.

The characteristics of the sample are presented in Table 1. Female respondents consisted for 67.2% of the sample. Most respondents (34.5%) were age category 35–44 years old. More than half of the respondents (63.3%) had an undergraduate or postgraduate degree. In addition, 51.7% were residents of Kozani. It is worth noting that 47.6% (n = 412) of the respondents stated that they used social media to organize a leisure trip. Furthermore, 38.1% chose to use social media to organize a trip to a cultural destination (Table 2).

5.2 Factor Analysis

A total of 58 variables were correlated with Cronbach's Alpha = 0.872, which was shown to be appropriate for factor analysis. The Kaiser– Meyer–Olkin measure of sampling adequacy had a very high value of 0,856, using the Rotation Method: Varimax with Kaiser Normalization. The final nine correlated variables had a Cronbach's alpha of.904. The final two-factor solution was very clean and explained 70.77% of the total variance. The results revealed two factors that present the influence of digital media on the promotion of culture and development of cultural tourism.

Social media and promotion of cultural heritage (variance 57.97%) and
Digital communication and cultural events (variance 12.79%).

The first factor, Social Media and promotion of cultural heritage, symbolizes the frequency mentioned in social media for cultural tourism, describes 57.97% with a = 0.899. According to our results, an overwhelming majority of Greek visitors believe

Table 1 Participant's demographics

Demographics (n = 412)	Percentage (%)	Frequency
Gender		
Female	67.2	277
Male	31.8	131
Self-identifies as a different gender people	1.0	4
Age		
18–24	16.3	67
25–34	13.8	57
35–44	34.5	142
45–54	21.9	91
55–64	10.7	44
> 65	2.7	11
Level of education		
High school or less	36.7	151
University/college	37.9	156
Graduate/professional	25.5	105
Place of residence		
Prefecture of Kozani	51.7	213
Prefecture of Kastoria	10.4	43
Prefecture of Grevena	10.9	45
Prefecture of Florina	12.9	43
Populated outside region of Western Macedonia	14.1	58

that social media contributes to the promotion of cultural heritage. Furthermore, they choose to use social media to organize leisure trips or trips to cultural destinations.

The second factor, digital communication and cultural events, includes the frequency of updating cultural events from social media, describes 12.79% with a = 0.795. According to our results, Greek visitors use social media to inform themselves of cultural events. Although they are not as familiar with visiting websites of cultural monuments and using tourist applications.

5.3 Independence Test

One of the most frequently used (and misused) nonparametric procedures in psychology, and the social sciences in general, is the chi-square analysis of contingency tables/as early as 1949, Lewis and Burke [31] cited no less than nine common errors made by practicing researchers who employed the chi-square test, which offers

Table 2 Cultural heritage—cultural tourism and social media

Sources of information of cultural tourism	Agree and strongly agree (%)
18. How often do you get informed about cultural events from [social media]	38.6
18. How often are you informed about cultural events from [The pages of cultural monuments]	14.6
18. How often are you informed about cultural events from [Tourist applications]	15.5
19. How often do you use social media to [organize a leisure trip?]	47.6
19. How often do you use social media to [visit a tourist attraction]	41.7
19. How often do you use social media to [visit a cultural monument]	48.1
19. How often do you use social media to [organize a trip to a cultural destination?]	38.1
19. How often do you use social media to [follow museum – cultural organization accounts?]	27.4
24. In your opinion, how much do social media contribute to the promotion of cultural heritage?	76.2

an updated review of potential pitfalls when applying the chi-square test and examines supplementary and alternative approaches.

The first test examined whether age is related to the use of social media to visit a cultural monument. The null hypothesis was that the two variables were independent.

H0: Age does not affect the use of social media to visit cultural monuments.

An alternative hypothesis was that these two variables are independent. H1: Age affects the use of social media to visit a cultural monument.

There is a correlation between age and the use of social media to visit a cultural monument, with a moderately strong and statistically significant relationship with prices, ($X2 = 32.89$, $p < 0.001$, $V = 0.2$).

Secondly, the review examines the relationship between place of residence and the use of social media to organize a trip to a cultural destination. The null hypothesis was that the two variables were independent.

H0: The place of residence does not influence the use of social media to organize a trip to a cultural destination.

An alternative hypothesis was that these two variables are independent. H1: Place of residence influences the use of social media in organizing a trip to a cultural destination.

There was a correlation between the place of residence and the use of social media to organize a trip to a cultural destination, with a relationship of moderate intensity and statistical significance with values ($X2 = 36.911$, $p < 0.002$, $V = 0.150$).

Finally, the public's assessment of the contribution of social media to the promotion of a region's cultural heritage was studied. The null hypothesis was that the two variables were independent.

H0: Education level is independent of the contribution of social media to the promotion of cultural heritage.

An alternative hypothesis was that these two variables are independent. H1: Educational level is not independent of the contribution of social media to the promotion of cultural heritage.

There was a correlation between educational level and the contribution of social media to the promotion of cultural heritage, with a low intensity and statistically significant relationship with values ($X2 = 22.756$, $p < 0.004$, $V = 0.166$).

6 Discussion and Conclusion

Several findings emerged from this study for future theoretical development efforts in cultural heritage literature. The effectiveness of social media as a marketing tool determines the attractiveness of tourist destinations. Research has examined the real value of social media in promoting cultural monuments. The aim of the study was to draw generalized conclusions that present the behavior of the inhabitants of the region of Western Macedonia in terms of cultural tourism. An overwhelming majority of Greek visitors believe that social media contributes to the promotion of cultural heritage. Additionally, they chose to use social media to organize a trip to a cultural destination. In particular, we propose to analyze a larger audience, coming from different prefectures of Greece, with the aim of drawing generalized conclusions that will reflect the cultural tourism behavior of the inhabitants of the country.

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Job Role Description and Skill Matching in a Rapidly Changing Labor Market Using Knowledge Engineering

George Stalidis and Selini Kyriazidou

Abstract The job market is continuously evolving and suffers from skill mismatch, while digital platforms for job seeking, human resource management and training planning are widely adopting intelligent matching engines. Efficient job description and successful skill matching require standard terminologies for job positions and their requirements/qualifications, such as the 'European Skills, Competences, Qualifications and Occupations' (ESCO). The aim of this paper is to search whether ESCO—as the most representative job-related information model—has been adopted in the current rapidly evolving job market and the degree in which standardized job roles and their related skillsets are in line with the content found in the current job ads. Additionally, we intend to identify possible missing elements of this framework, towards its wider adoption and advanced skill-matching recommendation systems. As a representative case, the study was focused on selected IT professions in the Greek labor market. To this end, we applied a text mining process to 400 job ads, in order to capture the skillsets required by recruiting companies. The identified requirements for the selected job roles were used to model part of the Greek IT labor market. This model was then compared with the suggested requirements of the ESCO framework. It was found that the degree of matching between the skills in ads and the skills suggested by ESCO, is notably small and that the skills frequently requested in current IT job ads that were not included in ESCO, were mostly related to recently developed technologies and to soft skills.

Keywords Job description · Skill matching · Text mining · Knowledge modeling

1 Introduction and Background of Research

The job market is continuously evolving due to major advances in economy, society and technology, and seems to suffer from problems like skill mismatch, skill shortage, over qualification and issues with talent management [1]. At the same time, modern

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digital platforms for job seeking, human resource management and training planning are widely adopting intelligent matching engines and data mining methods to automatically monitor the job market and to produce successful recommendations [2]. A generally accepted need for efficient job description and for successful skill matching is the global use of a standard terminology, in which job positions and their associated tasks, knowledge and skill requirements are unambiguously described. In their review, Rentzsch and Staneva [3] present the most important skills taxonomies, which are available today for this purpose, together with representative labor market-related applications. The 'European Skills, Competences, Qualifications and Occupations' (ESCO) (https://ec.europa.eu/esco/portal/home) is one of the most notable internationally influential job-related standardizations in digital form. It is an active European project which develops a dynamically refined multilingual classification of occupations, skills, competences and qualifications, that ensures a consistent understanding across Europe of these three dimensions and captures the links among them.

ESCO has already considerable impact and has been adopted as a basis by a considerable number of research and application development projects in the areas of labor market analysis, human resource management, skill-matching and job seeking services [3]. However, it is argued that companies do not make full use of standard terminologies, neither within their HR activities nor in their recruiting processes, leading to proprietary and ambiguous job advertisements. As an effort to investigate the reasons behind this, the question is raised whether the ESCO framework is expressive enough and up-to-date, in order to cover the needs of rapidly evolving disciplines such as Information and Communication Technology (ICT).

The aim of this paper is to search whether ESCO—as the most representative existing job-related information model—is applicable in the current job market and the degree in which its content (i.e. job roles and related skillsets) is in line with the content found in the current job postings. Additionally, we intend to determine if ESCO is up to date in a continuously evolving labor market. As a representative case of a rapidly changing and demanding area, we applied our research to the Information and Communication Technologies (ICT) field in the contemporary Greek labor market (post-Covid and post-economic crisis). More specifically, the research questions are:

- Which are the latest trends in the knowledge, skills and competencies that Greek companies in the ICT sector require?
- Which technologies are more frequently asked in job postings?
- In which degree do job descriptions in job ads and job seeking platforms make use of standard terminology?
- Is ESCO aligned with the current findings in job postings as regards the required skills in the ICT sector in Greece?

Within the work presented in this paper, we firstly applied a text mining process to a large number of job ads in the IT sector in Greece, in order to capture a "live" picture of the skillsets required by recruiting companies. The selected job roles and extracted requirement terms (knowledge, skills and soft skills) were used as a basic model, which was then compared with the suggested requirements of ESCO.

2 Literature Review

2.1 The Contemporary Labor Market, Skill-Matching and the Need for Standardized Vocabularies

In the contemporary dynamic, globalized and digitalized labor market, important challenges are related to skill matching, i.e. the successful matching between employers and job seekers. Considering the enormous amount of positions and candidates, and the complexity of the elements to be considered, it is clear that there is high demand for intelligent and efficient computerized methodologies on behalf of companies and job search services. On behalf of the individual job seekers, modern services can analyze their professional profile and recommend opportunities, as well as indicate the knowledge gaps and skills they are lacking to succeed in their career [4]. The wide adoption of search engines and intelligent matching systems, demanded a standard terminology to be used globally as a solid basis for information exchange. The same is true for digital platforms for human resource management and training planning, where it is necessary to unambiguously describe job roles and to link them to skills, knowledge and qualifications in a consistent and machine understandable form.

On the level of public organizations, a crucial sector is skills Intelligence i.e. the monitoring and analysis of labor market, forecasting and identification of misalignment between job offer and demand. The size and complexity of the skill mismatch problem [1], gave an additional boost to efforts for standardization of terminology, consistency and semantic clarity [1, 5, 6]. Standard terminologies should be able to accommodate the changing requirements of knowledge and skills and be expressive enough to capture critical elements of job roles. At the same time, job role description should be consistent across different countries and cultures.

The current research work is focused on the labor market in Greece and, in particular, on the sector of Information Technology (IT). The specific field has been selected as a representative case of a rapidly evolving field, which is particularly active in job offering/seeking and with significant challenges related to talent management and skills shortage. The labor market of IT in Greece has similar structure with the corresponding international market. Although a relatively new sector, it has already been rapidly developed [7]. In addition to domestic companies, large international companies have established local departments, employing large numbers of employees with qualifications similar with those in the international market. It is also notable that the recent pandemic has introduced the element of tele-working, it has affected the working relations and influenced the mix of required skills [8]. According to a recent survey by Mariani et al. [9], the most frequent requirements found in job openings in IT are: communication, involvement and responsibility, problem solving and analysis, team working, and the formal qualifications: previous work experience, knowledge of the English language, and education degree in related field.

2.2 Job Description Taxonomies and Standards

The standardization of job descriptions started several decades ago, as they were important for statistical studies, forecasts and policy formulation. The "Standard Classification of Occupations" (ISCO) (https://www.ilo.org/public/english/bureau/stat/isco/) of the International Labor Organization (ILO) is an important such classification still in use (latest version ISCO-08). The 'European Skills, Competences, Qualifications and Occupations' (ESCO) (https://ec.europa.eu/esco/portal/home) and the Occupational Information Network (O*NET) (https://www.onetonline.org/) are the most internationally influential job-related knowledge bases. From the one side they describe jobs (occupations) organized in hierarchies, from the other side they describe skills/knowledge elements and qualifications, and also provide links that inform which occupations are related to which Skills & Competences and Knowledge.

In this work, we focus on the European standard ESCO, rather than the American O*NET. ESCO is an active project which supports a dynamically refined multilingual classification that ensures a consistent understanding. It describes around 3000 occupations, 13,000 skill and competencies, and the relations among them in 27 languages. De Smedt et al. [5] describe the structure of ESCO, which covers three different pillars: (i) occupations, (ii) knowledge, skills and competences, and (iii) qualifications. In each one, concepts and terms are structured in hierarchies and given unique codes and identifiers on the semantic web, so that essential knowledge relevant to the labor market is represented in a standardized and machine readable form using the Linked Open Data (LOD) framework. In Fig. 1, the knowledge, skills and competencies associated to the occupation of ICT application developer are presented in tabular form. These terms are standardized and readable by computerized engines and additional information is provided e.g. for which other occupations is a skill essential.

ESCO has been used by multiple projects and researchers as a basis for job related terminology and as a knowledge base of the European labor market [3]. It has been used e.g. by Europass as a tool to record the skills and professional experience of third-country nationals in a standardised way, by the Organisation for Economic Cooperation and Development (OECD) as a basis for analyzing skills supply and demand, and by the openSKIMR project (https://openskimr.eu) [4] to inform their algorithms for skill profile analysis and individual career planning.

In their research work, given the rapid technological change, Chiarello et al. [10] emphasize the importance of the timely updating of ESCO. In order to investigate whether it is in line with the latest needs of industry 4.0, they measure the degree of

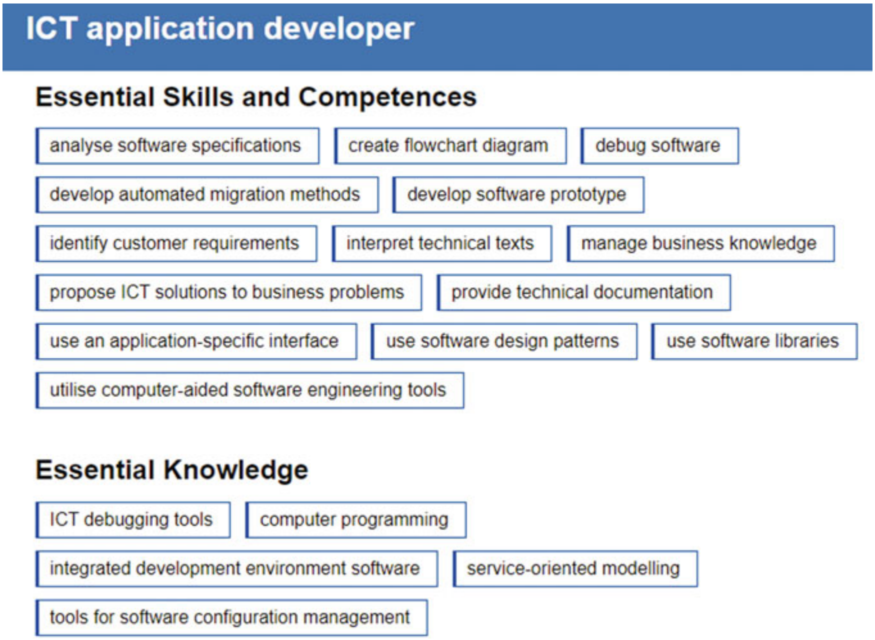

Fig. 1 The knowledge, skills and competencies associated to the occupation of ICT application developer (extract from ESCO page)

alignment between the ESCO taxonomy and the latest technological trends, as found in scientific literature. They concluded that most of the top-80 relevant technologies found in papers are also included in ESCO.

2.3 Technologies for Taxonomy Building and Skill Extraction

Ontologies are used widely as knowledge modeling tool to organize and describe job related knowledge. Their purpose is to allow advanced computerized matching based on semantics rather than keywords. Khobreh et al. [6] adapted the generic Neon ontology development methodology to an ontology-based framework for systematically expressing the knowledge, skills, and abilities which are prerequisites for jobs, further extending it to links with vocational education and training.

As regards the development of job framing standards, the two major approaches are the expert-driven and the data-driven ones. ESCO and O*NET are developed and maintained by domain experts, organized in working groups within the framework of large projects. Since this approach is highly demanding in human effort, considerable research is performed in automatic knowledge extraction from data, employing text mining and other machine learning methods [3]. The data-based approach has been adopted by large companies in the field of labor market, such as Google and Linkedin, which create data-driven ontologies by mining large volumes of advertisements. The source in this case is the unstructured text from job ads, listings of job offers, comments in social media or even reports and literature. A knowledge engineering process identifies terms, recognizes their semantics and structures the resulting information by building appropriate knowledge bases. These constructed proprietary knowledge bases are usually components of a more complex knowledge model, which is linked to existing standard ontologies, such as the case of Cloud Talent Solution, developed by Google and used inside the job search feature of the Google search engine (https://cloud.google.com/blog/products/gcp/cloud-jobs-api-machine-learning-goes-to-work-on-job-search-and-discovery). Their approach was to link the O*Net ontology with their own proprietary one, which is built by extracting occupation descriptions and skills from hundreds of thousands of company websites. The methods reported in the literature for automatic extraction of job related terms and of building semantic-based knowledge bases vary from simple text mining processes to machine learning methods based on deep learning. Representative methodologies are presented in [2, 11], while a review of semantic mining methods is provided in [12].

3 Analysis Methods

The analysis performed within this work, included 3 parts: (a) Automatic extraction from job postings of job titles and the associated knowledge, skills and qualifications using text mining techniques, in order to capture the current labor market trends. (b) Retrieval from ESCO of the corresponding occupation title and related skills, expressed in standard terminology. (c) Comparison between the automatically captured picture and the content of ESCO, in order to investigate the degree of alignment.

The input data were postings published in the largest and most widely used job finding sites active in the Greek market, like indeed.gr, carrerjet.gr and jobfind.gr. The data collection was performed within the period June to October 2022, using a web crawling application. The keywords used were software application developer and programmer (in Greek). Filtering was applied to remove duplicates, resulting to a final number of analyzed postings of 403. The text mining process was implemented in RapidMiner Studio (https://rapidminer.com/) using the Text Processing extension. The process included tokenization (splitting the text into a sequence of tokens), decapitalization, filtering (removal of webpage tags, symbols and stopwords e.g. articles, and etc.), creation of n-grams (sets of more than one word), and frequency counting. The parametrization was optimized after some experimentation with the size of n-grams, the minimum frequency and the stopwords.

In parallel, we retrieved from ESCO the suggested knowledge and skills & competencies associated with the occupations of programmer and ICT application developer. These were retrieved in the standard coded terminology, as offered by ESCO, in machine understandable form (JSON file). Both the essential and the optional knowledge and skills & competencies were retrieved. The comparison between ads and ESCO was performed by a software component (in Java) using the Sørensen–Dice method with the similarity coefficient adjusted to 70%. The results were observed and a limited manual curation was applied to correct some missed matches.

4 Results

The most frequent requirements for programmers and software developers in Greece were technical knowledge related to web development, mobile computing and databases. Considerable requests for soft skills were also found, such as team spirit, consistency, analysis and responsibility, as well as formal qualifications such as English language and higher education degree. The comparison between the skillsets included in ESCO and the ones found in ads showed that the degree of matching is notably small. Only 53% of the ESCO terms appear in ads, and many—even essential—ones do not appear at all (e.g. content development processes, compliance on cloud, Saas model, and others). Most of the matching terms appear in ESCO as optional (see Table 1). Furthermore, it was interesting that the skills missing from ESCO were mostly related to recently developed technologies and to soft skills.

Table 1 Frequency of ESCO terms in job ads

Knowledge term in ESCO	Type of knowledge/skill	Matching term in job ads	Frequency
Php	Optional	Php	234
Sql	Optional	Sql	224
Javascript framework	Optional	JavaScript framework	209
Css	Optional	Css	189
Java	Optional	Java	86
Python	Optional	Python	65
Software application environment	Optional	Software development	46
Android	Optional	Android	32
Ajax	Optional	Ajax	20
Ios	Optional	Ios	20
Cyberspace security	Essential	Cybersecurity	11

5 Discussion and Conclusions

An important finding from this study was that, although ESCO was widely used in research and by large platforms, proprietary free language was used in the majority of job ads posted in the IT area in Greece. The matching between the skillsets suggested by ESCO and the requirements frequently found in ads was smaller than expected. This misalignment was partly explained by the ambiguity of the free-style descriptions, unprecise terms and the mix of English-Greek language used in the Greek job postings. The implemented methods for analyzing job postings showed limitations and called for tuning and some manual intervention. Although more sophisticated methods have been reported [2, 11], it was clear that automatic skill extraction from free-style descriptions poses challenges and allows errors. This was a strong argument in favor of conformance to standard taxonomies. Considering the value of job description clarity for both companies and job seekers, it is suggested to employers and human resource managers to fully benefit from existing standards like ESCO.

Another finding was that the above misalignment was also attributed to substantial differences between the elaborate work of expert groups and "real time" data-driven updates. Thus, despite the dynamic nature of ESCO, an additional updating mechanism is indeed essential in rapidly evolving fields. It was therefore confirmed that all stakeholders involved in skill matching and labor market analysis can greatly benefit from a component for knowledge extraction from data and dynamic model building, in order to keep up with rapid changes.

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Exploring the Impact of Blockchain Technology on Branding in the Luxury Spa Tourism Industry

Dorin-Cristian Coita and Diana Teodora Trip

Abstract In the world of luxury spa tourism, brands offer unique value propositions that make a spa different from all the others. Luxury spas should use technology to attract guests, such as integrating blockchain technology to enhance brand trust and authenticity. Blockchain technology can influence branding by enhancing trust, improving loyalty programs, and addressing trust issues in the digital space. It can make the luxury spa tourism industry more efficient, transparent, and trustworthy. It can also help spas better meet their customers' needs and attract new customers worldwide. A systematic review of the pertinent academic literature was undertaken to delineate the constituent components arising from the integration of blockchain technology and their prospective impact on branding within the luxury spa tourism domain. This comprehensive analysis encompassed scrutiny of 50 scholarly articles focused on the application of blockchain technology in tourism. Through a rigorous examination of this corpus, 24 recurrent facets were identified, having the potential to mold the landscape of branding in the luxury spa hospitality industry.

Keywords Blockchain · Branding · Luxury spa tourism

1 Introduction

The luxury spa tourism industry is a growing and competitive market. To thrive in this industry, luxury spas must build strong brands that are meaningful to their target audience. Blockchain technology is among the technologies that have the potential to revolutionize and improve the way luxury spas brand themselves.

Blockchain, or so-called distributed ledger technology, can be used to store and share information in a secure and transparent manner. This usage makes it ideal for various applications in the luxury spa tourism industry, including enhanced security, traceability, transparency, and accountability. Blockchain can track the authenticity of spa products and services, ensuring customers get what they pay, and it can be

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used to provide customers with real-time information about their spa treatments and experiences. Moreover, it can improve customer service, create personalized customer experiences, and provide better customer support.

These applications can improve the overall branding experience for luxury spas. Using blockchain technology, luxury spas can create a more authentic, transparent, and secure brand that resonates with their target audience.

This study explores blockchain technology's potential impact on branding in the luxury spa tourism industry. Based on a systematic literature review, it identified the key ways blockchain technology can be used to improve branding in this industry. The study will also discuss the limitations of blockchain technology and the challenges that luxury spas may face in adopting this technology.

The research aims to contribute to understanding blockchain technology's potential impact on the concept of branding in the luxury spa tourism industry. Luxury spas could use the study's findings to develop strategies for using blockchain technology to improve their branding.

2 Methodological Considerations

This research study used a systematic review of the relevant academic literature to identify the constituent components arising from the integration of blockchain technology and their prospective impact on branding within the luxury spa tourism domain. The authors scrutinized 107 scholarly articles focused on the application of blockchain technology in tourism in the last five years (from 2018 to 2023). After carefully reviewing the literature, they identified 50 articles that discussed how blockchain technology can be used in the luxury spa tourism industry. Within these articles, they identified 24 recurring elements that have the potential to change how luxury spas brand themselves. The search terms used were "blockchain," "tourism," "luxury spa," and "branding." The authors analyzed the titles and abstracts of all articles in the search to identify those relevant to the study. The full text of all relevant articles was then reviewed to determine whether they met the inclusion criteria. The criteria were as follows: (1) The article must be a peer-reviewed journal article; (2) The article must focus on the application of blockchain technology; (3) The article must discuss the impact of blockchain technology on tourism and branding. Fifty articles met the criteria and were included in the final analysis of the facets. The authors used a thematic analysis to identify the recurrent facets of blockchain technology that have the potential to impact branding in the luxury spa tourism industry.

3 Branding in Luxury Spa Hospitality

A luxury hotel is "a lodging establishment that offers premium services, and that places importance not only on the physical aspect of the hotel but also on the non-physical aspects, including consumer emotional attachment with the hotel and its employees" [1, p 2]. But luxury hospitality is no longer about "grand dames," reminiscent of a time when opulent hotels were synonymous with luxury and sophistication. As basic needs are met, people expect increasingly sophisticated experiences that represent the combination of products, services, ambient spaces, and provided information. Luxury hospitality aims to deliver delight and establish prestige through innovation, constantly pushing the boundaries of creativity and technological advancement. The goal is to increase its authenticity perceptions and to attract the younger group of would-be spenders. In restaurants and spas, well-being extends beyond the spa to daily touchpoints during a guest's stay, including noise reduction, sleep quality, access to quality water, light, scent, better use of outdoor space, and a shift away from traditional public fitness facilities [2].

In luxury spa tourism, spas need to develop a strong brand identity. Brands offer unique value propositions that make a spa different from all the others, promise an experience that guests cannot find anywhere else, and value every detail of the guest experience. The components of a hospitality luxury brand include brand loyalty, perceived quality, brand image, brand attitude, purchase intention, brand satisfaction, brand love, consumer-brand value congruity, and service quality [3–6].

As the new generation of luxury consumer preferences evolves, a luxury spa hotel should use technology to attract guests. To deliver exceptional experiences, brands must creatively merge products and services, such as integrating blockchain technology to enhance brand trust and authenticity. Hoteliers have traditionally focused on human interaction to provide a luxurious hospitality experience. However, we will examine how they can adapt their digital strategies to maintain a customer-centric approach in the face of this challenge.

For most operators, shifting to a digital environment primarily involves transferring analog processes without achieving true digital transformation in operational procedures. Besides blockchain, there are mentioned smart mobile technologies, mobile connectedness, and real-time synchronization [7], high-touch guest experiences, technology as a platform for co-creation [8], e-service scopes as a tool for innovation and improvement in delivering omni channel experiences for luxury customers [9].

4 Blockchain Technology and Branding in Luxury Spa Hospitality

In a comprehensive analysis, we carefully examined 50 scholarly articles that focus on the application of blockchain technology in tourism. Through a rigorous examination of this corpus, we identified 24 recurrent facets that have the potential to mold the landscape of branding in the luxury spa hospitality industry. Concepts are identified in bold and then the potential for influencing branding in luxury spa is presented after every concept. **Sustainable practices verification**: blockchain can be used to verify the sustainable practices of luxury spas, enhancing their credibility and appeal to eco-conscious tourists [10–12]; **removal of intermediaries**: blockchain technology in luxury spa tourism eliminates the need for intermediaries between travelers and service providers. It can solve problems such as inefficient payment systems and extra costs [13–15]; **power shift from suppliers to consumers**: the use of blockchain technology can improve the market structure by shifting power from suppliers to consumers in luxury spa tourism [1, 10, 11, 16]; **transparent booking**: blockchain can make the booking process more transparent by providing a decentralized ledger of all transactions, making it easier for customers to verify their bookings [17–19]; **enhanced security**: blockchain technology can provide a secure platform for transactions, reducing the risk of fraud and enhancing the trust of luxury spa tourists[20–22]; **smart contracts for packages**: blockchain can use smart contracts for spa packages, ensuring that customers receive the services they have paid for [23–27]; **energy consumption transparency**: blockchain can provide transparency in the energy consumption of luxury spas, appealing to eco-conscious tourists [28]; **supply chain transparency**: blockchain can bring transparency in the supply chain of spa products, ensuring that they are ethically sourced and of high quality [29–31]; **simplification of trading**: blockchain capabilities allow organizations to develop methods that simplify trading for smaller and medium-sized industries in the luxury spa tourism businesses [10]; **direct communication**: blockchain can facilitate direct communication between luxury spas and tourists, enhancing customer service and satisfaction [12]; **real-time availability check**: blockchain can provide real-time updates on the availability of spa services, enhancing the convenience of booking processes [17, 32]; **peer-to-peer payments**: blockchain can facilitate peer-to-peer payments, reducing the need for intermediaries and lowering transaction costs [15, 33]; **fraud prevention**: blockchain's immutable nature can help prevent fraudulent activities, enhancing the trust of luxury spa tourists [34, 35]; **tokenization of services**: blockchain can enable the tokenization of spa services, allowing customers to purchase tokens that can be redeemed for services [14, 15, 25]; **identity verification**: blockchain can provide a secure and efficient method for identity verification, enhancing the security and convenience of check-in processes [36]; **traceability of service history**: blockchain can provide a traceable record of a customer's service history, enabling personalized service delivery [24, 30]; **efficient cross-border payments**: blockchain can facilitate efficient cross-border payments, making paying for spa services easier for international tourists [13]; **seamless insurance claims**: blockchain can streamline the process of insurance claims in case of cancellations or disputes, providing a hassle-free experience for tourists [24, 37]; **decentralized reviews**: blockchain can provide a platform for decentralized reviews, enhancing the credibility of customer feedback [25, 38]; **secure storage of health records**: blockchain can provide a secure platform for storing health records, enhancing the personalization and safety of spa services [39, 40]; **loyalty programs**: blockchain can be used to create more secure and efficient loyalty programs, encouraging repeat visits and enhancing customer loyalty [41–43]; **personal data protection**: blockchain can provide a secure platform for storing and managing personal data, enhancing the privacy of spa tourists [22, 40, 44]; **enhanced trust in gift cards**: blockchain can enhance the trust in gift cards by providing a secure and transparent platform for issuance and redemption [45]; **prevention of mediator entry**: blockchain technology prevents mediators from entering luxury spa tourism, eliminating the market's power [46].

5 Discussion and Conclusion

The luxury spa tourism industry is evolving, and with it, so is how luxury spas brand themselves. In the past, luxury was associated with opulence and extravagance. Nevertheless, today, luxury is more about creating authentic and unique experiences that meet the needs of a new generation of consumers. Luxury spas must develop a strong brand identity that resonates with their target audience. This identity should be based on understanding what luxury means to their customers and how they can deliver the best possible experience.

Blockchain technology promises to revolutionize the way luxury spas brand themselves. Through the adoption of blockchain technology, luxury spas can enhance the authenticity, transparency, and customization of their service offerings for clientele. This technological framework affords customers an augmented level of engagement within the realm of business processes, information accessibility, and decision-making authority, thereby also facilitating the provision of incentives as a manifestation of their active participation in business relationships.

Our study has a few limitations. First, the study is limited to the articles that were identified in the search. It is possible that other relevant articles were not identified. Second, the study is limited to the English language. It is possible that other relevant articles were published in other languages. Third, the study is based on a secondary analysis of existing literature. It is possible that the findings of the study would be different if primary data were collected.

Conclusion: This study explores the impact points of blockchain technology on branding in the luxury spa tourism industry. The findings suggest that blockchain technology can revolutionize how luxury spas brand themselves. By adopting blockchain technology, luxury spas can create unique and authentic experiences for their customers, build relevant relationships with their customers, and increase customer engagement and loyalty.

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Digital Heritage Narrative: Principles and Practice. The Case of the UNESCO-Listed Archaeological Site of Philippi, Greece

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Abstract With stories being fundamental to human nature, digital storytelling is the ideal space to incorporate the most diverse media in support of the stories. Under the umbrella of the EU funded project BSB/831/HERiPRENEURSHIP "Establishing long-lasting partnerships to upgrade heritage-based offers and create new investment opportunities in tourism and the cultural and creative industries", a new digital storytelling pattern has been introduced for the UNESCO-listed archaeological site of Philippi, Greece. The main aim is to elicit cognitive-emotional experiences at places of cultural significance by effectively communicating cultural values to non-captive audiences. A multimedia eBook, Birthplace of the Empire, strives to weave a cohesive digital cultural heritage narrative for non-captive audiences focusing on the cognitive-emotional aspect and by exploiting the powers of the Cultural and Creative Industries to support interactivity with e-readers and onsite visitors. We argue that (a) by relying on the socio-historical content to deliver the sense of the place, (b) by creating the unexpected art momentum in the digital form, and (c) by managing cognitive loads to facilitate perception and understanding, a new digital artwork is created, where the audience is inspired to engage in critical thinking and replace gazing with participatory practices in the cultural space. The provision of novelty, variation, surprise, and exploration ensures allows a multicultural and multigenerational audience to discover site values and assuming different hero roles within the realm of Graeco-Roman and Christian Philippi.

Keywords Digital storytelling · Sense of place · Human cognitive architecture

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1 Introduction

Storytelling, the tool for the promotion of learning since ancient times and nowadays technology-supported, offers a learning in disguise practice, when it achieves to create a transformative experience [1, 2, 3: 2, 4: 86–87]. This experiment follows Dewy's definition: "experience is the result, the sign, and the reward of that interaction of organism and environment which, when it is carried to the full, is a transformation of interaction into participation and communication" [5: 22]. Consequently, if an experience is not transformative, then is not an experience; this is the leading principle for the design of the experiment in question. Even before the COVID-19 pandemic, sites, museums and collections have struggled to promote learning and enjoyment, but not always: while some assets are silent, thus, unable to convey their significance to visitors, some other are mediated to facilitate cognitive and cultural encounters with their audiences [6: 2–3, 7: 2–3, 8: 1]. It is common knowledge there is a rising tendency to increasingly integrate information and access heritage contents by providing various forms of software applications for visitors to use during their visits. However, we argue that (a) many of the applications focus on providing timely information about museum features such as exhibits, demonstrations and services, but not build a ground for a meaningful interaction with the objects, their significance for the audience and their hidden meanings and (b) that the rising tendency to rely on technology to convey cultural information off- and onsite, does not necessarily leads to the acquisition of knowledge and the production of a heritage-driven value chain through shared practices: advanced Information and Communication Technology (ICT) applications (apps, platforms) cannot convey meanings, if void of appealing and appropriate content, and content cannot elucidate the audience if it disregards the human cognitive processes. We further argue that c) the belief the production of digital storytelling is affordable and inexpensive as it only needs the acquisition of software and not special technical and artistic skills, that go beyond the capabilities of the average user, is a widespread fallacy. The design of the eBook Birthplace of the Empire follows the argument that the eye is not enough. The idea, writes Kant in the Kritik der reinen Vernunft, is a necessary concept of reason to which no adequate object can be given in the senses [9: 81–96]. Therefore, what we concretely see or perceive does not produce ideas but is embedded in pre-existing ideas that frame it and render meaning.

2 Literature Review

The term digital storytelling was coined by Atchley in the 80 s, who began using multimedia and adapted storytelling techniques through film, video, music, and photography [10: 26]. Since then, literature is following a constantly changing knowledge ecosystem [11–15]. High quality multimedia, designed to support the meanings and values of sites, objects and artworks, e.g., the story and not data, require complex audiovisual technologies,—and consequently related skills—which synthesize different types of digitized objects into meaningful dynamic compositions and integrate the whole into a cultural message. For each intended experience, a database of documents is not only a storage space, but an opportunity to spread knowledge and create culture if it is transformed into a compelling story. While retaining their tangible artifact nature, documents, in graphic design, gain a new life, a new meaning, appear and disappear after a moment. This approach allows for quality results but is directly dependent on the performance of highly skilled professionals operating in the most diverse sectors.

Created in this way, the multimedia-driven story fits its prerogatives in production and distribution objectives containing sustainability carriers to create opportunities for connections with both e-readers and visitors at heritage places. However, despite being extensively utilized it is not structured, neither researched as communication pattern, neither taught in the VET or HED [16: 24–25, 17: 3]. From a technology viewpoint the multimedia supported digital narrative is an indisputable act of progress, however, technological advancements do not ensure the quality of contents, visitor learning and the shared cultural practices. Thus, it is needed to study the iconological potential of cultural significance and repurpose meaning to a new visual and communication paradigm for non-captive audiences.

An improved understanding of heritage is a necessary condition for the sustainability condition, the meaningful engagement of the visitors and the dissemination of heritage values. At the same time while technologies are accessible by the average visitor, there is a dearth in research how the cognitive-emotional experience is generated in the creative industries, how to validate heritage contents and how to design accessible content for non-captive audiences [18, 19]. This paper presents the design of a multimedia eBook as an experimental approach to narrate the UNESCO listed archaeological site of Philippi in Greece, which currently lacks a nodal point for communicating the site values to a multigenerational and multicultural audience.

3 Research Methodology

Under the umbrella of BSB/831/HERiPRENEURSHIP funded by the JOP CBC BS 2014–2020 Program, field research has been conducted in 2021 across 6 UNESCO properties in Greece, Romania, Bulgaria, Moldova, Georgia, and Turkey. In Philippi three different questionnaires have collected data on both the demand and the supply side. Regarding the supply side: (1) A questionnaire examining the supply side issues has been designed to collect the views of 30 digital suppliers operating in tourism and the cultural and creative industries through qualitative interviews; (2) 30 stakeholders from the 3 levels of governance and the civil society have been approached through qualitative interviews. Regarding the demand side a questionnaire has been designed for both in situ and dislocated visitors. 60 visitors at the archaeological site have been approached through qualitative research.

4 Application and Discussion

The results have revealed that while stakeholders and heritage authorities follow the trends of transformations and desire digital storytelling to promote the UNESCO properties, they are not knowledgeable of the requirements for the creation of compelling contents and are often impeded to select appropriate experts by the nature of the public procurement procedures, which in principle impose the selection of the lowest offer. These limitations result in the production of low-quality applications, which instead of promoting the sites lead to the direct loss of audiences, especially among the young, and further frustration of stakeholders combined with a dismissive attitude for technology providers. On the other end, technology suppliers focus on the technical aspects and do not allocate efforts on the quality of contents, unwilling to pay a price for research, expertise, and artistic input, arguing that the public procurements in the cultural sector offer only a minimal or no profit at all. It is also necessary, to bridge the gap between individuals with skills in humanities and skills in technology. Further, the field research has shown that there is no common ground as to what “digital storytelling” is: for the technology providers the liability for contents lies with other experts and stakeholders/authorities, while the latter, have little appreciation for “hopping avatars used to historic personalities, a sacrilege!” Also, presentations generated by the supply side in the project area has little affinity to human cognition, and without knowledge of it, the educational effort is futile [20, 21: 17–25, 22, 23: 263–264]. Under this viewpoint, it is not a mystery why Philippi remain silent and without connections for visitors. The visitor survey in Philippi indicated that the common request in all six countries, is to enhance both the onsite and the offsite cultural experience and improve the audience’s creative capabilities and cultural capital. To propose means for a value-driven conceptual framework to communicate with non-captive audiences, three principles are applied: (a) the conditions under which immersive experiences take place in heritage settings from a human cognitive architecture point of view applied to non-captive audiences; (b) the criteria for allowing authenticity come to prominence without alienating the historical sources; (c) the decongestion of the human working memory from extraneous cognitive loads leaving spaces for creativity and interaction. Accordingly, 10 monuments have been selected as per the UNESCO significance criteria [24: 77–95], whose individual values constitute the quintessence of Philippi.

Ten multimedia supported stories, one for each monument, created are seeking to ensure “immersivity” and identification possibilities among the audience [5: 138]. Therefore, as such, they are not presented in a descriptive fashion, but apply CTL principles extensively utilizing universal values to underline monument meanings and inspire visitor interaction via the embedded social media. All stories are linked together in the greater story of Philippi. Onsite navigation is ensured via the Google Map. Designed for mobile devices, the eBook is utilizing a scroll-down functionality, includes sophisticated animations and interactive images, which are intentionally selected to support the sub-sections of each story.

Following the principles of the cognitive load theory, all narratives have been extensively tested against unnecessary cognitive loads using test readers. A matrix has been developed to replace expert jargon, but not at the expense of the germane cognitive load [20: 58–71]. A database of 2.534 documents including audio-visual files created at the archaeological site of Philippi, historical sources and artworks has been created to support the eBook production. 10 Statements of Significance have been authored according to the UNESCO criteria and a pilot project plan presenting opportunities for connections for visitors has been submitted to the stakeholder authority. The title of the e-Book, *Birthplace of the Empire,* corresponds to significance of the property formulated by ICOMOS [25] and the Nomination File [26], which considers that the battle of Philippi in 42 BC and the foundation of Colonia Iulia Augusta Philippiensis as a mini-Rome, has given birth to the Roman Empire on Greek soil along with the Christianization of Europe happening in Philippi by Apostle Paul for the first time. Distilling the essence from scholarly sources, the stories reflect historical known facts, usually dressed either using fictional characters to narrate or/and engage in dialogues, or historic personage engages in staged narratives monologues, or/and dialogues to deliver the message. In several cases important documents are used without staging, like the Speech of Alexander at Opis by Arian, works of Horace, Cicero, Paul, Marcus Aurelius, Eusebius form Caesarea etc. aiming to link the humanities with the audience in the dress of the digital multimedia. Accordingly, contents have been structured as follows, mixing history with the disbelief of the reality:

1. The Legacy Of King Philipp—The story unfolds the deeds of King Philipp II of Macedon, and the battle of Philippi in 43 BC. narrating the shift from the Republican to the Imperial Rome
2. Worthy Opponents—Calpurnius and Gaius at the height of the Roman colony in Philippi meet at arena of Philippi, and discuss Greek theater, Roman games, and virtues.
3. City of 4 Emperors—Fulvius Augur Pastor proudly presents Colonia Augusta Iulia Phillippensis, the city which flourished under Augustus, Claudius, Marcus Aurelius and Septimius Severus.
4. Roman Glory—Gnaeus Egnatius presents Via Egnatia, the 680 miles road, which links the west and east of the empire, and would become the artery for the spread of Christianity in Europe.
5. Bribery—Marius Cornelius Grotta narrates the events in the palaestra and at the symposium night, uncovering his sponsor desiring him get a bribe to lose an upcoming fight.
6. Meeting in the Roman Bath—A group of Romans from Philippi ensue in a philosophical discussion, while at the same time, the complex structure of the Greco-Roman bath unfolds in the eyes of the spectators both at architectural and societal level.
7. Conquer by This—Eusebius' text of Constatine's famous vision before the battle of the Milvian bridge in 312 AD presents the reasons for the spread of Christianity in the Roman world.

8. Equality—Lydia, the first baptized Christian on European soil, engages in a fictional monologue to present the basic tenets of Christianity. The Apostle Paul, Silas and Luke narrate their visits in Philippi preparing the audience for the turn of the late antiquity to a monotheistic religion.
9. Bishop Porphyrios—Allowing Porphyrios to narrate the Zeitgeist of his times, a "firsthand experience" in the early Christians times is materialized.
10. Birth of Empires—An adapted version of the speech of Alexander at Opis by Arian is used to present the deeds of Alexander and the creation of the Hellenistic world. The merchant Calpurnius Cato and the slave Eusebius living in Christian Philippi count the benefits of the pacified Roman empire in the blessed environment of fourth century AD.

5 Conclusion

Technology alone can convey the acquisition of knowledge and the production of a heritage-driven value chain through shared practices to audiences at places of cultural significance. The experiment presented here intends to model the creation of validated contents for the participatory cultural space according to the human cognition mechanisms. Thus, cognitive loads have been managed in register with the learning targets; only then an appropriate and articulated technology has been selected and applied.

The implication for digital storytelling is that when the conceptual language is substituted by mere moving images, the perception is moving in quick steps towards greater poverty of meaning and deductive possibilities. Those who work with images in the digital domain should have this as a daily ethic, those who work with interactive applications should have the honesty to realize that engaging a user's time does not simply and directly mean providing him with knowledge. This, to be hold true, has brought the insight which this experiment has followed: the integrated approach. From the content point of view, the individual items (facts, objects, digitized items, places, geolocations etc.) have been organized as a unitary structure; from the point of view of form, the integrated structure is communicated as a "narrative" and never as a description. It is telling a story with load-bearing cognitive and emotional elements that they make a case. This narrative form then submits the motivation—namely, the "desire", the ‘"interest", the "curiosity"—while the structural integration supports the cognitive factor, enabling the new knowledge, the audience is seeking, to be understood and assimilated. This understanding then in turn strengthens the motivation through the satisfaction that it brings, which in turn strengthens the attentional capacity, thus giving rise to a virtuous circle of support between cognition and motivation, the results of which are easily seen in terms of satisfaction, understanding and, above all, real learning.

This is the starting point of the work and one of the keys that allows new digital formats: to have disparate elements by type, origin, and quality, with a common theme and transform them from discontinuous elements into a set of elements interacting in cohesion, able to inspire the intellect and the imagination of the audience. What transforms the discontinuous elements in a perception of continuity is an extraordinary intrigue of codified rules, insights, and common sense, in which interactivity between work and viewer plays an essential role both as a purely intellectual and fantastic. New rules for understanding contents and anticipating events have been introduced by film and television, which extensively employed, they have allowed spectators to familiarize with and to provide personal guidance to understand the multimedia environment. These rules have become, in the information society, a new competence. Withing this vein we consider *digital* an environment in which to experience relationships, a way of conceiving and producing a product, and an entity requiring a conceptual structure to favor and privilege the relationships between facts and not the facts themselves. A considerable effort had been made to offer a multicultural and multigenerational audiences without prior knowledge, different types of exciting experiences in the complex archaeological environment of Philippi, still more research is required to consolidate the design modus.

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Breaking the Seasonality Barrier in Tourism. A Literature Review of Policies and Strategies

Sofia Gkarane and Chris Vassiliadis

Abstract Tourism seasonality is a widely recognized and significant concern in academic literature as it affects the majority of tourism destinations. This phenomenon, which is one of the most notable characteristics of tourism, is recognized as a problematic issue which leads to negative economic and socio-cultural impacts during non-peak seasons, as well as environmental consequences during peak seasons. While it is acknowledged that tourism seasonality cannot be completely eliminated, the academic literature offers various policies and strategies to address and mitigate its effects. This paper aims to provide an overview of these initiatives aiming to effectively tackle seasonality in the tourism industry. Specifically, through an in-depth literature review from 2003 to 2023, this study identifies and analyzes the proposed approaches to shed light on the advancements of understanding and managing tourism seasonality focusing on the most recent trends. The selected papers, totaling 32 in number, are reviewed, categorized and analyzed based on the year of publication and the policies suggested. The findings will serve as a valuable resource for future-analysis and will also provide a decision-making guide for the tourism industry in effectively addressing seasonality.

Keywords Tourism seasonality · Policies · Strategies · Mitigation · Review

1 Introduction and Literature Review

Seasonality in tourism, characterized by temporal imbalances and uneven tourist flows, is a recognized challenge [1] that gives rise to adverse economic and socio-cultural consequences in off-peak periods, and environmental repercussions during peak seasons [1–3]. This phenomenon, which has undergone extensive examination including its definition, distinct characteristics, reasons, effects and strategies aimed at alleviating its impact on tourism destination, is a prominent characteristic of tourism. The current study will try to shed light on the evolution of policies and

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strategies proposed in academic literature between 2003 and 2023 to address tourism seasonality and will present outcomes from literature analyzed further below.

2 Research Methodology

This paper implements a literature review methodology to identify, assess, and synopsize relevant studies on seasonality in tourism. The review focuses on academic literature published between 2003 and 2023, exploring policies and strategies aimed at addressing seasonality's impact on the tourism industry. The selected articles are analyzed based on their year of publication and the policies proposed, enabling the identification of trends and advancements in understanding and managing tourism seasonality. Articles on tourism seasonality were gathered from academic databases using a content analysis approach by searching the keywords "seasonality in tourism", "tourism seasonality policies" and "mitigating seasonality in tourism". Although this paper mainly discusses recent trends, earlier papers, particularly those published before 2010, were used to establish a foundation and historical context for understanding the evolution of policies and strategies addressing tourism seasonality over the specified period. The following research questions were explored: (1) What are the prevailing policies and strategies proposed in academic literature to address seasonality in tourism from 2003 to 2023? (2) How have recent trends in understanding and managing tourism seasonality influenced the development of policies and strategies over the specified period? (3) How have the approaches to understand and manage tourism seasonality evolved over the past two decades? The selection of the articles was based on their relevance to describing policies to tackle seasonality. The articles were then categorized by proposed policies and strategies on addressing tourism seasonality.

3 Findings and Discussion

This study aims to shed light on the evolving landscape of mitigating tourism seasonality. The selected papers have been categorized based on the policies suggested and the year of publication. Table 1 serves as a repository of insights drawn from scholarly contributions during the specified period. It presents a chronological overview of key policies and strategies proposed by various authors to mitigate seasonality, providing valuable insights into the progressions of trends and strategies aimed at transforming the dynamics of tourism seasonality.

Turning the focus towards addressing the questions that guide this study, we begin by examining the range of policies and strategies aimed at addressing tourism seasonality. These include re-branding destinations for year-round appeal, developing niche and special interest tourism activities, promoting cultural and business events during off-peak seasons, emphasizing the importance of innovation, enhancing

Table 1 Policies and strategies for mitigating tourism seasonality (2003–2023)

Author	Year	Policies proposed
Ramos and Sol Murta [4]	2023	There is a recognition of the need to address seasonality and to identify markets and products that can help mitigate its impact
Soldatke et al. [5]	2023	Emphasis on the significance of considering multiple perspectives in the development and management of seaside towns
Berjozkina [6]	2022	Rebranding the destination for all seasons; developing niche, special interest, and cultural tourism activities; promoting business and cultural events during the low season
Garanti [7]	2022	Emphasis on the importance of creating alternative and special interest tourism products and services to reduce the reliance on traditional sun and sea tourism; stakeholders should focus on improving the quality and coordination among all tourism service providers, including transportation, accommodation, food, and attractions; the new Cyprus Tourism Strategy 2030 aims to holistically develop tourism offers with the involvement of local communities and stakeholders
Medina et al. [8]	2022	Emphasis on the importance of innovation in offsetting decreases in efficiency caused by seasonality
Vergori and Arima [9]	2022	The paper highlights the importance of air transport in reducing seasonality in Italy's tourism demand; addressing seasonality requires collaboration between the public and private sectors; policymakers should invest in improving transportation infrastructure and connectivity
Agius and Briguglio [10]	2021	Promotion of ecotourism; branding as nature islands; collaborative marketing diversification of tourism product; focus on perceived benefits; adoption of sustainable practices
Lozano [11]	2021	Intra-Annual flexibility in prices; intra-annual flexibilization of public prices and taxes; destinations' price-setting schedule; reducing variability of tourism demand
Rico et al. [12]	2021	Expand the Imserso Social Tourism Programme by offering more spots and higher subsidies to encourage travel during off-peak seasons
Senbeto [13]	2021	Aligning organizational cultures and values with regulatory processes could serve as a potential policy to influence hotels' response to seasonal variation in tourism, thereby contributing to the mitigation of the negative effects of seasonality on the industry

(continued)

Table 1 (continued)

Author	Year	Policies proposed
Olimovich et al. [14]	2020	Enhance tourism infrastructure and utilize marketing strategies to reduce prices; offer discounts; create new tourism products; organize events to attract visitors throughout the year; encourage collaboration among tourist organizations
Alshuqaiqi and Omar [15]	2019	Tourism destinations need to implement adjustment and mitigation policies, such as extending peak seasons and introducing offseason attractions
Ferrante et al. [16]	2018	Destinations should consider adopting strategic policies and marketing initiatives aimed at rebalancing tourism demand
Turrión-Prats and Duro [17]	2018	Destinations should employ strategic management and marketing policies to mitigate seasonality by minimizing peak-trough variation while targeting specific market segments for each season
Rosselló and Sansó [18]	2017	Understanding intra-monthly and intra-weekly tourism demand patterns can contribute to policies aimed at addressing yearly seasonality
Fernández-Morales et al. [19]	2016	Applying targeted marketing efforts utilizing a Gini index decomposition and graphical multivariate techniques to identify market segments
Cisneros-Martínez and Fernández-Morales [20]	2015	A focused approach based on tourist motivation and careful segmentation can be effective in mitigating seasonality
Connell et al. [21]	2015	Special events can be used as a tool to address issues of seasonality; careful planning, local community involvement, and diversified strategies can contribute to reducing the impact of seasonality
Butler [22]	2014	Extending the season; offering different attractions out of season; revamping the destination; making the destination unique and prestigious; adding a second main season; adding non-conventional tourist attractions
Cannas [23]	2012	Demand-side: product and market diversification; staggering school holidays; spatial redistribution of demand. Supply-side: Events and festivals; supply reduction
Pegg et al. [24]	2012	Diversification of offerings beyond the traditional winter ski season to attract visitors during other times of the year; developing and promoting year-round activities that cater to different seasons
Bigović [25]	2011	Structure of accommodation establishments; destination pricing policy; tourist product diversification and better flight connections

(continued)

Table 1 (continued)

Author	Year	Policies proposed
Cuccia and Rizzo [26]	2011	Effective cultural tourism policies to reduce seasonality should focus on both demand-side and supply-side approaches, integrate different heritage resources, promote collaboration, and involve various stakeholders in strategic planning
Karamustafa and Ulama [27]	2010	Lengthen the main season; create a variety of attractions and events; expand the range of tourist segments; implement differential pricing and provide tax incentives during specific periods; encourage staggered holidays; foster domestic tourism during less busy periods
2009 (Chung) [28]	2009	Strategic marketing efforts, including price differentiation and multiple-use strategies, are crucial for mitigating the negative impacts of seasonality;
Kastenholz and Lopes de Almeida [29]	2008	Differentiated marketing strategies should be employed based on the distinct market patterns associated with each season
Amelung et al. [30]	2007	Adjusting marketing strategies and balancing the impacts of climatic changes and institutional factors to mitigate the effects of seasonality
Koenig-Lewis and Bischoff [2]	2005	Boost demand during non-peak periods; decrease demand during peak periods; redistribute the demand across time; enhance the supply during peak periods
Andriotis [31]	2005	Efforts should be made to extend the existing tourist season into shoulder periods or create new seasons of tourism activity
Jang [32]	2004	Proposes using financial portfolio theory to find efficient segment mix solutions for mitigating tourism seasonality
Getz and Nilsson [33]	2004	Expansion of peak tourist season; coping and combating strategies; diversification of business activities
Koenig and Bischoff [34]	2003	Marketing strategies for off-peak travel; targeting business tourism; strengthening shoulder seasons

transportation infrastructure and connectivity, fostering collaboration between public and private sectors, implementing differential pricing and tax incentives, extending peak seasons, and offering alternative and special interest tourism products.

Recent trends in understanding and managing tourism seasonality have led to a shift in focus from merely extending the traditional peak season to adopting more holistic approaches, emphasizing the significance of collaboration among stakeholders and integrating sustainable practices.

Finally, initial approaches primarily revolved around extending the peak season and redistributing demand through staggered holidays or events. However, there is a shift now towards focusing on year-round attraction rather than solely extending peak seasons, including the enhancement of the overall tourism experience and the integration of local communities and stakeholders.

4 Conclusion and Implications

This paper extends the current knowledge by providing valuable insights into the evolution of approaches and trends in understanding and managing seasonality. The findings emphasize a shift from traditional methodologies focused on extending peak seasons to a more nuanced and holistic perspective that integrates sustainability, collaboration, and enhanced visitor experiences. It contributes to the field by offering a better understanding of the diverse approaches that have been proposed to address this complicated phenomenon, emphasizing the importance of collaboration, sustainability and local engagement. As regards the practical implications, this study acts as a guide for policymakers to make informed decisions in tackling the challenges posed by tourism seasonality.

5 Limitations and Future Research Directions

The focus of this study was primarily on policies and strategies while practical implementation challenges and stakeholder perceptions of these policies were not examined. Case studies and empirical investigations are needed to confirm the outcomes of these mitigation strategies in various tourism destinations. Also, future studies could explore the impacts and outcomes of the identified policies within different regional contexts to check their potential and effectiveness.

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Descriptive Research Approach to Show the Degree of Familiarity of the Tourist-Pilgrim with the Pilgrimage Route "Steps of the Apostle Paul" in the Digital Era

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Abstract New technologies have become an integral part of our everyday life. The possibilities they offer are now diverse, being at the same time effective and providing benefits by limiting processes regarding time, financial and administrative costs for users in the tourism sector. The scope of the present paper is the research of a specific religious tourist-pilgrim route in Greece—"Steps of the Apostle Paul"—and the degree of whether the tourists-pilgrims are familiar with that pilgrimage route. Thus, this study attempts to record the perceptions of Greek tourists regarding the religious product of the now established tour. This research approach emphasizes the degree of familiarity of tourists regarding the use of new digital media, while ultimately aiming to draw useful conclusions for administrative implementation and use. For this reason, an important point of reference of this research is the examination of the degree of contribution of variable new, user-friendly and smart digital applications to the creation of positive and unique user experience with emphasis on tourists of religious attractions in general.

Keywords Tourism · Religious routes · Apostle Paul · New technologies

1 Introduction

Tourism, has developed significantly, mainly after the end of World War II and more specifically since the 1970s, now being one of the most dynamic and rapidly growing sectors in the world economy. It is a phenomenon characterized by great composition,

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contributing to the economic situation of any country that has developed it or of the individual local society, on multiple levels [1].

Alternative tourism is one form of tourism. According to Lagos 2005, this form of tourism is directly linked to the sustainable development and protection of the natural and man-made environment, local tradition and culture. Based on this form, new frameworks for values and ways of life are still being sought. Alternative tourism can take various forms, religious tourism being one of them.

By religious tourism we mean tourism with some religious element. The religious tourist looks for places where religious elements can be found, such as religiously active or inactive buildings, monasteries, museums and exhibition sites of religious content, as well as areas where saints acted or passed from [2].

In Greece, the areas of religious interest are estimated at 280 according to official data from the World Tourism Organization (UNWTO, 2010) [3]. In these areas, one can find monuments, with temples dating from the early Byzantine to the post-Byzantine period, as well as monasteries and hermitages.

In addition to monuments, there are also routes marked by saints who acted and played an important role in the Greek world. One of these saints was the Apostle Paul, the Apostle of the Nations. The importance of the Apostle Paul's work arouses the interest of people to discover the places where he passed from and acted.

The Apostle Paul is one of the most important personalities of the early Christian period. He is known by the name "Apostle of the Nations", as his missionary work took place both in Greece as well as in the European territories [4]. He influenced the religious and cultural capital of Europe with the teaching of Christianity by making trips to many places of the Mediterranean. The Apostle Paul's religious travels are recorded in modern times, categorized into 4 main trips that he made. We are informed about these trips by the New Testament, the Acts of the Apostles as well as the Apostle Paul's letters. Thanks to the above sources, scientists from the sixteenth century onwards were able to map the routes precisely [4].

In Greece, the Apostle Paul started his trip from Samothraki and from there, based on the testimonies of the evangelist Luke, he passed to Neapolis, today's Kavala [4]. Then he proceeded to Chalkidiki and from there he traveled to Kefalonia. From the island of Samos, he went to Chios and Mytilini. Later it moved from Kos to Rhodes, while he probably passed from Nicopolis in Epirus too. Some of the most major places he passed from were Philippi in Macedonia, Thessaloniki, Veria and Athens. From all the places where he passed there are still monuments that honor the passage of the Apostle. The paper aims to record the perceptions of Greek tourists regarding this religious product of the now established touristic and pilgrimage route [5].

2 Literature Review

New technologies have become an integral part of our everyday life and have infiltrated it. The features they offer are so useful, even forcing them to be used as a first priority in all areas. Inevitably, they are also used in tourism.

Today's technology is developing at a rapid pace and significantly affects people's daily life, aiming at facilitating it. As a result, our first thought is to use technology in all forms. In the tourism industry, information is considered a way of life. Online maps and websites are considered important technologies. The location of a place of interest contributes to the exposure before and after the visit. Digital maps facilitate the visitor who searches based on their interest [6].

In addition to geographic positioning, the technology can also provide synthetic information. Augmented reality gives the possibility of augmenting the natural environment during a visit to the place of interest. Thanks to the use of augmented reality, the understanding of an object becomes better. For this reason, use in places of cultural interest, such as archaeological sites, museums. In these spaces, smartphones or computers are used, so that the information is provided digitally on the screen, from audio narrations or texts [7].

Another branch that helps the tourism industry is that of artificial intelligence. The tourist's need to self-serve has made artificial intelligence particularly attractive in the tourism sector as well. A modern science and technology that combines and processes modern data and information with the infrastructure of computers and machine learning programs, which are based on algorithms and neural networks, can contribute significantly to the tourism sector through applications that have the ability to chat by sending automated messages [8, 9].

It is therefore observed that the development of technology created a revolution in the course of both economies and businesses. Tourism is a product, which the tourist can get information about the tourist destination, but cannot see it, until he visits and sees it up close. Thus, new technologies provide more and more possibilities to this defect. At the same time, the interested tourist becomes more and more knowledgeable about new technologies and applications [10].

In this paper, the general term of tourism will not be researched, but a specific part, that of pilgrimage routes. Pilgrimage routes and itineraries have recently gained great importance as tourist destinations and as an expression of a qualitative change in the approach to the protection and preservation of culture and landscape heritage, which are now considered to provide opportunities for sustainable regional development [11].

Pilgrimage tours have attracted the attention of both public and private organizations related to tourism and economy, aiming at making an attempt to link the cultural capital to the tourism development, so that the economy of the regions where these routes pass through is boosted. Most importantly, all these historic and cultural monuments are highlighted [12].

This study aims to investigate one particular route, that of the Apostle of the nations, the Apostle Paul. The route is popularly known as "Steps of the Apostle Paul". The monuments that are still in existence and prove his course in Greece as well as abroad, are a pole of attraction for tourists as well as for those involved in the tourism industry. In addition, this study attempts to state the opinions of the digital era in tourism industry.

3 Research Methodology

The methodology of the paper is based on a bibliographic review and on answers given through a questionnaire in a research carried out for the needs of the Holy Metropolis of Kitros, Katerini and Platamon, Greece in collaboration with the Regional Unit of Pieria and the Pieria Organization for Tourism Development and Promotion, Greece. A total of 200 people participated in this research and a questionnaire with a total of 38 closed-ended questions was used. The research was based on the epistemology of positivism which is based on the positive sciences and an objective reality. The present research is primary, quantitative descriptive and correlational between and within groups of a convenient sample. Primary research was chosen to directly assess the views of research participants [13] on the significance of the journeys of the Apostle Paul. Quantitative research was used because the study framework of the possible benefits and obstacles of the routes is specific, the concepts studied are measurable (religiousness, attitude towards the routes, benefits, obstacles), while, according to the last research question of the thesis, the comparison of the opinions between demographic groups is required, i.e. a study of the interaction of the variables, which is achieved in quantitative research with statistical techniques, generalizing the conclusions for the study population [14]. The dependent variables of the research are the attitude towards possible realization of religious tourism, the benefits of pilgrimage tours and the obstacles to the development of pilgrimage tours, while the independent variables are religiosity, knowledge of routes and demographic as well as professional characteristics.

4 Findings and Analysis

As seen by the demographic conclusions of the questionnaires, regarding the religion of the respondents, 96.71% (N = 206) declared that they are Orthodox Christians and the remaining 3.29% (N = 7) declared some other religion.

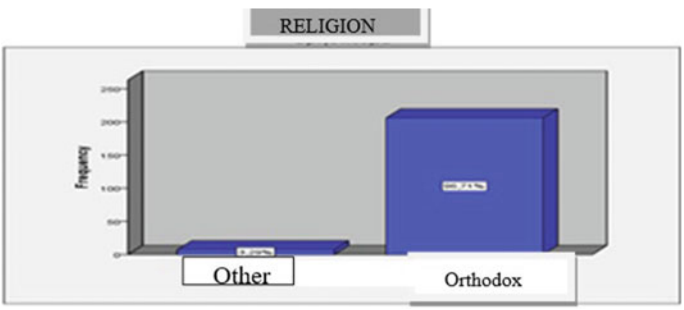

Fig. 1 Religion

Tables 1, 2 present the answers of the respondents to questions concerning the Pilgrimage Routes of the Apostle Paul and especially about their attitude towards the possible realization of religious tourism on the pilgrimage routes of the Apostle Paul. Initially, to the question whether they know the pilgrimage routes-steps of the Apostle Paul, 67.61% (N = 144) of the respondents answered that they are aware of them, while 32.39% (N = 69) are not. Regarding how likely it is that they would realize religious-pilgrimage tourism on the routes-steps of the Apostle Paul, 32.86% (N = 70) of the respondents answered that it was quite likely, 24.88% (N = 53) moderately likely, 16.43% (N = 35) somewhat likely, whereas 16.43% (N = 35) answered that it was very likely and 9.39% (N = 20) not likely at all. Therefore, the average attitude of the respondents towards the possible realization of religious tourism on the pilgrimage routes of the Apostle Paul was neutral (3.31 ± 1.20).Finally, of those who answered that they are not interested in doing religious tourism on the pilgrimage routes of the Apostle Paul, 50.00% (N = 6) justified their answer by saying that they are simply not interested, while the rest 50% was equally apportioned (8.33% each) to those who declared that they are not aware of the routes-steps (N = 1), they do not have time and money (N = 1), it is not a priority in their tourism planning (N = 1), they believe that they will not be benefitted anyhow (N = 1), they do not do it for health reasons (N = 1) or because they are atheists (N = 1).

Table 2 presents the answers of the respondents to questions regarding the characteristics of religious tourism in the pilgrimage routes of the Apostle Paul.

Initially, regarding the areas they would visit for religious-pilgrimage tourism with the theme-destination of the routes-steps of the Apostle Paul in case they were interested, 65.80% (N = 127) of the interested respondents answered Pieria, 60.10% (N = 116) Philippi Kavala, 59.59% (N = 115) Veria, 55.96% (N = 108) Thessaloniki,

Table 1 Pilgrimage routes of the Apostle Paul

Question	Answer	N	f (%)
Do you know the pilgrimage routes-steps of the Apostle Paul?	No	69	32.39
	Yes	144	67.61
How likely is it that you would realize religious-pilgrimage tourism on the routes-steps of the Apostle Paul?	Not at all	20	9.39
	A little	35	16.43
	Moderately	53	24.88
	Quite	70	32.86
	Highly	35	16.43
If you do not wish to realize religious-pilgrimage tourism on the routes-steps of the Apostle Paul, please specify the reason	Not interested	6	50.00
	I am not aware	1	8.33
	Lack of time and money	1	8.33
	Not a priority	1	8.33
	Not beneficial	1	8.33
	Health reasons	1	8.33
	I am an atheist	1	8.33

Table 2 Religious tourism characteristics in the pilgrimage routes of the Apostle Paul

Question	Answer	N	f (%)
Which areas would you visit for religious-pilgrimage tourism with the theme-destination of the routes-steps of the Apostle Paul?	Samothrace	101	52.33
	Neapoli Kavala	76	39.38
	Philippi Kavalas	116	60.10
	Thessaloniki	108	55.96
	Veria	115	59.59
	Athens	91	47.15
	Corinth	100	51.81
	Mytilene	82	42.49
	Samos	79	40.93
	Kos	77	39.90
	Rhodes	81	41.97
	Pieria	127	65.80
	All	61	31.61
	None	3	1.55
How long would you like your trip to last for the pilgrimage routes-steps of the Apostle Paul?	1–3	66	34.20
	4–6	67	34.72
	7 and more	42	21.76
	I don't know/I don't answer	18	9.33
How many hours would you like each visit to the cultural attractions of each destination to last?	1 to 2 h	78	40.41
	2 to 4 h	92	47.67
	> 4 h	15	7.77
	I don't know/I don't answer	8	4.15

N: Frequency, f %: Relative frequency %

52.33% (N = 101) Samothraki, 51.81% (N = 100) Corinth, 47.15% (N = 91) Athens, 42.49% (N = 82) Mytilini, 41.97% (N = 81) Rhodes, 40.93% (N = 79) Samos, 39.90% (N = 77) Kos, 39.38% (N = 76) Neapolis Kavala, 31.61% (N = 61) answered all the previous regions, while 1.55% (N = 23) of the respondents who were interested answered none of them. Additionally, to the question about how many days the interested respondents would like their journey for the pilgrimage routes-steps of the Apostle Paul to last, 34.72% (N = 67) answered 4–6 days, 34.20% (N = 66) 1–3, 21.76% (N = 42) from 7 days or more, while 9.33% (N = 18) answered "I don't know/I don't answer". Regarding how many hours the interested respondents would like each visit to the cultural attractions of each destination to last, 47.67% (N = 92) answered 2 to 4 h, 40.41% (N = 78) 1 to 2 h and 7.77% (N = 15) more than 4 h, while 4.15% (N = 8) answered "I don't know/I don't answer".

Table 3 presents the answers of the respondents regarding the benefits of the pilgrimage tours of the Apostle Paul. According to the results of the table, the respondents stated that the benefits of the pilgrimage tours of the Apostle Paul are, to a great extent, the development of the region's religious profile (avg. = 4.15 ± 1.01), the development of domestic tourism (avg. = 4.08 ± 0.95), the development of the region's cultural profile (avg. = 4.07 ± 0.98) and the improvement of the region's services (food, accommodation) (avg. = 3.94 ± 0.99). They also stated that financial development (avg. = 3.93 ± 1.06), the development of inbound tourism (avg. = 3.92 ± 1.09), the creation of jobs at a local level (avg. = 3.73 ± 1.09), the improvement of the region's infrastructure (e.g. transport) (avg. = 3.68 ± 1.09) and the activation of local authorities (avg. = 3.63 ± 1.13) are significantly beneficial. Furthermore, they stated that investments in the region (avg. = 3.58 ± 1.18) and the development of the local society's primary sector (avg. = 3.53 ± 1.16) are beneficial to a moderate to large extent. Finally, they stated that environmental development (avg. = 3.31 ± 1.20) and the decrease of economic inequalities between residents (avg. = 3.08 ± 1.20) are moderately beneficial. In conclusion, the benefits of pilgrimage tours are considerable (avg. = 3.74 ± 0.92).

Table 4 shows the answers of the respondents regarding the obstacles to the development of pilgrimage tours of the Apostle Paul. According to the results, the respondents stated that the lack of relevant information about the tour locations (avg. = 3.64 ± 1.11) and the lack of organized tours of the pilgrimage routes-steps of the Apostle Paul by tourist offices (avg. = 3.63 ± 1.09) are to a large extent obstacle to the development of pilgrimage tours of the Apostle Paul. Additionally, the lack of information (digital or in person) at the tour points themselves (avg. = 3.59 ± 1.15), the lack of organization from the tour services (avg. = 3.55 ± 1.10), and the high cost of the tour (avg. = 3.42 ± 1.09) are also obstacles to a moderate to quite large degree. Furthermore, the reduced accessibility to sightseeing spots (avg. = 3.39 ± 1.07), the reduced services of guided tours, hospitality and accommodation (avg. =

Table 3 Benefits of the Apostle Paul's pilgrimage tours

Benefits	avg.	C.A.
Development of the region's religious profile	4.15	1.01
Development of domestic tourism	4.08	0.95
Development of the region's cultural profile	4.07	0.98
Improvement of area services (food, accommodation)	3.94	0.99
Financial development	3.93	1.06
Development of inbound tourism	3.92	1.09
Job creation at a local level	3.73	1.09
Improvement of the region's infrastructure (e.g. transport)	3.68	1.09
Activation of local authorities	3.63	1.13
Creating investments in the region	3.58	1.18
Development of the local society's primary sector	3.53	1.16
Environmental development	3.31	1.20
Decrease of economic inequalities between residents	3.08	1.20
Benefits of pilgrimage tours	3.74	0.92

3.37 ± 1.12), the reduced cultural interest of the area (historical monuments, cultural sites) (avg. = 3.32 ± 1.02), the lack of possibility to visit all year round (avg. = 3.3 0 ± 1.12) and the lack of other forms of tourism (avg. = 3.06 ± 1.13) constitute obstacles to a moderate extent. Finally, the regions' unattractive natural environment (natural features, buildings, roads) (avg. = 3.05 ± 1.09), the few attractions in the area (avg. = 2.99 ± 1.08), the reduced entertainment possibilities in the area (avg. = 2.93 ± 1.06), the decreased commercial development in the area (avg. = 2.90 ± 1.02) and the absence of a major religious event during the visit (avg. = 2.86 ± 1.08) are also obstacles to a moderate degree. In conclusion, the obstacles to the development of pilgrimage tours of the Apostle Paul are moderate (avg. = 3.27 ± 0.74).

Table 5 is about digital applications in tourism. In the question about the importance of digital applications related to tourism, it is promising that a large percentage answered that they consider it very important. Technology today plays an important role in modern society. Through the survey, the question of whether the respondents believe they are familiar with new digital technologies was also raised. However, 70% of the respondents consider themselves familiar with them.

Table 4 Obstacles to the development of pilgrimage tours of the Apostle Paul

Obstacles	avg.	C.A
Lack of relevant information about sightseeing sites	3.64	1.11
Lack of organized tour of the pilgrimage routes-steps of the Apostle Paul by tourist offices	3.63	1.09
Lack of information (digital or in person) at the tour points themselves	3.59	1.15
Lack of organization from the tour services	3.55	1.10
High cost of the tour	3.42	1.09
Reduced accessibility to sightseeing spots	3.39	1.07
Reduced tour, hospitality, accommodation services	3.37	1.12
Reduced cultural interest of the region (historical monuments, cultural sites)	3.32	1.02
Lack of possibility to visit all year round	3.30	1.12
Lack of other forms of tourism	3.06	1.13
Unattractive natural environment of the area (natural features, buildings, roads)	3.05	1.09
Few attractions in the area	2.99	1.08
Reduced entertainment possibilities in the area	2.93	1.06
Reduced commercial development in the area	2.90	1.02
Absence of major religious events during the visit	2.86	1.08
Obstacles to the development of pilgrimage tours	3.27	0.74

Table 5 Digital applications

Question	Answer	N	f (%)
How important do you consider digital applications related to tourism?	Not at all	20	9.39
	A little	35	16.43
	Moderately	35	16.43
	Quite	70	32.86
	Highly	53	24.88
Do you consider yourself familiar with new digital technologies?	Not at all	20	9.39%
	A little	35	16.43
	Moderately	35	16.43
	Quite	53	24.88
	Highly	70	32.86
Do you consider the use of apps are important about the route "Steps of the Apostle Paul"	No	69	32.39
	Yes	144	67.61
Do you believe that applications creates positive and unique experiences on religious attraction	Not at all	20	9.39
	A little	35	16.43
	Moderately	35	16.43
	Quite	53	24.88
	Highly	70	32.86

5 Discussion and Conclusion

In this research study, 200 people participated, the majority of them being Orthodox Christians. The 1st research question investigated the attitude of the inhabitants of Greece towards the possible realization of religious tourism on the pilgrimage routes of the Apostle Paul. The results showed that on the one hand, the majority of the respondents were aware of the pilgrimage routes-steps of the Apostle Paul but on the other hand, they expressed a neutral attitude towards a possible realization of religious tourism on these routes. About half of the sample was positively inclined to participate, 25% negatively while 25% were neutral. The attitude of the 200 respondents is in accordance with the opinion of Moira [2009], according to which the Greek state has not shown a systematic interest in the development of religious tourism, as it does not seek to exploit the country's religious monuments by turning them into attractive destinations. Unlike countries where pilgrimage routes are booming. It is necessary for the state to cooperate with local institutions and religious organizations, in order to take advantage of the development of pilgrimage routes in Greece as well, as religious monuments are abundant and underutilized.

The 2nd research question investigated the characteristics of religious tourism on the pilgrimage routes of the Apostle Paul that the respondents would prefer. The results showed that for religious-pilgrimage tourism with the theme-destination of the routes-steps of the Apostle Paul they would like to visit firstly Pieria, secondly

Philippi Kavala and Veria and thirdly Thessaloniki, Samothrace and Corinth. The majority also stated that they would like their journey for the pilgrimage routes-steps of the Apostle Paul to last from 1 to 6 days, while they would like each visit to the cultural attractions of each destination to last up to 4 h.

The 3rd research question investigated the benefits of the realization of religious tourism to the pilgrimage routes of the Apostle Paul. The results showed that the benefits of pilgrimage tours are various. In particular, the respondents indicated that the pilgrimage tours would be a lot helpful in the development of the region's religious and cultural profile, the development of domestic tourism, the improvement of the region's services such as catering and accommodation, as well as financial development. They also stated that they would help develop inbound tourism, create jobs locally and improve the region's infrastructure such as transportation. Finally, they would help activate local authorities, investments in the region and develop the local society's primary sector. The positive contribution is linked to financial development [15], the creation of jobs and the appropriate infrastructure [16, 17] regarding the coverage of the tourists' food and accommodation needs.

The final research question investigated the benefits of the digital era in tourism. The results showed that digital applications are important in tourism. The majority also stated that they consider themselves familiar with the new digital technologies and also that the use of apps is important on the route of the "Steps of the Apostle Paul". Finally, they stated that applications create positive and unique experiences on religious tourism. In recent decades, the development of technology could not leave the tourist industry unaffected, both internationally and locally. Due to globalization, the inclusion of technology in the tourism industry is, if not compulsory, essential. The use of technology and the benefits it provides are necessary to maintain sustainability in the tourism field. Tourism as an economic indicator plays a very important role in the global economy and affects a multitude of people from the mere visitor to the largest hotel chain. Tourism companies exploit new technologies for new business ideas and thus change their strategic goals.

The descriptive approach in the present research is a case study that highlights issues that could be further studied through an in-depth analysis of quantitative methods and options, in order to verify and generalize results in wider samples of selected segments (e.g. users from abroad, by age group of analysis, professional partners). The work's considerations expressed above could be a motivation for further future research in other tourism forms as well.

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Tourism, Leisure Development and Quality of Life for Local People

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Abstract Sustainable development of tourism is an important tool to stimulate the development of tourist areas. An important role in this process is played by the local community, which is an important capital in the development of tourism, as well as a beneficiary of changes. Their attitudes, behaviors and involvement in development processes have a key impact on achieving environmental, social and economic goals of sustainable tourism development. The analysis will consider the role of residents in the following aspects: co-creator of the tourist product, beneficiary of the introduced improvements and changes, and direct recipient of the positive and negative effects of the development of tourism and recreation. The development of tourism has contributed to the significant development of regions frequently visited by tourists, but the dissatisfaction of local communities with the inappropriate attitude of tourists and their impact on the quality of life is growing. The aim of the work is to identify the factors of the quality of life of the inhabitants, on the example of Poland, which stimulate and the development of tourism in a sustainable process. The author of this study obtained the consent of selected communes to publish the survey on their websites. A total of 4257 respondents were surveyed. There is a change in the standard of living of users and socio-economic changes in the scale of a territorial unit. These changes are local in nature and are noticeable to both residents and tourists. The author's research, the results of which are presented, indicate that there are groups of local communities that have different views on the implementation of local tourist goals. There are strong links between the quality of life of the local population and their contribution to the tourism product and the problems that tourism brings. The study complements the analysis of individual tourist regions in Poland presented so far and provide a broader view of the opportunities and threats in sustainable development.

Keywords Quality of life factors · Tourism · Sustainability · Local community · Public participation

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1 Introduction

Tourism is one of the industries that is growing rapidly. People are travelling more and more, visiting new places and delighting in the nature around us. The development of transport and the possibility of travelling by different modes of transport has meant that more and more new places are being discovered by tourists. In the concept of sustainable tourism, it is important to combine the interests of the local community and tourists. Sustainable tourism is emerging in more and more studies as a necessary element to maintain sustainability in the tourism area.

Studies in the area of quality of life for local residents are being carried out by researchers from various fields to analyse aspects of quality of life.

In the literature, the authors focus on the development of tourism as factors of change on a national scale [1–4] or at the regional level [5–12].

The legitimacy of this type of analysis stems both from the point of view of the inhabitants, for whom quality of life is an important aspect of life, and at the same time, increasingly, these studies show what directions the local authorities should follow in order to improve these conditions. These studies appear to be important for organizational, social and economic reasons.

The aim of this study is to examine how tourism and related elements affect the quality of life of the inhabitants of tourist areas. The analysis is intended to give an answer as to which factors generate positive factors and which negative factors for the inhabitants and what their intensity is. The information gathered will help to determine whether tourism has a sustainable impact on the quality of life of local residents and how to improve these relationships so that they coincide and do not clash. The research was conducted on a purposively selected group of inhabitants of the population of towns and villages located in Western Poland, representing tourist destinations of different values. The study used a synthetic amount added by Strahl [13] and an integrated set of diagnostic features used by Kudłacz [1].

The following research questions were formulated:

Q1: How do residents perceive the surrounding tourist assets on their quality of life and what is their importance?

Q2: In which areas do residents see opportunities and threats to tourism development that may affect their quality of life?

Q3: What are the relationships between areas affecting quality of life, their importance and tourism areas?

2 Literature Review

The dynamic development of tourism is linked to the enormous opportunities that have arisen through the development of transport [14–17]. Tourism is reaching more and more new places and new opportunities to exploit specific areas of tourist attraction are emerging [18]. Key factors are the relationships that are formed between tourists and the local community [19–22]. It is therefore important in sustainable tourism to bring about opportunities for tourists to enjoy the benefits without disrupting the quality of life of local people in these areas [23–25]. Such a situation creates more and more challenges for managers as well as regulators, who should try to satisfy both sides. The analysis of the theoretical underpinnings of the sustainable tourism concept and its objectives, criteria and principles has received much attention both in the scientific literature [26–29], where all aspects in the industry are considered. Equally important are the analyses and conclusions made in the strategic documents guiding tourism policy at various levels of tourism management [30–32], which indicate the problems as well as the objectives of the new solutions to be set in the subordinate areas.

Sustainability can be interpreted in many different ways [20, 21, 24, 26, 33]. The term refers to all aspects of life and all its active and passive participants. Maintaining a balance between different, often competing needs is at the heart of the term. In sustainability there is an awareness of the constraints that exist in the environmental, social and economic areas, but the overarching goal is to seek a solution that is most optimal for all participants. Since the 1960s, tourism has been categorized as a growth industry. The growth of tourism has contributed to the significant development of regions that are attractively touristic. Many countries have improved their economic development by developing the tourism sector [34]. Tourism development is a multidimensional process and includes not only changes in tourism but areas concerning the life of local communities, including but also in poverty reduction [35].

In the concept of sustainable tourism, two strands of community behavior have emerged. The quality of life factors of local residents that stimulate or inhibit tourism development in the sustainable process are numerous [36]. Without analysing this aspect in detail, it is worth noting that the concept of sustainable tourism in tourist areas should be based on the integration of a bundle of objectives:

- Ecological—aimed at long-term protection of naturally valuable resources,
- Economic—generating income and increasing the effectiveness and competitiveness of the local tourist economy in the long term,
- Social—raising the level and quality of life of the local population [36–39].

Local government organisations that are in charge of administering a given tourist attraction or a given tourist area very often stand at a crossroads, as the expectations of local residents or communities are extremely different. The producers or participants of the tourism product, i.e. the local community, (which profits from the tourism product, is oriented towards working in the field of tourism services) is interested in their development and that there are more and more tourists [40].

A local community that does not profit from tourism, or whose tourism makes it difficult for them to function in a place, is usually opposed to the development of a tourist attraction. The local community is beginning to play an increasingly important role in sustainable tourism. The attitude of the community largely determines whether local authorities, acting under pressure from local residents, will try to find a compromise for the surrounding environment in order to develop their regions.

3 Methodology and Results

A questionnaire was conducted for the purposes of the study. The questionnaire was based on literature [1, 2, 10–12], it was published in social networks in target and thematic groups (on websites visited by residents and tourists of the studied towns). The author of this study obtained the consent of selected communes to publish the survey on their websites. A total of 4257 respondents were surveyed. Respondents ranked their answers using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was designed to include statements related to the state of sustainable tourism and its impact on respondents' quality of life. The responses were grouped into four dimensions of sustainability. The methodology in this study used Cronbach's alpha coefficient to test the reliability of the variables and the values obtained, as well as to measure respondents' satisfaction with the four dimensions of sustainability. The survey results obtained show that the majority of respondents are women (57%). Those who chose to respond to the survey have an average age of 34 years (ranging from 18 to 77 years). In addition, 44.7% of all respondents to the survey declared a tertiary education, while 42.2% have a secondary education, 10% have a vocational education and only 3.1% have a primary education. Most people 30.5% live in rural areas, almost as many respondents live in a medium-sized city (25.8%) as in cities with more than 100,000 inhabitants (24.2%). In contrast, the fewest respondents are from small towns representing 19.5% of the total respondents. As part of the statistical data processing, the reliability of the variables was assessed to determine the dimensions of sustainability and residents' satisfaction with tourism development. An index calculation was carried out as a mean variable that included each dimension (independent variables). Table 1 shows the scaling of items for the satisfaction index for the local community as well as visitors to the tourist sites.

The combined average satisfaction with sustainable tourism development for both groups of respondents is 3.97 and 4.02.

By analyzing the obtained results, it can be noticed that the obtained values are relatively identical for both groups of respondents. This indicates the validity and reliability of the obtained research results. The Cronbach's Alpha scores are 0.62

Table 1 Scale items for the satisfaction index

Index	Residents (n = 2367)		Visitors (n = 1890)	
	α	Mean	α	Mean
	0.617	3.97	0.678	4.02
Tourism brings new jobs	3.89		3.84	
Tourism has contributed to increasing the attractiveness of the place	4.04		4.01	
Tourism in this place is needed	4.50		4.23	
I am satisfied with tourism in this place	3.46		3.99	

Table 2 Regression analysis of satisfaction (n = 4257)

Satisfaction with Tourism Items	Residents		Visitors	
	β^1	p-value	β^1	p-value
Ecological dimension	0.265	0.025	0.247	0.052
Economic dimension	0.134	0.005	0.198	0.042
Institutional dimension	0.176	0.012	0.23	0.034
Socio-cultural dimension	0.278	0.038	0.247	0.029

for the institutional dimension (four items), at very low levels of 0.78 and 0.74 for the ecological dimension (five items), 0.68 and 0.61 for the economic dimension (six items), and 0.71 and 0.69 for the socio-cultural dimension (six items). The institutional dimension of sustainability has the lowest values (3.09 and 3.11).

The socio-cultural dimension (4.02 and 3.89) and the ecological dimension of sustainability (3.63 and 3.79) have the highest average values.

Thus, the obtained values indicate that these two dimensions have the greatest impact on the respondents, i.e., these dimensions of sustainability contribute to sustainable tourism development to the greatest extent (Table 2).

4 Discussion and Conclusions

The above research is based on the basic principles of sustainable development, the application and successful implementation of which increases the chance of an adequate quality of life for the local population and to appear on the tourist market as a sustainable tourist attraction. In Poland's conditions, both job creation and quality of life instruments are interrelated and should be implemented together. Based on the results, residents rated at an average level the surrounding tourism assets that affect their quality of life.

The research shows that the increase in the tourist position of a given locality, which is due to the appropriate tourist development and the interest of tourists, leads to a decrease in the functionality of this locality. Residents complain about the lack of parking spaces, increased traffic, overcrowded local transport, difficult access to a tourist attraction or not using it (e.g. a beach by a lake), using tourist products in the off-season (e.g. gastronomy). On the other hand, the positive changes that the residents indicated, which improve the functional resources, are most often a greater number of jobs, opportunities to create new businesses, better road infrastructure, improved public transport, an increased gastronomic offer and an increased number of cultural events. Most of the towns strengthen their positions and try to take advantage of the tourist attractions by eliminating or reducing the inconveniences that appear for the inhabitants.

Residents indicate a preponderance of opportunities over threats that may affect their quality of life. There are strong relationships between areas affecting quality of life, their importance and tourism areas, these relate to the labour market and earning opportunities in the tourism or related industry.

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Human Intelligence and Artificial Intelligence in Professional Translations — Redesigning the Translator Profession

Felicia Constantin, Anamaria-Mirabela Pop, and Monica-Ariana Sim

Abstract Human intelligence (HI) has used artificial intelligence (AI) in professional translations for many years. What has been so far a helpful tool for translators, turns out to be a formidable competitor. The article tackles the topic of the danger represented by the dramatic reconfiguration of a job, which risks losing much of its consistency, getting closer and closer to post-editing. HI and AI performances in the translator profession are approached from an economic perspective, setting as criteria for analysis the elements that define the price and survival on the market: source language, target language, type of document, content subject, delivery date, the volume of text to be translated, the competence of the translator, availability of the translator, capability to learn, costs, accuracy and risk of errors. The methodological analysis of a representative sample of different texts from the economic field translated into five foreign languages, reveals that the results provided by AI are fully acceptable and competitive with the versions generated by HI. In this context, the article warns about the need to rethink the training of translators and the sustainability of their activity in the economic market.

Keywords Artificial intelligence · Human intelligence · ChatGPT · Translation

1 Introduction

Few innovations have possessed the power to completely and irreversibly disrupt a predictable order of things and the comfortable stability of the global population. 2022 brought the market launch and widespread availability of an innovation with the potential to profoundly alter the traditional constructs of humanity: Chat Generative Pre-training Transformer (ChatGPT), a product of Artificial Intelligence. Some have comprehended its benefits as well as imminent dangers; authorities hesitated between prohibition and acceptance-integration. Many who tested it have praised its potential, while most currently choose to overlook it, thus sidestepping the risk of jeopardizing

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their future job security. In this article, we have delved into the prospects of the translator profession, positioned at the border between tradition and innovation, and emblematic of careers susceptible to technological progress and AI capabilities.

2 Literature Review

Early evidence has shown that technology and artificial intelligence will become the new frontier to conquer in the digital era, and the relationship between translations and machines will become a favored study subject for specialists [1], extensively reflected in the press [2]. Initially, the field of translation studies focused on aspects related to human intelligence, such as translation techniques, lexical issues, grammar, style, and interculturality. However, with technological advancements, machines were introduced into the translation process, initially complementing and eventually replacing traditional writing tools: pen and paper, typewriter, or word processing software. The concern for the ethics of introducing artificial intelligence technologies in the field of translation, which is seen as the boundary between blessing and threat for linguistic professionals, is one of the preferred research directions. Studies provide valuable insights into the historical development [3, 4] and the ongoing advancements in machine translation, addressing topics like the future and the responsibilities of users and translators. The utility of machine translation (MT) for academic communication is highlighted, along with the ethical issues arising from using these robots concerning data and information confidentiality and biases related to personal health, finances, and other sensitive domains [5, 6]. In the context of traditional translation versus modern translation, the theme of human–machine interaction leads to the observation that Machine Translation (MT) can, in some aspects, partially replace Human Translation (HT), but not entirely [7]. Numerous studies pursue another direction in relation to the artificial intelligence-translation field, specifically the preparation of future translators who need to keep up with the rapid evolution of increasingly advanced software and applications. This is achievable through rethinking new training methods and evaluating future translators, who must be trained to handle tasks beyond the usual translation and acquire new skills to facilitate their work [4, 8]. This aspect raises new challenges for educators. Thus, the need to identify new skills experienced and novice translators must acquire to survive as translators in the digital world is emphasized [5, 6], with ethical preparation ensured during their training [9]. Consequently, preparing future translators and assessing their level of competency are becoming increasingly challenging [10]. However, the introduction of ChatGPT to the market represents a turning point. Research on the impact of this model and other similar models is still in its infancy [11], with the focus directed toward the medical field [12, 13] or education [14]. Nonetheless, we will undoubtedly witness an influx of studies. Many of these will certainly highlight a change in perspective regarding the perception and impact of AI on various domains of activity [15]. Thus, the aim of this paper is to address the challenges, focusing on the profession of translator in the wake of technological advances, namely AI.

3 Background Research

Internationalization and the need for new markets have increased the translation demand, which is why the translation industry is continuously evolving. Due to globalization, translation has become an integral aspect of corporate strategies across all sectors. Various types of translation exist, each with its particularities and specifications, with the most popular being literary, technical, administrative, financial, and legal translations [16]. There is an international ISO standard that regulates all aspects related to the translation process and human translation services [17], as well as an ISO standard that regulates the post-editing of machine translation output [18]. Both standards identify and define two distinct categories of automated translation. Machine translation is the translation carried out by software based on provided data. Examples include Google Translate, DeepL or Reverso, which perform automatic translations mechanically and quickly without considering the translation context. These free software applications started with weaker versions but have improved over time, becoming increasingly efficient. On the other hand, computer-aided translation (CAT) is when "software applications are used to support the task of human translation." In this case, translators utilize platforms integrating machine translation technologies and translation management tools like Trados or WordFast to facilitate and optimize their translations. However, due to technological innovations, post-editing services are becoming increasingly prevalent in the market. Depending on demand, translators are more inclined to offer services such as full post-editing or light post-editing rather than traditional translation [19].

The emergence of new generative AI models like ChatGPT or similar ones marks a radical change, a fact that translation market players are well aware of. As Loney [20] noted, "Generative AI has taken the industry by storm recently, with many prognostications about its impact on our daily lives. It remains to be seen if any of those predictions will come true, but we want to make sure that any future is a place where translators thrive and gain advantages from this new technology" [20]. Our research focuses on the comparative analysis of the performances and limitations of translations made by human intelligence and artificial intelligence and aims to highlight the danger that the translator profession is facing due to the sophistication and competence of ChatGPT.

4 Methodology

The research is built around two hypotheses. Hypothesis 1. Artificial Intelligence/ChatGPT becomes a powerful competitor for the profession of translators in terms of economic profitability. In order to discuss this hypothesis, we identified a series of relevant parameters in defining the translator profession and its functioning in a competitive market: source language, target language, type of document, content subject, delivery date, the volume of text to be translated, the competence of the translator, availability of the translator, capability to learn, costs, correctness and risk of errors. We evaluated comparatively HI and AI performances in relation to these parameters to establish their limited or unlimited capabilities and values.

Hypothesis 2: AI is a significant competitor for HI in terms of the quality of the generated texts. In order to verify this hypothesis, we selected, among specialized languages, a representative sample of 50 texts in Romanian, belonging to the economic field, more precisely the subfields of finance and accounting, marketing, management, international affairs, and the economy of trade, tourism, and services. Regarding the types of documents that are very used and suitable for translations, the range is extensive, including text files, emails, notes, commercial letters, reports, business plans, product specifications, contracts, agreements or even web pages. The texts chosen are representative of the investigated domain and were selected based on the typology analysis of the analytical programs offered by faculties specializing in translation within the University of Oradea [21] and the Bucharest University of Economic Studies [22]. The texts were labelled according to their domains, accompanied by their sources, and recorded with the chosen foreign language variants. A set of five languages was selected to encompass internationally recognized languages (English and French), languages with Latin (Hungarian) or Cyrillic (Russian) alphabets from neighboring countries, and a language spoken by a reduced number of people (Albanian). Excerpts (10–20 lines each) were chosen from the mentioned domains: formalized documents, university manuals, specialized books, and other specialized documents. ChatGPT was utilized to translate the texts into five foreign languages (English, French, Hungarian, Russian, and Albanian). These translations were then evaluated for acceptability with the input of native speakers experienced in economics in the mentioned languages.

5 Results and Discussion

To verify Hypothesis 1, we have approached translations from an interdisciplinary perspective, combining philological and economic viewpoints. We have analyzed the key elements that contribute to the dynamics of supply and demand in the translation sector: source language, target language, type of document, content subject, delivery date, volume of text to be translated, translator's competence, translator's availability, capability to learn, and costs.

According to the market supply and the specializations of the faculties, a human translator works, on average, with two or three foreign languages; exceptionally, the human translator might master four or more foreign languages while AI-assisted translation does not encounter such limitations. A text can be effortlessly processed through nearly any number of languages, and the accuracy of the resulting product is astonishing.

Another advantage of using AI is cost-effectiveness, a significant aspect for both clients' budgets and translation service providers. Various factors influence the cost of translation, but human translations are significantly more expensive than automated ones. Every client desires low costs and high quality, and this can be achieved when a translator works with highly effective translation applications that automate a substantial part of the process. However, even with machines, the most professional translations are provided by paid programs, inherently involving certain costs. Additionally, the training aspect of those who use and benefit from these software tools adds to the consideration.

Another strength of AI is that there's no risk of errors due to fatigue or lapses in attention, which sometimes occur with humans (e.g., skipping text fragments or accidental deletions). The translator's availability, physical endurance, workload, and deadlines are subjected to human limitations, whereas mechanized translation generates text almost instantaneously. In the case of traditional translation, a single translator is often insufficient; large projects sometimes require teamwork, including a project manager. Hence, it can be stated that anyone who claims they can achieve quality translation standards without the assistance of translation software is naive. AI has become a formidable competitor due to its advantages over the human factor. The results demonstrated that HI has limited capabilities in relation to these parameters, while AI has unlimited capabilities.

Hypothesis 2 was examined through the precise investigation of economic texts based on the above-mentioned criteria. There are numerous types of texts within the mentioned domains, which may require professional or personal translation.

After translating the selected economic texts into the targeted languages, we have systematically observed that AI can translate just as quickly and effectively from any source language to any target language. While we chose only five languages, our simulations show that ChatGPT can efficiently work with unlimited languages, regardless of the alphabet, language family, or prevalence. The AI-provided translated versions of the selected documents were outstanding, with no noticeable errors or hesitations concerning economic terminology, simple or complex financial concepts.

Regarding accuracy, AI translation has significantly improved and continues to do so day by day due to the incredible pace of AI learning. While human translators continuously learn, they will never be able to match the speed at which AI develops its capabilities. We anticipate that language models like ChatGPT or its equivalents will soon provide consistently high-quality translations compared with human translations, ensuring consistency across large volumes of content, compared to human translators who might introduce slight variations in their translations based on individual style.

In terms of meeting deadlines, translation through ChatGPT is faster and more scalable than human translation. It can handle large volumes of text within a short time frame, which is advantageous for companies with tight deadlines or high translation demands. ChatGPT-based translation relies on AI algorithms to automatically translate text from one language to another. These translations were obtained for free, whereas human translation would have involved hiring professional translators with expertise in the economic field, fluent in both source and target languages. The cost of human translation would have varied significantly based on source and target languages, complexity, and subject matter.

However, there are still some critical differences between AI-based and human translation in economic texts. Human translators, especially those with experience in economics and finance, can currently better understand the context and provide precise and contextually relevant translations. AI delivers excellent results, but as ChatGPT itself warns when asked about its competence in economic translations, the AI-generated translation versions may have hesitations, ambiguities, or inaccuracies. ChatGPT recommends that users verify and review automated translations before using them in critical or professional contexts. This is a topic that will need further exploration in the future. Table 1 depicts comparisons between HI and AI.

Artificial Intelligence is a formidable competitor to human intelligence. While HI (Human Intelligence) has limited resources in terms of source language, target language, type of document, content subject, delivery date, volume of text to be translated, capability to learn, competence of the translator, and availability of the translator, AI has unlimited capabilities in these aspects. Regarding the risk of errors,

Table 1 Comparison of HI and AI capabilities in the translation of economic texts

Domain	Items	Intelligence	Capabilities/Values	Acceptability
Finance accounting Marketing Management International affairs Economy of trade, tourism, and services	Source language Target language Type of document Content subject Delivery date Volume of text To be translated Capability to learn Competence of the translator Availability of the translator	Human	Limited	Acceptable
		Artificial	Unlimited	Acceptable
	Risk of errors	Human	Low Medium High	Acceptable Unacceptable
		Artificial	Low Medium High	Acceptable Unacceptable
	Costs	Human	Medium High Very high	Acceptable Unacceptable
		Artificial	Low Medium	Acceptable
	Accuracy of versions	Human	Good Very good Bad	Acceptable Unacceptable
		Artificial	Good Very good Bad	Acceptable Unacceptable

both humans and machines can make errors, whether small, medium, or large. It all depends on the competence of the translator and should be viewed in light of the astonishing ability of models like Chat-GPT to learn. Human translators must continuously learn to ensure quality services without mistakes. However, a significant difference can be observed in terms of costs. Human translation comes with a cost, as the perceived prices can be significant, and sometimes even very high. On the other hand, Artificial Intelligence generates high-quality materials for free or at low prices, leading to dramatic cost changes. In terms of the accuracy of the versions, both HI and AI generally produce good or very good translations, but sometimes also poor ones. However, it is crucial to understand that at this moment, competent HI is needed to evaluate AI results. And HI must learn how to turn AI into an ally and use its capabilities in its own interest.

6 Conclusions

The translation versions generated by AI, without undergoing a thorough philological analysis, prove to be of sufficient quality and have enough advantages (cost, wide range of languages, speed, etc.) to prompt clients (companies, publishers, individuals, institutions) to request human post-editing services rather than traditional human translation. Nevertheless, human translation still remains the preferred option for critical or complex content, creative materials, or highly specialized domains due to its accuracy, contextual awareness, and ability to convey emotions and tones effectively. Therefore, human translators still play a crucial role and are generally considered superior in certain situations. However, in the future, due to the emergence of increasingly sophisticated language models, the focus in the translation market will likely shift from translation to post-editing. All these aspects serve as a wake-up call for the stakeholders involved in the translation process: educational institutions (philology or applied modern languages departments), service providers, and recipients of the finished translated product. This research opens up new perspectives by testing specific content from different domains (medical, legal, ethnic, literary) or considering ethical or technological performance aspects and the need of training/retraining of professionals in different fields.

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Contemporary Social Context and New Trends in Hospitality Interior Design. Reference to a Semiotic Reading of the Interaction

Anna Efstathiou and Christina Vergopoulou

Abstract Hospitality design covers a vast range of temporary living and use of a space, a variety of needs and target groups. The design of those spaces is inseparable from external factors. A revised background for tourism and travelers is defined in the contemporary era by the pandemic, the energy crisis, the escalating climate change and the environmental crisis. In the present paper some of the new requirements and trends resulting from the above-mentioned conditions and affecting hospitality design will be discussed. Health and wellness are of major significance among them Additionally, the importance of wellbeing defined the demand towards wellness activities and products and re-mapped the facilities spectrum in hospitality. Moreover, sustainability, green and ecological design are very seriously taken into consideration in contemporary society by companies, hosts and the travelling public. Reuse, recycling, upcycling, energy saving construction techniques, energy saving choice of materiality are some of the design trends in favour of a greener and more sustainable hospitality design. The Covid-19 era introduced alternative ways of communication and modes of work and an unprecedented growth of people working online, defined as digital nomads, combine work with entertainment. Flexibility, adjustability, advanced technological standards and smart technologies became important features for a competitive hospitality design. The interaction between meanings, ideologies and concepts related to the above-mentioned trends and their designed interpretation into material formations and visual manipulations provides the ground for a semiotic reading and an educational study.

Keywords Wellness in hospitality · Sustainability · Digital nomads

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1 Hospitality Design in the Contemporary Context

Analysis of the context is always the first step that designers make in their educational projects and later on as practicing professionals. The present paper is the first part of a study to be completed by student projects on hospitality design. Any spatial design procedure starts with the analysis of the variety of parameters that comprise the context of the designed space to be created. These parameters are never the same and are affected by a specific framework of external factors at a specific time. The latest global conditions, in particular the pandemic, the energy crisis, as well as, the escalating climate change and environmental crisis, created a new social context and a revised background for tourism and travelers. Designers that work in the hospitality sector need to interpret global and local factors in order to provide successful solutions to the companies, entrepreneurs, stakeholders and the public that depend on their proposals in order to thrive. Trends in society compose a network of requirements and preferences towards new concepts, ideologies and meanings that are interpreted by architectural and interior hospitality design into forms, shapes, materiality and structures. This paper aims to provide a basis for a thorough investigation of the hospitality design trends in the first half of the 2020s decade.

2 Methodological Considerations

A tested description model is adjusted to the specific context to provide the means for a method of investigation of contemporary hospitality design. According to this, the material and abstract features and the aesthetic properties of any designed product stem from an individual designer or developer, whose decisions are affected by factors external to design [1] (see Fig. 1).

These equally important factors are the keywords behind any designed product: functional, technological, social, cultural, economic, political, legislative and environmental. The general description model is going to be complemented by the characteristics of the specific era of study based on market statistics and outcomes.

Statistics in relation to the contemporary trends in the travel and hospitality industry show that "sustainable travel", "health and wellness listings", "glamping and nature-based stays" and "remote work stays" are on the top [2]. Experiences over accommodations, integrated technology and smart hi-tech features, sustainable, eco, and pet-friendly properties are also important [3]. Moreover, The European Capital of Smart Tourism initiative, a preparatory action implemented by the European Commission since 2018 showcases accomplishments by cities in smart tourism across the EU in sustainability, digitalisation, cultural heritage—creativity and accessibility [4].

From the above mentioned, four broad sections are related to interior design and therefore, are selected to comprise the contemporary framework in hospitality

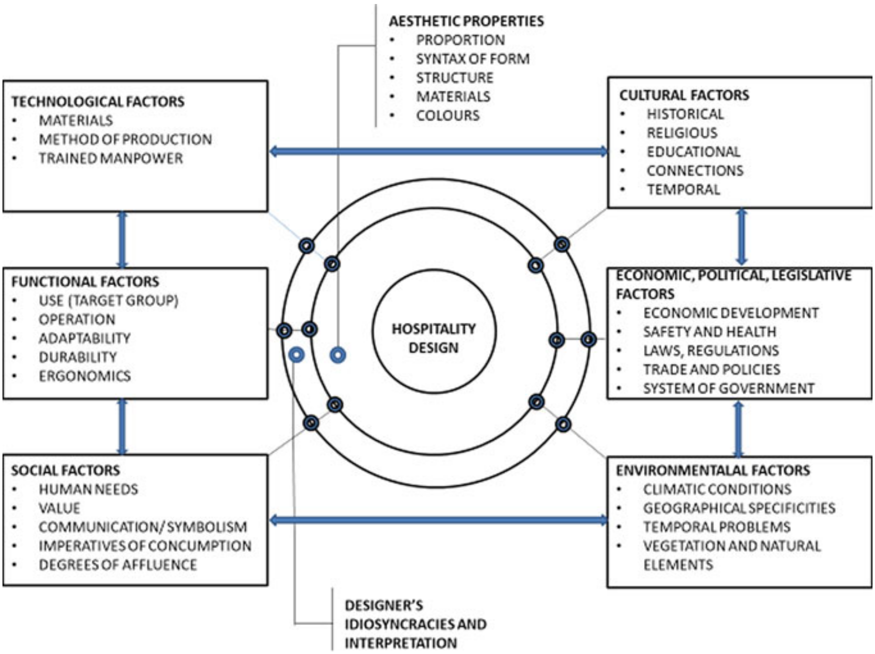

Fig. 1 Description model influencing the form of a designed product [1]

design to be mentioned in the present paper: health, hygiene and well-being, sustainability, green design and energy saving, hospitality facilities and activities, and new technologies and smart design.

In the second stage of the research, design students further research the characteristics of the factors and will focus to the sequent design procedure, relating material signifiers that satisfy the immaterial signifieds of the specific social context. After conducting a parallel research on representative proposals, questionnaires to hosts and guests and lists of signifier-signified relationships within a broad semiotic reference, the study will test and complete the assumptions of the present paper and will comprise an educational method of design analysis.

3 Health, Hygiene, Wellness and Well-Being

Health, hygiene, wellness and wellbeing are characterized as major factors in recent marketing outcomes. The incorporation of natural features is widely understood by the hospitality sector as a need and as a public demand in contemporary society.

Covid-19 restrictions and regulations led to a reconsideration of those issues, together with a broad understanding that nature plays an important role to our physical and mental health. Consequent economic crises, disasters, pandemics and wars in the recent years created an insecure, unsafe and extremely stressful environment for people. Linking with nature improves physical and mental health and to separate the human body and the human organism from nature and natural elements could have inconsequential results [5]. On the contrary nature inclusive environments and nature-inspired features play a positive role on health and well-being and have a restorative effect to human physiology and psychology. “There is evidence suggesting increased nature exposure predicts reduced feelings of loneliness and decreased frequency of feelings of inadequate social support” [6].

The market demand towards wellness and natural elements created new inputs in hospitality spaces. Architects and designers introduce interior gardens and internal courtyards, planted facades and roofs and water features as signifiers of a tranquil, healing, caring and relaxing environment that offers at the same time a safety distance against any virus transmission.

Natural materials in furniture, decoration and finishes and biophilic design denote a connection to nature. However, these material elements have to be easily cleaned and maintained. As a result, hygienic materiality requires non-porous, untextured surfaces, shiny tiles, less carpets and fabrics, more transparency and open cabinets, or wardrobes.

Wellness and wellbeing are not only directly related to body treatment services, spas, beauty, or fitness areas, but also to light, green and water, views, music, and closeness to plants and animals. An increased trend in booking platforms is nowadays the demand for pet-friendly accommodation.

Covid-19 restrictions enlarged the need for physical ways of ventilation and open-air activities and diminished social interaction in interiors. Size, the percentage of number of clients to occupied space and the relationship between the negative space (corridors, unoccupied floor space) to the positive space (furnished, occupied) became key issues. The social distancing resulted in larger public areas with less tables and chairs, partitions to keep groups apart, but also more space in the rooms to facilitate in-room services for work, eating, fitness. The value of the “empty” space in public areas can be seen as a positive outcome leading to a more balanced interior space where the value of the non-used square meters is a barrier not only to virus transmission, but also to the information anxiety of ungenerous, confined interiors.

Designers could be inspired by the Japanese notion of “ma” expressing the notion of emptiness, or the void. “Ma exhibits its peculiar ambivalence, signifying both “distance” or “interstice” and “relatedness” or “polarity”” [7]. It also expresses “the two simultaneous components of a sense of place: the objective, given aspect and the subjective, felt aspect. The dual relation of ma to space and time is not simply semantic. It reflects the fact that all experience of space is a time-structured process, and all experience of time is a space-structured process” [8].

4 Sustainability, Green and Ecological Design

The energy problems, the shortage and the cost of materials and the impact of excessive production to the environment have as a result that sustainability, green and ecological design are very seriously taken into consideration in contemporary society. In the hospitality sector companies, hosts and the travelling public are quite aware and sensitive attempting to diminish a wide spectrum of side effects.

The energy crisis is not only the unexpected consequence of the recent war conflict in Europe, but also the outcome of a long disruption of production resources because of the pandemic, as well as of a gradual shortage of raw materials. Much higher costs affect hosts in the maintenance of their premises, but also travelers because the cost of travelling by any transportation means is higher than in the recent past.

These serious problems had as a result the changing of the mentality of the public. Environmentally conscious and caring guests are becoming the majority and thoughtful actions are taken by hosts towards the decrease of waste sources not only for their company's profit, but for the environment's too. EU regulations and guidelines together with related awards and benefits contribute greatly in the setting of a sustainable ethos. The European Capital of Smart Tourism and the European Destinations of Excellence (EDEN), are some of them [9]. The EU Ecolabel "guarantees that certified accommodation has optimised environmental and waste management, and reduced energy consumption, water consumption, transport emissions and food waste" [10]. Besides EU, many institutions and companies introduce sustainability education series, tips for sustainable tourism and tips for hosts, such as eco-settings, low-flow fixtures, energy-efficient appliances, recycled paper products, organic textiles and washable and reusable supplies [11].

The interior design scheme is able to boost the challenges of times, the brand identity and the business success, by incorporating sustainable issues. Planned infrastructure by designers is an effective tool to provide built environments of zero waste. Water waste could be eliminated by introducing smart and advanced appliances, low-flow fixtures, the use of greywater to flush toilets and instant hot water systems to avoid waste until right temperature achieved. Additionally, drought resistant grass in gardens to replace an irrigation system and rainwater harvesting can be applied [12].

Adaptive reuse of existing buildings, reuse and recycling of existing materials and upcycling of objects in decoration, energy saving construction techniques and local materials, are some of the design decisions in favour of a greener and more sustainable hospitality design. Locality besides reducing cost and energy, enhances also cultural heritage. Heritage and cultural values are considered by many scholars as an aspect of sustainable development [13]. Furniture and decoration crafted locally, promote cultural identity as a competitive advantage and a sustainability tool. Other elements like local scents, and music complete the spatial experience that is achieved through all senses and make spaces memorable [14].

Green roofs, skylights, solar panels, physical ventilation and cooling systems inspired by non-energy-based methods, double glazing, right use of orientation and appropriate size of openings responding to the local climatic conditions, thermal insulation, provide basic means for ecological solutions and energy saving. Methods used in vernacular architecture like the wind-catchers to ventilate spaces and control the interior temperature could be reconsidered [15].

5 Reconsideration of Facilities and Activities in Hospitality Environments

The Covid-19 era radically increased alternative ways of communication and modes of work and as a result space arrangement. An unprecedented growth of people working online created new demands in relation to the design of private and public spaces. “Since the start of the pandemic, the number of digital nomads with traditional jobs has more than tripled. The top two benefits of being a digital nomad are flexibility in how you spend your time (67%) and flexibility to choose your work location (62%). Main employment is in the digital sector, and nearly half of all digital nomads are in their 30 s. The top challenges are to find reliable Wi-Fi (52%), a good place to work (42%), networking (35%), time zones (29%), and work communications (20%)” [15]. Digital nomads is a brand new target group of people working away from the traditional working spaces, combining work with entertainment. This tendency created new standards in the design of hospitality. Flexibility, adjustability, advanced technological standards and smart technologies became important features for a competitive hospitality design that wants to accommodate this target group. “The latest digital nomad statistics show us that digital nomads are highly educated and come from a variety of backgrounds and countries with a strong desire to work and travel at the same time. The digital nomad lifestyle is a great way to explore the world, gain valuable experiences, and make a living at the same time”[16]. Collaborative spaces, or workspaces on demand shared or individually used, working booths, functional and flexible hosting rooms can host the needs of people who work remotely while blending work with entertainment (see Fig. 2).

Flexibility in hospitality design is signified by user’s choices of volumes, shapes, colours, functions, connection and division of spaces. Movable partitions that allow connection or separation of spaces is of major importance, as the hosting space has to be used as living room, bedroom, office or even dining room. Transformable and

Fig. 2 Different activities hosted in the same space [17]

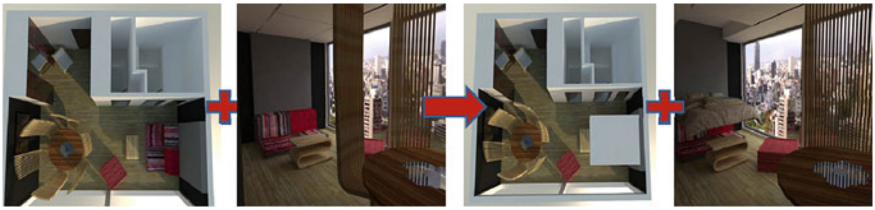

Fig. 3 Transformation of a hotel room to a more flexible one that can host living, sleeping and working on demand [18]

neutral high-quality furniture that merges the needs of the workplace with the living space are considered vital (see Fig. 3).

Digital nomads are also requesting advanced technology. Therefore, the space they would like to use should be minimal, transformable, functional and of high ergonomic standards, smart and high tech. Multifunctional common areas are requested to balance the needs of social engagement.

6 Technology and Smart Hospitality

Easy access to technology, effective wi-fi, printing facilities and professional presentation infrastructure are the easiest facilities to be provided to improve customer experience, however, guest experience can be further enhanced with smart technology, such as digital keys, single-device room controls, with one digital device or app able to control lighting, temperature, and music [19]. Smart rooms enable guests to control amenities and order any service through the hotel's voice assistant application or mobile apps. Media sets, window shades, lights, air conditioners, and other hospitality features are supplied with embedded software [20]. Covid-19 requirements resulted to a high demand for contactless communication and service, and consequently to the digital transformation of hospitality [21]. Technology is able to facilitate less touchpoints and a safe healthy environment in regards to the pandemic restrictions [22].

The technological background to a great extent has to be integrated in the construction and the design phase. Air cleanliness and filtering, hygienic solutions in bathrooms, and personalization of space with colours, wall decoration, art, can be based on technology that has to be planned and implemented in advance. Energy and water waste can be eliminated through advanced settings, such as light sensors and HVAC systems that are designed to detect movement, but they are also part of the initial design process.

From the Hospitality stakeholders' point of view, all-in-one property management is an area of technology that provides an umbrella of software and devices to make energy management, maintenance, repairs and future predictions easier. Additionally, virtual tours and videos providing a 360-degree view of the hotel improve bookings [20]. The appealing interior design and architecture becomes one of the most convincing tools.

7 Conclusion

The designer's role is extremely social and each designer owes to be aware of context specificities in order to propose effective designed solutions. The whole act of designing is actually a communication procedure, between on the one hand the society and the public that express general notions, ideologies, desires, statements, even fears and on the other the architects and designers that have to materialize those notions into spaces and objects in order to provide solutions and counter actions. The interaction between meanings, ideologies and concepts and their designed interpretation into material formations and visual manipulations provides the ground for a further semiotic reading that enhances a designer's conscious involvement in the understanding of the relationship of forms and products with needs and demands.

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Spatial Redesign Examples on Boosting the Identity of a Region Through Tourism Practices

Dionysia Fragkou and Ioanna Barkouta

Abstract Since the dawn of twenty-first century, a growing interest in rethinking and reconfiguring heritage has spread among architects, theorists and residents as well. Lately, the health crisis has also destabilized the semantic content, and planning of mobility. The pressure exerted by these multiple a complex entanglement of climatological, social, technological and economic conditions seems to rapidly transform the up to then self-evident interrelationship between mobility, culture and sustainability rendering the boundaries between mobility and identity volatile. Such conceptual transformations are reflected in tourism, revealing the relocation of associations between region, community and environment. At the same time, the urgency of these multiple crises resulted in a new 'tourism question', accelerating transformations both in terms of theory and design. The overarching goal of this paper is to investigate in a systematic manner the new reconceptualization of cultural heritage, tourism practices and its architectural—spatial interaction. Moreover, the project aims to problematize the notion of 'tourism crisis' and examines its interconnection to identity and to region through a study of specific designed examples from the Department of Interior Architecture, University of West Attica, Greece. The paper's outcomes are expected to enhance knowledge that is relevant to this new problematic on changing tourism practices and mobility modalities problematic as it is being imposed by multiple crises.

Keywords Heritage · Architecture · Tourism

1 "New" Heritage Industry

The need to redefine how tourist facilities and accommodation spaces are perceived and planned is not a recent observation [1, 2]. The different approaches to leisure time management and the changing requirements for quality and alternative lifestyles during holidays as well, force those participating in this process to invent new ways

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and methods in designing spaces of temporary accommodation. In this procedure hoteliers, tourist agents, administrators, event organizers and space designers need to cooperate.

Within this context, education in the design of hospitality spaces plays an important role. Participating in a multi-layered, comprehensive procedure, that is being revised and repositioned, ultimately leads to the further progress of leisure and bliss, since people engage themselves in the process of discovering both culture and lifestyles of inhabitants of the areas they visit.

The characteristic features of each place, the respect for cultural values and awareness of the environmental effects of tourism, become issues to be negotiated when it comes to research and educational processes, integrating thus the anticipated image of the tourist product. Notions such as cultural heritage, re-use, authenticity, over tourism, ecological footprint, sustainability, creativity, innovation and uniqueness become central points of reference of the above-mentioned negotiation, but also the background of metacognitive processes, that—in any case—may follow future developments. Thus, concepts such as space, cultural inheritance and authenticity are systematically analyzed. With respect towards the environment, the sustainability and the energy reserves of each area, new tourist models are suggested based on innovation, creativity and uniqueness.

1.1 Sustainable Tourism

"We only have one planet. And this planet is our only home". That was the message of the general secretary of the United Nations António Guterres for the World Environment Day. "We are asking too much from our planet in order to keep a lifestyle that is not sustainable" he warned, emphasizing that our choices do not just harm the Earth. They harm ourselves too [3]. As it was proved by research undertaken by athiNEA Research with the support of the hotel group Sani/Ikos entitled "Eco-friendly Greece: Best Practices of Sustainable Tourism from 21 Resorts Around the World", the tourist sector can play a defining role in the attempt to adopt a more sustainable way of life [4].

Usually, when we hear the term "sustainable tourism" we concentrate on what needs to be done by the industry. Still, the effort towards change requires group initiatives and cooperation. Each one of us becomes a valuable piece of the puzzle so that the wished-for transition to a sustainable, "green" future may be successful.

In this context, resorts can be found all over the world that also adopt the role of ecosystem custodians. Hotels adjacent to places of rich natural beauty do not only operate in ways that protect the environment in which they belong, but also advocate for environmental rebirth programs that highlight the value of biodiversity. In the same research of athiNEA, examples are been mentioned that illustrate such actions of the tourist hospitality sector, being able not only to enforce a new vision in the tourist industry, but also in common consciousness of us all.

Habitas Namibia, for instance, contributes to this effort by offering safe refuge to more than 30 rhinoceros and 200 giraffes. By studying their adaptation to the estate environment, it is seeking ways to resolve conflicts between human livelihoods and the need for wildlife protection in the area. In Fiji Islands, the Jean-Michel Cousteau Resort, in addition to its coral farm, also implements oceanic habitats conservation and mangrove reforestation programs. In Greece, Sani Resort in Halkidiki that extends over the wider area of Sani Wetlands—host to more than 230 species of birds—cooperates with the Hellenic Ornithological Society for the protection of this unique ecosystem and the implementation of a birdwatching program in the wetlands of the area, in which all hotel visitors can participate. Still, smaller units can be integrated within the practices of sustainable tourism and not just the big hotels. Hospitality spaces, as organized units operating in spaces of rare environmental and cultural value, increasingly realize that their most valuable asset are their surrounding environments [4].

1.2 Memory and Place

Space remains an abstract notion until it acquires identity as the result of human presence. Cities and by extension culture, become constantly mutating morphologies. Centered on the presence of humans and the plurality of emotions, images, expectations and dreams, abstract space is being transformed into place.

Hence, architectural works act as historical evidence. As such, they reinforce collective memory. One could argue that what we describe as architectural cultural inheritance acts as a form of materialized presence of the past. Architectural works however, do not only serve an established value system, but also partake in a continuous process of self-criticism and self-definition. Thus, community acts through history in the past, becomes self-aware and evolves. Also, buildings as references of the past become a characteristic of the ideological and historical identity of a place. Through their preservation, the continuation of tradition and the distinctiveness of a particular community within the world is being secured. More than that, they contribute to the shaping of education for the next generations, but also are being used as consumerist objects, playing thus, a big role in the development of visitation and tourism in a place [5].

2 Cultural Tourism

In an era of an ever-increasing globalization, the protection, conservation, interpretation and promotion of the cultural heritage of each area constitutes an important challenge. One of the primary targets of cultural inheritance management consists of the need to transmit the importance of its conservation to the members of the reception community and visitors. The natural, as well as the cultural environments are both included in the wider sense of the term "inheritance". This also incorporates landscapes, historic sites, built environment, as well as biodiversity, collections, old and continued cultural practices, knowledge and experiences. The International Charter for Cultural Tourism supports broader initiatives of ICOMOS and other international organisations and through its fundamental principles establishes the relationship between Cultural Sites and Tourism. A dynamic relationship which may entail conflicting values. Still, ensuring the authenticity of cultural sites is important and constitutes an essential element of their cultural significance [6].

2.1 The Experience of Accommodation and the Natural Wealth

The challenge of the future is experience, an opinion shared by all those who shape tourist politics. But what does experience mean and how can it be shaped? New architectural suggestions standing out, serve the idea for a '(re)turn' to nature. They also connect the visitor's experience with the local culture. They focus on the locals, on local products and trust local businesses. Furthermore, hotels themselves become cultural hubs. This way, architects delve into the principles of traditional architecture, redefining thus the notion of tourist accommodation in the sense of an offered cultural product. Design balances between two complementary experiences: the prominence of local idiom and the adoption of an architectural language looking forward into the future. This current suggestion for tourist accommodation focuses on the experience of place and its history. The revival of a forgotten way of life may become a source of emotions, experiences and memories. The discovery of a different way of subsistence and living may offer to humans a new visual perception of life. The revival of deserted places and their reconstruction with natural materials constitutes an approach that is environmentally friendly.

3 Examples from the Educational Context

All the above considerations and interpretations were updated through the transformations following the Covid era [3, 6]. Now that the world seems to be gradually "opening up"—after the introversion characterizing much of the Covid era—tourism seems to be redefining its role by giving an emphasis on the multiplicity of its identity. By keeping our eyes on this direction, we will be transferred in the academic environment. We chose design projects of students from the Department of Interior Architecture of the University of Western Attica in Athens who are processing new directions in design. The project focuses on the redesign of building shells of the recent history of the Lavrion mines in Attica, Greece. In the pine-covered landscape of Lavrion students were requested to redesign the deserted housing shells of the miners (Fig. 1), while keeping in mind the current value of tourism, the historicity of building shells and the importance of the landscape. In the context of this educational procedure taking place in the Department of Interior Architecture of the University of Western Attica in Greece, what was attempted was the transformation of such historical shells to accommodation spaces. The basic question posed here was the correlation between historicity and the current needs of the tourism landscape.

At the first figure, the student E. Mastrokosta, (Fig. 2), redesigned buildings by keeping the existing historical shell untouched, while adding to the interior of the "ruins" new shells. Connections—architectural routes were created between the buildings, reminding us the mine galleries in the area.

Fig. 1 Images and plan of the current state of building infrastructure to be redesigned by students

Fig. 2 Illustrations and facades from E. Mastrokosta

Students E. Boumi, D. Makrakis, M. Ouzouni and K. Nomikou, (Fig. 3), restored the geometry of mine galleries in order to create an extroverted landscape that connected historical buildings with the wider area, while simultaneously extending into the latter. In this case, new accommodation spaces were diversified geometrically from the initial building forms.

The element of relief was central in the redesign of students A. Nikolaou, K. Kakava and E. Koumanidou. New tourist uses merged with the landscape of the area, moving the project away from its previous historical identity (Fig. 4),

Fig. 3 Illustrations from E. Mpoumi, D. Makrakis, M. Ouzouni

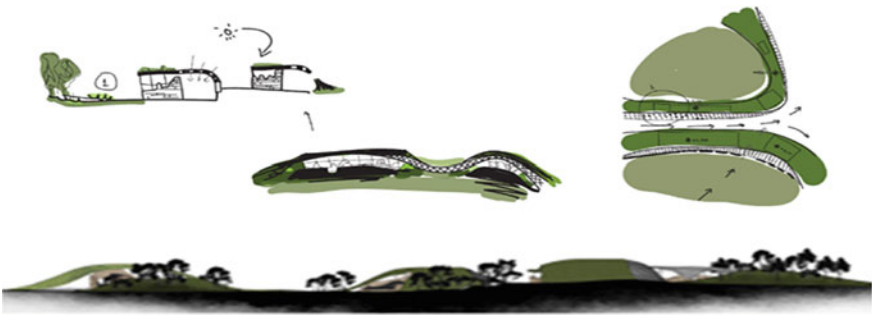

Fig. 4 Sketches and facades by A. Nikolaou, K. Kakava and E. Koumanidou

Fig. 5 Illustrations from P. Klitsa. E. Marasioni and A. Tranou

Contrary to this logic, students P. Klitsa, I. Marassioni and E. Tranou, (Fig. 5), chose to differentiate themselves completely from the historical identity of the area and its buildings, by designing a modern hosting complex, along the logic of “non-places”, where the multipolicy of uses does not include locality or the historicity of past uses.

4 Conclusion

The multiplicity and complexity with which new hospitality spaces are approached by the academic environment is seen. Being able to recognize existing conditions and to utilize facts introduced by the landscape itself, these cases allowed the emergence of a spatial combination, as well as the introduction of primary architectural issues, shaping thus, a self-referring architecture. The subtractive process of decay was translated into the decomposition of spatial systems, while the geometry and the dynamic process of transmutation of space demanded elementary geometrical shapes, which would allow its emergence. The intense presence of the soil, the preexisting structures and the grandeur of the landscape scale forced us to work with non-standard analogies, following a rustic aesthetic that resulted to the enhanced monumental presence of the landscape. Seasonality did not just constitute a phenomenon changing the image and atmosphere of landscape, but was further adopted as a design parameter that shaped functions and uses, such as the number of available beds, access, internal circulation and activities. Experience was transformed, shaping interest for different areas. With the upgrade and subsequent utilization of marginalized landscapes, a sense of activity was created which affected seasonality.

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Social Media Influencers' Perceptions on Consumers' Buying Behavior—An Exploratory Study

Despina A. Karayanni and Nikolitsa Koutsogiannopoulou

Abstract Influential marketing is gaining arousing interest in contemporary research among academics and practitioners. The vast majority of pertinent research on how influencers may affect consumer behavior is based on the followers' perceptions, regarded as consumers. Nevertheless, attention shed on the influencers' perceptions, regarded as the research field, is rather rarer. In this exploratory study we base upon quantitative data extracted from 65 Social-Media international influencers. Advanced statistical analysis, based on Confirmatory factor Analysis and Regression Analysis, produced findings implying that influencers' personality, followers' engagement and followers' performance risk minimization may influence the followers' buying behavior. On the whole, as our research results imply, companies partnering with influencers should recognize the need to provide them with comprehensive information and training, encompassing both the brand's attributes and the company's culture and values. This approach fosters a unified promotion strategy, greater customer engagement, and improved company-influencer alignment in communication strategies and goals, leading to enhanced products sales.

Keywords Influential marketing · Social media influencers · Consumer behavior

1 Introduction

Due to the global expansion of the "digital economy," social media influencer marketing has gained a lot of attention and has become a ubiquitous practice and a crucial component of any company's promotional efforts. In marketing, the influencer phenomenon is not new, as famous celebrities were the main drivers of consumer behavior even before the explosion of social media [1]. For example, for several decades, a well-established marketing communications' tactic is to use Hollywood personalities and movie stars [2]. As stated by Brown and Hayes [3], influencer marketing is the act of an external person who influences the consumers

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buying choices. According to Lou and Yuan [4], "influencer marketing is defined as a strategy that utilizes the personal influence of important opinion leaders to increase consumers' brand awareness and purchase intention". Specifically, social media influencers are considered opinion leaders for their followers in the social networks in which they perform [5]. Along similar lines, Schwemmer and Ziewiecki [6] cite that these influencers act as catalysts in the informal communication process that piques a potential client's interest. On the whole, research and applied evidence suggest that there is a relationship between influencers and consumers behavior. As a matter of course, influencer marketing is a form of social media marketing involving product placement and endorsements from influencers [7]. In order to measure the impact of Social Media Influencers, consumer behavior research is mainly focusing to the target market, i.e., the consumers. Nevertheless, the respective research upon the personalized communication media, the influencers, per se, is rarer. With this research we make an attempt to fill this void. Specifically, we focus on the influencers and examine their perceptions on how influencer marketing may affect consumer purchasing decisions. Indeed, influencers' understanding of their role as intermediaries between the promoted companies and the target market is crucial, as their personalized communication behavior and performance may depend upon these perceptions. Moreover, it is crucial to examine, even at exploratory stage, the promoted companies' choices and effectiveness to lean upon Social Media influencers, as intermediaries for their marketing communication strategies. This paper aims to examine whether: (i) Influencers' personality, (ii) Followers' engagement, i.e., through User Generated Content, and (iii) Followers' performance risk minimization, may be related to consumer behavior.

2 Literature Review and Hypothesis Development

2.1 The Relationship of Influencer's Personality with Their Followers' Buying Behavior

The importance of role perceptions of human interface that lies between the boundaries of suppliers and buyers, has been the research subject of very rigorous research in the marketing literature. For example, in the realm of salesforce management, personality traits, aptitude, role perceptions and motivation were found to be important determinants of sales intermediaries' performance [8]. In the realm of social media, one paradigm of the human interface between the company and the buyer is the social media influencer. Specifically, an influencer may be anyone, from a fashion blogger on Instagram to a travel blogger, or an academic expert, who tweets on Twitter. Academics have used a variety of definitions to describe social media influencers [9]. More recently, Dhanesh and Duthler [10] defined social media influencers as those who, through personal branding, develop and sustain relationships with their followers on social media and have the power to enlighten, entertain, and shape their followers' opinions and actions. In this way, influencers successfully shape consumers' perceptions towards products or services by posting videos, content, or pictures on their social media channels. Moreover, they could act as an independent third-party endorser who recommends and describes the products through the social media contents, which could influence the consumers' opinions, behaviors, and attitudes towards a product [11]. One of the most crucial factors driving social media users to follow an influencer is the influencer's personality. The relationship between social media influencers and their followers is built upon trust and the influencer's unique personality [12]. The attractiveness of an influencer's personality has a direct impact on how followers see them, influences how positively they feel about a brand [13] and is essential in developing consumers' positive purchase intention towards brands and products [14].

Thus, we hypothesize: H_1: Influencers' personality will be related to their followers' buying behavior.

2.2 The Relationship of Followers' Engagement with Their Buying Behavior

The role of customers' engagement in companies' posts, through interactive interfaces, i.e., through submitting their comments on online WEB pages and social networks has attracted researchers' attention, long ago, with the introduction of WEB2.0 interactive technology, that enabled the user to upload her own content. For example, Karayanni and Baltas [15] have found a relationship between industrial buyers' comments submission through companies' Web Sites and other social networks (i.e., newsgroups, etc.) with salesforce performance. For one thing, when consumers have the ability to express their positive opinions on various marketing fora, i.e., the social media, they essentially become active advocators of the respective brand, which is an utmost branding goal. On the other hand, even if consumers submit negative criticism, this may be an opportunity for companies to identify the weak aspects of their brand, and to improve it, while they may also increase their brands awareness, at the same time. Indeed, Berger et al., [16] found that although companies and individuals often try to quiet negative publicity, in some cases, the later can actually have positive effects. Studies have shown that influencers' content positively impacts consumers' purchase intention [17]. This User-generated content (UGC), that influencers produce by highlighting the brand's goods or services, is a common component of influencer marketing. Customers also utilize this technology to research businesses and their goods before making purchasing decisions. Additionally, they feel more comfortable expressing themselves because of the anonymity and security that social media offers, which enables users to express their true sentiments about the brands they interact with [18]. Stated formally, we hypothesize that: H_2: Followers' engagement will be related to their buying behavior.

2.3 The Relationship of Followers' Performance Risk Minimization with Their Buying Behavior

Perceived risk is the level and amount of uncertainty that customers feel when considering a purchase and worrying that something might not go as planned. It is described as the potential loss that consumers expect to experience as a result of purchasing a good, or service [19]. Perceived performance risk is very important as it is related to brand loyalty, thus to consumer behavior. Along the marketing literature we find extensive research on this relationship [20]. Influencers may have the power to arouse favorable feelings and persuade customers to make purchases, but they can also have the opposite effect [21]. Furthermore, Deshbhag and Mohan [22] recently showed how perceptions of risk influenced attitudes and intentions to purchase consumer goods. Thus, we hypothesize that: H_3: Followers' performance risk minimization will be related to their buying behavior.

3 Methodology of the Study

The research design of this research is exploratory and in order to support our research hypotheses, we followed the guidelines of Churchill and Peters [23]. First, we delved into the pertinent marketing literature, as well as, on primary data selected from qualitative research, through personal interviews, from 10 key informants operating in the social media-marketing field. As a next step, we developed quantitative research instrument, by scratch, based on the literature review and the primary qualitative data for a convenience sample of 300 influencers.

3.1 Measures Operationalization, Reliability and Validity Assessment

All attitudinal measures were tapped by 5-point Likert scales, ranging from strongly disagree = 1, to strongly agree = 5. The rest measures capturing social media types, use intensity and influencer's motives were categorical, dichotomous. Specifically, the measure 'Influencer's personality' was tapped by two items, namely: (a) When followers feel familiar with me, then this would positively influence their opinion about the brand I represent, and (b) Influencers play a significant role to the diffusion of a new brand in the market. Two items measured 'followers' engagement' and shared the common preposition: *The following content types may have an impact upon your followers' buying behavior*: (a) Uploading followers and buyers' comments on the influencer's social media and (b) Uploading followers and buyers' images on the influencer's social media. The measure 'followers' performance risk minimization' was tapped by four items that shared the common preposition: *Social*

Media Influencers may help their followers, regarding the following buying decisions: (a) To decide upon issues for which they don't have enough information, b) To minimize the information research time for issues of interest to them, (c) To minimize the risk of spending money for a product that might not worth it, and (d) To feel safer regarding the product quality of the product that they want to buy. Finally, for the 'followers' buying behavior' measure, we used three items, all of which shared the common preposition: *Every time that I promote a new brand to my followers, it is more likely that*: (a) They would buy it, when I give information relative to the product, (b) They would buy it, next time that they would need it, (c) They would buy it when they see me to use it, in person.

As, a next step, in order to assess reliability and validity of the above measures, we followed the guidelines of Gaskin and Lim [24]. As a first step, we performed Exploratory Factor Analysis (EFA), for all four lists of items, reflecting the constructs: influencer's personality, followers' engagement, followers' performance risk minimization and followers' buying behavior, respectively. The EFA results depicted that all constructs met the discriminant validity criteria. All factor loadings were higher than 0.50 and Total Variance Explained was over 60% (sig < 0.000). Furthermore, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was higher than 0.80 and Bartlett's test of sphericity was highly significant ($p = 000$) for all variables, which rejects the null hypothesis and shows that the described attributes are correlated within the population.

To assess construct validity, we performed reliability analysis which produced Cronbach alphas higher than 60% for all scale constructs, thus implying that our measures were valid and reliable, which enabled us to proceed to hypothesis testing.

3.2 Sampling

The quantitative research instrument was uploaded to the University server and an email was sent to a convenience sample of 300 international influencers, operating on various social media, i.e., the Instagram, TikTok, Facebook, Twitter, YouTube and Pinterest, politely urging them to volunteer in engagement of this research. The data collection resulted in 65 fully responded questionnaires, yielding 21.7% response rate, which compares favorably with similar response rates of Web-based marketing surveys [25].

3.3 Demographic Characteristics

Regarding their motivations for becoming influencers, 52.3% cited economic incentives, 30.8% mentioned seeking publicity, while the remaining 16.9% indicated interactivity and socialization as their primary reasons. These findings imply that the research participants have chosen to be influencers mainly for economic reasons, or publicity, which underpin their essential role as professionals in the realm of social media promotion. The most commonly used social media platforms were Instagram, Facebook, and TikTok, with 95%, 89%, and 83% of participants citing them, respectively. In con-trast, Pinterest was the least popular social medium, mentioned by only 59% of the participants. YouTube and Twitter fell in between, with 69 and 45% of our sampled influencers reporting their use to support their promotional strategies. Finally, concerning the product types that these influencers cited to promote, the most commonly encountered category was traveling/entertainment, followed closely by the product category of clothing/footwear, as reported by 83% and 80% of the respondents, respectively. The remaining categories, including cosmetics, clothing accessories, nutrition/fitness, and technology products, were encountered by 59%, 57%, 40%, and 19% of the sample, respectively.

4 Findings and Discussion

Our research hypotheses were then tested using advanced statistics, and specifically, correlation analysis and regression analysis. First, we performed correlation analysis among all four measures, and specifically, followers' buying behavior was correlated with influencers' personality, followers' engagement and followers' performance risk minimization, at rates 0.43 ($p < 0.001$), 0.25 ($p < 0.05$), and 0.27 ($p < 0.05$) respectively. These findings encouraged us to proceed to regression analysis. Thus, in order to test Hypotheses 1–3, we regressed all three hypothesized determinants upon the dependent variable followers' buying behavior. As shown on Table 1, all three variables had explanatory powers upon the determinant followers' buying behavior, thus supporting our research Hypotheses.

Specifically, an influencer's personality appears to play a role in shaping their followers' purchasing intentions. Consequently, when an influencer acknowledges

Table 1 Regression of influencers' personality, followers' engagement and followers' performance risk minimization upon followers' buying behavior

Regression coefficients	Followers' buying behavior
Influencer's personality	0.42***
Followers' engagement	0.32***
Followers' performance risk minimization	0.21**
Overall R^2 =	0.32
df =	3
F =	9.6
Sig. =	< 0.001

VIF < 2 for all the coefficients
**$p < 0.05$
***$p < 0.001$

the importance of their personality in influencing their followers' buying choices, they may become more diligent in their promotional endeavors. This, in return, deepens the connection between the influencer and their followers, ultimately bolstering consumer behavior. Consequently, influencers must exercise caution, recognizing their role as potential role models who can impart specific principles and attitudes to their followers. Simultaneously, companies looking to collaborate with influencers should exercise care, not only evaluating product alignment with the influencer's image, but also considering the values and principles conveyed by the influencer's personality. Our research findings suggest that the latter can substantially influence the likes, dislikes, needs, and preferences of their customers and followers. Furthermore, our findings suggest a relationship between followers' engagement and their purchasing intentions. Influencers believe that by encouraging followers to actively participate in their social media communication, by sharing user generated content, such as comments and images, they can turn them into advocates for the product. This, in turn, leads to increased brand loyalty and, consequently, to higher product sales. Third, our research findings affirm a relationship between followers' risk mitigation and their purchasing behavior. When influencers believe they can effectively reduce their followers' perceived performance risk, it leads to increased product sales. These findings underscore influencers' recognition of the significance of their personality in influencing brand purchases. Moreover, our research findings suggest that influencers who actively keep their followers engaged with content may also influence their buying intentions. Likewise, as our study's evidence implies, one repercussion of followers' engagement is that it may lead to reduced product performance risk, which is related with higher sales. Eventually, companies that partner with influencers should consider the implication that they need to provide comprehensive information and training, covering not just the qualities and performance of the promoted brand, but also the company's culture and values. This approach facilitates a more unified promotion strategy, increased engagement with their target customers, and improved alignment between the company and influencers, in terms of communication strategies and goals. Ultimately, this alignment may lead to company-influencer synergy that is interprets to increased product sales. Online brand communities for different products and services can be created [26–28].

5 Limitations and Directions for Future Research

This research is primarily exploratory in nature, and it is important not to generalize too far, based solely on the study's results. To provide stronger validation for our findings, further research with a larger and more diverse sample is warranted.

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Human Resources Literature After Covid-19: A Human Versus AI Analysis

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Abstract In the post-Covid-19 era, identifying emerging trends in human resources management has become crucial for organizations seeking to adapt and thrive in the ever-changing landscape. Recognizing these trends enhances employee engagement, talent acquisition, and overall organizational effectiveness. One approach to unveil these trends is bibliometric analysis, which helps researchers identify influential topics and themes within the field by analyzing publication patterns, citation networks, and keyword co-occurrence. By evaluating bibliometric indicators such as citation counts and h-index, researchers can identify influential authors, institutions, and publications, fostering collaborations and knowledge-sharing opportunities. Additionally, this analysis reveals underexplored areas in literature, guiding the development of research agendas and addressing important unanswered questions in human resources. With the emergence of Artificial Intelligence (AI) tools such as Elicit, Iris, and Litmap, new possibilities arise to perform bibliometric analysis. Comparing the gains from AI-driven methods to traditional approaches, this research paper aims to understand their relative benefits in the context of human resource management after Covid-19. Although AI offers a wider range of data sources and more comprehensive insights, traditional methods still hold value, particularly when context-specific knowledge is vital. The choice between AI and traditional methods depends on research objectives, data availability, and the resources and expertise available to researchers. Ultimately, adopting emerging trends in human resources through effective bibliometric analysis can give organizations a competitive advantage, ensuring their ability to proactively adapt to the dynamic needs and expectations of their employees and achieve sustained success.

Keywords Human resources literature · AI tools · Traditional bibliometric analysis · Research gains

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1 Introduction

After the Covid-19 pandemic, it became clear how important it can be to identify emerging trends in Human Resources Management (HRM), as it enables organizations to stay ahead of the curve, adapt to the changing needs and expectations of employees, and proactively implement innovative practices that improve employee engagement, talent acquisition, and overall organizational effectiveness [1, 2]. There are several approaches that can be adopted to reveal these trends, and bibliometric analysis is one that helps researchers identify emerging research trends within the field. By analyzing publication patterns, citation networks, and keyword co-occurrence, researchers can gain insight into the most prominent and influential topics and themes in human resources research. This knowledge can guide future research directions and highlight areas that require further exploration. Since ChatGPT emerged, Artificial Intelligence (AI) tools have been compared and used to develop this type of analysis, leading to question if the gains from this new approach overcome the ones from traditional bibliometric analysis. Thus, this paper, employing both a traditional approach and a combined use of AI tools, aims to unveil the gains and throwbacks of both approaches, using the research developed in the HRM field after Covid-19 as the scope of analysis. This work provides a comparative snapshot of the research conducted in this field by (i) reviewing the concepts related to HRM, (ii) analyzing the research reported in a three years window using a traditional versus an AI method, and (iii) unveiling research gains and future directions.

2 Literature Review

2.1 *Human Resources Management*

Human Resources Management (HRM) is the strategic and operational process of effectively managing the workforce to achieve organizational goals and objectives, encompassing several activities and responsibilities related to the management and development of human capital within an organization. Its main focus is to optimize employees' performance and productivity, ensuring their well-being and job satisfaction [3–6]. Different definitions and interpretations of the concept of HRM arise from various perspectives and evolving organizational practices, depending on the context, the organization's size, industry, and management philosophy [7, 8]. It is essential to recognize that HRM is a dynamic field, where business practices and employee expectations evolve; in addition, different organizations may adopt a combination of these perspectives to suit their specific needs and organizational culture. The COVID-19 pandemic has brought about significant challenges for HRM, many resulting from the sudden and unexpected changes in the work environment and the workforce [1, 2, 9–11]. Navigating these challenges requires HRM to be adaptable, empathetic, and proactive. By embracing new strategies and technologies, focusing on employee well-being, and maintaining open communication with the workforce, Human Resources (HR) professionals can play a critical role in helping organizations succeed in the post-pandemic period.

2.2 Bibliometric Analysis as a Source of Knowledge

Bibliometric analysis is a valuable source of knowledge that utilizes quantitative and statistical methods to assess and analyze scholarly publications and their citation patterns [12]. It provides researchers with an overview of the research landscape in a specific field, including the volume of publications, growth rate, and distribution of research across journals and institutions. The analysis uncovers emerging research trends and hotspots by examining keyword co-occurrence and citation networks, guiding researchers toward relevant and influential topics. Overall, bibliometric analysis enriches our understanding of scholarly research, facilitates collaboration, and guides future research directions. To draw accurate and meaningful conclusions, researchers must interpret bibliometric data cautiously, considering its limitations and potential biases. Human and AI bibliometric analysis differ in critical aspects, including data collection, processing, analysis, and interpretative capabilities (see Table 1).

3 Study Methods

Research in HRM extends beyond journals in the HR field, leading to scattered relevant materials across various academic publications, becoming the perfect field to conduct this study. To address this issue, the present study incorporates three stages: (i) traditional bibliometric analysis; (ii) AI analysis; and (iii) a comparison of the results of the first two phases. A traditional bibliometric analysis systematically gathers, evaluates, and analyzes scholarly publications and their citation patterns [12]. In this work, a general protocol comprehending five stages was adopted: (1) The research objectives were set by clearly defining the scope of the bibliometric analysis, focusing on HRM articles published between 2020 and 2023; (2) to identify relevant publications, a comprehensive literature search was conducted using the Web of Science database, known for its academic credibility, to enable a comparison of outcomes [13]; (3) data collection involved extracting essential information, such as publication details and citation data, from chosen publications; (4) data cleaning and pre-processing were performed to eliminate duplicates, correct errors, and ensure data consistency; (5) the selection of bibliometric indicators included citation counts, h-index, journal impact factors, co-citation analysis, and keyword co-occurrence analysis.

Table 1 Differences between Human and AI bibliometric analysis

Dimension	Human	Artificial intelligence
Data collection	Researchers manually search and gather relevant scholarly publications from databases, journals, and other sources in human bibliometric analysis. This process requires substantial time and effort	AI-based tools can automate data collection using web scraping techniques and accessing vast databases. AI tools can retrieve a large volume of publications relatively quickly
Data processing	Researchers manually clean and preprocess the collected data to remove duplicates, correct errors, and ensure data accuracy and consistency. This process can be time-consuming and may be prone to human error	AI tools can automatically clean and preprocess data, minimizing human errors and reducing the time required for data preparation
Analysis capabilities	Human analysts can apply subjective judgment and domain-specific knowledge during the analysis, drawing nuanced insights and making contextually relevant interpretations	AI tools use objective and standardized algorithms to conduct the analysis. Although they can efficiently process large datasets, they may lack the ability to make subjective interpretations or recognize subtle patterns
Interpretative abilities	Human analysts can apply critical thinking, domain expertise, and creativity to interpret the results and draw meaningful conclusions. They can provide in-depth context and insights beyond what automated tools can offer	AI tools can generate quantitative data and visualizations but cannot provide qualitative or contextual interpretations. Researchers need to rely on their expertise to make sense of the findings
Flexibility and adaptability	Human analysts can adapt their approach and refine the research questions based on initial findings, allowing greater flexibility in the analysis process	AI tools follow predefined algorithms, limiting their flexibility and adaptability. Researchers may need multiple AI tools or customized algorithms to address specific research objectives
Validation and reliability	Human analysis can be subject to biases and errors, but researchers can validate and cross-check results through peer review and rigorous methodologies	AI tools are generally reliable in processing large datasets quickly, but their accuracy and reliability may depend on the quality of the data and the algorithms used

On the other hand, a bibliometric analysis using AI tools can be a powerful and efficient way to gain insights into scholarly publications and their citation patterns faster. When conducting a bibliometric analysis using AI tools, some of the protocol tasks are similar to those adopted in the traditional bibliometric analysis, but processed by AI tools, as seen below: (1) clearly define research objectives; (2) for data collection, researchers can utilize AI tools like SciScape, Iris, Litmap, and Dimensions, offering access to vast scholarly data, including publications and citations; (3) input data depends on the chosen AI tool—researchers can specify parameters like keywords, authors, and publication years to gather relevant publications; (4) AI-driven data analysis autonomously conducts bibliometric analysis, extracting bibliographic information, performing network analysis, and identifying trends; (5) built-in bibliometric indicators are used; (6) AI tools provide visualizations, such as network maps and trend graphs, for a more intuitive understanding of the research landscape; (7) interpretation involves analyzing AI-generated results to gain insights into influential authors, publications, and emerging trends in the field. The third phase of this study is concerned with comparing the results of the two bibliometric analyses. In both approaches, the researcher must draw meaningful conclusions from the analysis and relate them to the initial research objectives. The same happens in addressing any limitations of the study and suggesting potential future research directions, keeping in mind the specific capabilities and limitations of the AI tools used and the database access limits that the traditional approach may have.

4 Results

The traditional process on Web of Science used as search words "human resources" and presented a total result of 3.656 entries. The highly cited papers' filter was actioned to find the most relevant papers, totalling 269 entries; each entry was analyzed (title and/or abstract) to learn that only 10 papers reconciled both human resources and covid themes. Due to this result, it was detected that most of the papers presented only one of the keywords searched, motivating a refinement of the search. The publication year of the 172 papers obtained varies between 2020 (total 33), 2021 (total 126), and 2022 (total 13). Regarding the field of study of the source (journal), this item presents a broad spectrum of themes as the following results attest: Business, Development Studies, Economics, Education Educational Research, Ergonomics, Ethics, Gerontology, Health Policy Services, Healthcare Sciences Services, Hospitality Leisure Sport Tourism, HR, HR for Health, Industrial Relations Labour, Management, Medicine Research Experimental, Multidisciplinary Sciences, Nursing, Psychiatry, Psychology, Public Administration, Public Environmental Occupational Health, Social Sciences Interdisciplinary, and Urban Studies.

Looking at the paper's content, it is possible to notice that over 90% of the articles were published in thematic journals. Human resources and human resources for health were the main fields of publication (21.5%), followed by business and management fields (12.7%) and multidisciplinary sciences (9.7%). The publications are mainly produced in the USA, followed by China, England, Canada, and India. After the initial descriptive analysis, a keyword co-occurrence network was developed using VosViewer software (see Fig. 1). To better understand these streams of research, a clustering graph was composed based on abstracts and titles, showing a total of three clusters (see Fig. 1): Cluster 1 (red) is formed of 45 items; Cluster 2 (green), 23 items; and Cluster 3 (blue), 19 items. In Cluster 1, the item resource stands out; this item correlates more expressively within the cluster with the items analysis and data and the other two clusters, namely, with the items change, HRM, employee, organization, and work. Cluster 1 presents the research focus on human resources—data analysis and the inherent research process. Cluster 2 is more focused on the human resource development (HRD) issue given by employee, work, and organization items. HRD is a central issue in the research under study; it is also a pillar of organizations in what concerns their sustainability, the increasing importance of human resources (employees), and their sense of belonging and loyalty to an employer. Cluster 3 is centered on change, context, and HRM. HRM is vital in recognizing all contextual influences on an organization and its employees. The context of change is synonymous with adapting all stakeholders for the general good. HR departments and/or responsible people assume responsibility for managing different interests that should culminate in a healthy and prosperous organization supported by happy and fulfilled employees.

The outcome of the AI bibliometric tools to the same research query, using the following path integrating the different AI tools, Dimension, Litmap, and Iris, was the following (Table 2).

The number of works found was higher than in the traditional bibliometric process, even delimiting only to commerce, management, tourism, and services. Using the

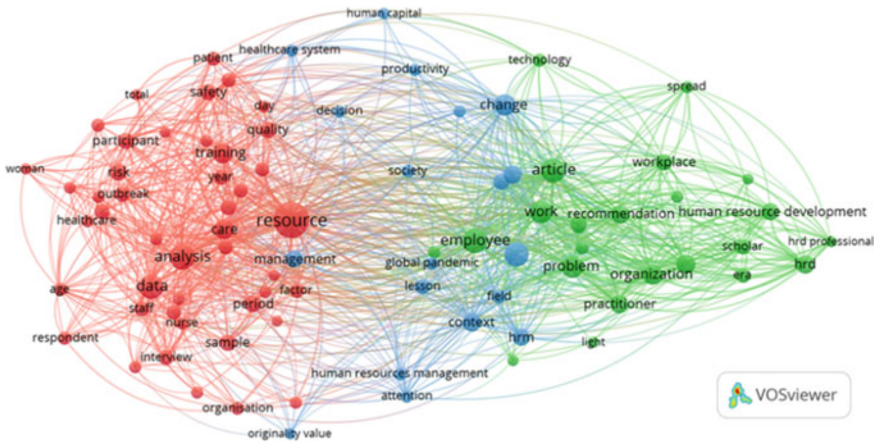


Fig. 1 Keyword co-occurrence network

Table 2 Number of articles found in Dimensions.ai

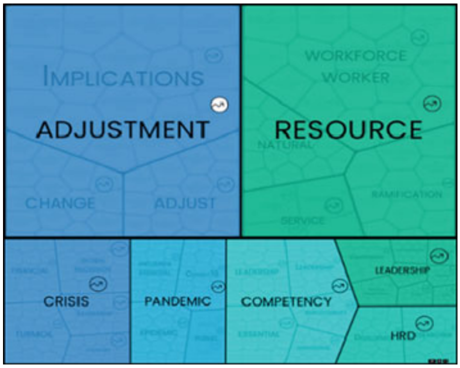
Areas	Number of articles
32 Biomedical and clinical sciences	370,296
42 Health sciences	220,103
3202 Clinical sciences	1902
35 Commerce, management, tourism, and services	169,314
40 Engineering	157,329

results of the analysis and the Litmap application, a co-authorship map was found (see Fig. 2). Litmap maps two strong clusters anchored in (1) the risks driven by broader technology adoption and (2) the new challenges teleworking poses. The map on Fig. 3 was produced by combining these outcomes and using the Iris tool. The left side (blue squares) shows the external elements conditioning firms' HRM, ranging from financial constraints, economic and global recession, and public and healthcare issues. According to the different authors, acknowledging the challenges posed by the external environment can be useful to better and quickly adjust to new work conditions and leverage some of the characteristics of the people working in the firm.

Nonetheless, when focusing on the right side of Fig. 3, the HR competencies and leadership capabilities, combined with HRD, are also critical trends.

Fig. 2 Authors and thematic co-occurrence network

Fig. 3 Thematic predominance and network



5 Discussion and Conclusions

Traditional bibliometric analysis used data retrieved from the Web of Science. Most of the articles published focus on the North American and European realities, and the most researched topics included the adjustments needed and a set of differential issues that arise from remote work. The topics could be aggregated into nine clusters using VosViewer. This analysis allowed to identify as future HR trends the employee well-being, the adoption of remote and hybrid work models, the enhancing employee experience, the offer of flexible benefits, and the integration of HR technology seamlessly.

The AI approach was conducted using a combination of three different AI tools (SciScape, Iris, and Litmap). The outcome produced came from a wider range of data sources, and the Europe and America dichotomy disappeared. Nonetheless, there was a convergence in terms of gaps and future trends mapped, with the emphasis on the gains from the use of AI and automation, data-driven decision-making, upskilling of employees, and focusing on diversity and inclusion.

While AI offers numerous advantages, it is important to note that traditional bibliometric analysis still provides valuable insights and may be preferred in certain situations where manual curation or context-specific knowledge is crucial. The choice between AI and traditional methods depends on the specific research objectives, data availability, and the expertise and resources available to researchers.

This study contributes to the advancement of bibliometrics as a field of study and potentially enhancing the quality of research evaluation and decision-making, by pointing out the gains and differences between the two methods. Considering that AI tools can identify connections and patterns across different disciplines, facilitating interdisciplinary collaborations and knowledge transfer, future research should try to assess how this interdisciplinary approach can be valued by firms and policy makers.

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Exploring the Hospitality of Mount Athos' Monks: Insights from Visitors Impressions

Constantinos Kyprianou and Christos Vassiliadis

Abstract Hospitality has played a significant role in Orthodox monasticism, driven by selfless love for fellow human beings. This article explores the impressions of visitors to Mount Athos, regarding the hospitality provided to them by the Mount Athos' monks. The subject of hospitality for the monks is quite important because it is the beginning of love for fellow human beings. The purpose of the article is to examine the reception and hospitality of the visitors of Mount Athos by the monks and the recording of their impressions of this hospitality. It focuses on the example of the monastic community of the Athos peninsula and how the monks receive and welcome visitors. General impressions of the visitors throughout their access and stay on Mount Athos are also examined. The behavior of the monks towards the visitors is characterized as cordial and exemplary. The research focused on visitors, recording their experiences from their stay on Mount Athos and the stages of hospitality provided to them. Questionnaires to visitors after their stay on Mount Athos were used as means of collecting the research. The survey results demonstrate that the visitors' impressions are described as special and unique. The majority of visitors were completely satisfied with the care they received in terms of accommodation, material and spiritual food. Could the hospitality of the monks of Mount Athos work as an example of hospitality for tourism? The way in which the monks of Mount Athos approach the visitor is special and unique. The use of the hospitality philosophy of the monks could enrich the hospitality of visitors in the tourism industry bringing significant results. This study contributes to the literature by enriching the understanding of hospitality practices within monastic communities.

Keywords Orthodox Monasticism · Mount Athos · Monks · Hospitality · Religious tourism

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1 Introduction and Background of Research

Mount Athos is a special peninsula and an autonomous state. It is the largest monastic community in Greece hosting a total of 1779 monks (population census 2021) [1]. The monastic life is not easy as it is a life of discipline and obedience. The monk abandons worldly life to live dedicated entirely to God. Thus, by abstaining from public life, he lives a more consistent Christian life, praying for his own salvation and that of others. Fr. Georgios Mantzaridis [2] quotes Saint Nikodimos who emphasizes that the most important characteristics of a genuine Orthodox monk are the way and love for God, which is not influenced by any material and vain things, since the monk leaves them behind him to love God without limit. Silence is the most suitable way for the mind not to be clear, to work and approach. Also, obedience is an important characteristic of a monk since the model is Christ's obedience to the Father which leads to true humility. Prayer is necessary for a monk, since it is the means, in the solitary struggle, that ensures a free mind. Moreover, work is necessary first so that the monk's reckoning does not escape and then so that the monk is not forced to go out into the world. Finally, love is of particular importance, as the Saint emphasizes: "solitary exercise without love does not save" [3]. According to William J. F. Keenan the monastic life is characterized by self-discipline, constant prayer and charity [1].

Hospitality without "discrimination" represents the way monks act. The landscape, the religious element [3] but also the love for God attracts visitors to Mount Athos all year round. There is the institution of "Avaton", that is, the prohibition of the entry of women into it. Only men are allowed to enter Mount Athos as according to tradition the only woman who visited Mount Athos was the Virgin Mary and that is why it is dedicated to her. The "abbot" as established is an inviolable rule and was created to ensure the purity of the monks as well as their protection in the various challenges [4].

According to William J. F. Keenan the monastic life is characterized by self-discipline, constant prayer and charity [4]. "Hospitality without discrimination" represents the way adopted by the Agioreite monks, since in the face of the guest they see Christ himself. The principle of hospitality in Orthodox life can be found in the book of the Old Testament in the chapter of "Genesis". According to her there was a man Abraham who was chosen by God making him the leader of the nation. One day while he was resting, he saw three angels and immediately begged them to host them.

After they accepted his invitation, he offered them a rich meal and a bath. On leaving, the angels announced to him that in a year he would have a child, since he and his wife were childless and old. The hospitality of Abraham is an important example to be imitated by the Orthodox Saint Monks. The article aims to provide an impression of the experiences of Mount Athos visitors had from the hospitality they received from the Monks.

Hospitality in the monasteries of Mount Athos is done in stages and ends with the visitor's farewell. Initially, upon entering the monastery, he is greeted by the Archon, who performs the ceremony of welcoming visitors. After welcoming the guest, he offers him cold water to quench his thirst from walking, and also treats him to sweet loukumi to take the sugar from his body due to fatigue. He then treats him to a raki that helps with sweating and then offers him coffee accompanied by a cookie, so that the conversation about the history of the visitor can begin. After the guest has rested, you take him to his room to settle in and then inform him about the program and the rules that the Monastery follows. The visitor during his stay has the opportunity to participate in the sacred services, in the ministrations, i.e. in the work done by the monks to keep the monastery in order and in the common table where the food is served. Also, the guest has the opportunity to talk with the fathers and to confess to the spiritual of the Monastery. When the stay comes to an end, the visitor taking all these experiences gets a blessing to leave and leaves with all the spiritual supplies that were offered to him.

2 Methodology

The methodology followed quantitative research. Questionnaires were collected from male visitors, since the entrance to Mount Athos does not allow women, the establishment of "Avato". For this purpose, a questionnaire was chosen with the convenience in a specific group that is easily approached and gives easy access to various data. It also gives the possibility of bulk data download from those interviewed. Primary data were collected by original research and recording which constitute field research. The questionnaire consists of twenty questions, four of which are demographic characteristics and sixteen concerning the impressions and opinions about Mount Athos and the cuisine. The results were collected and analyzed with the help of the SPSS program and the necessary comparisons were made between the questions.

3 Results and Discussion

The sample consists of 248 men who visited Mount Athos who answered closed questions regarding the impressions they received from the hospitality they received. First, the demographic characteristics of the respondents are presented, in terms of age, marital status, origin and the frequency of their visit to Mount Athos. The sample was divided into ages of which 17 people aged 15–20, which is 6.9% of the sample, 80 people from 20 to 25, which is 32.4% of the sample, 57 people aged 25–35, making up 23.1% of the sample, 47 people aged 35–49 making up 19% of the sample and 46 people aged 50 and over making up 18.6% of the sample. It is worth noting that Mount Athos attracts visitors from all age groups. 54% of the sample consists of men of Cypriot origin and 43.5% of men of Greek origin and the rest from other Orthodox countries (Serbia, Russia, Jordan).

To the question concerning the purpose of the first visit of the respondents, the majority answered that they visited Mount Athos for Pilgrimage (82%), 10% for an excursion, 6% for curiosity and 2% for work. The process of entering Mount Athos requires some steps such as booking accommodation in a monastery, issuing a document with the visitor's details and place of residence (residence), booking the boat to go to the Monasteries. From the answers of the respondents, it seems that there is a little difficulty in finding a place for the boat as only one route is scheduled per day, also sometimes due to bad weather conditions the route cannot be carried out as a result of which they cannot get out or enter visitors. There is still a small difficulty in communicating with the Monasteries for the issuance of the residence permit since there is a certain short period of time for communication. However, the majority of respondents answered that they did not encounter any problems at all in the process of entering Mount Athos (Figs. 1 and 2).

The initial impressions of the visitors sailing towards the Monastery are characterized by awe and respect, peace, tranquility and admiration. The beautiful landscape in conjunction with the sunset offers the visitor unforgettable experiences. Afterwards, the visitors commented on what impressed them from the initial greeting

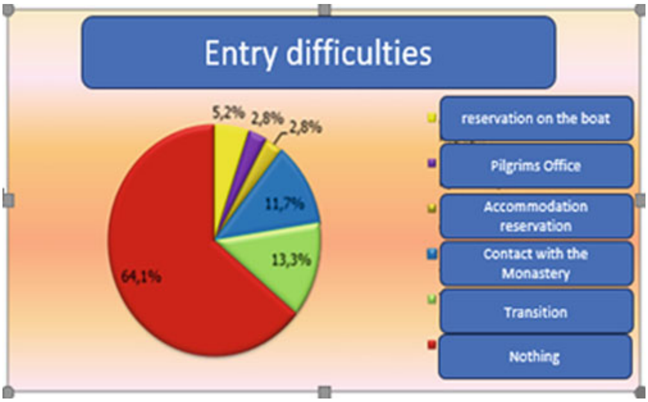
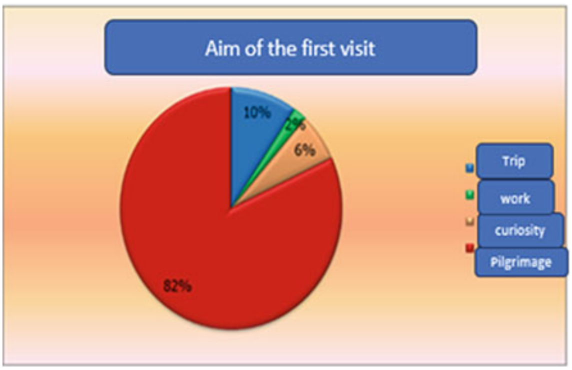


Fig. 1 Entry difficulties

Fig. 2 Aim of the first visit



they received from the Archontari (a monk whose job it is to greet the guests). The results showed that 10 (4%) of the respondents were impressed by the cool and clean water in the Monastery, 3 (1.2%) by the coffee offered to them, 45 (18.1%) by the handmade lokoumi, 44 (17.77%) with raki and tsipouro, 143 (57.7%) with the lord's hospitality, 2 (0.8%) with nothing and 1 (0.4%) filled in the "other" field by rose juice. It should be noted that the initial treat in the monasteries is offered to the visitor to rest him from the long journey he made to reach the Monastery. Also offer with selfless love from the monks since they follow the rules of offering to fellow man. The respondents' satisfaction with their initial hospitality was described by the majority as completely satisfied (Fig. 3 and 4).

Each Monastery has its own rules and their observance is quite important for all visitors. It seems that a small number of respondents found it difficult to change the time since on Mount Athos they use the "Byzantine Time" midnight is sunset and noon is sunrise. Also, some found difficulty with the limited meals since you only

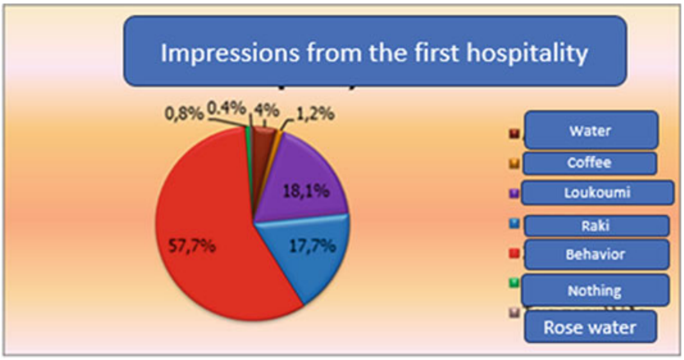


Fig. 3 Impressions from the first hospitality

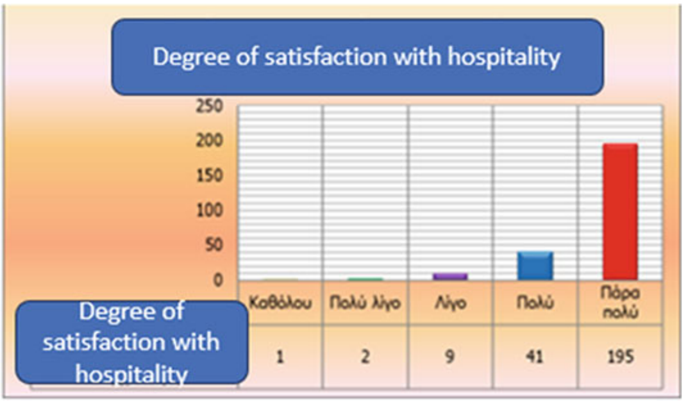


Fig. 4 Degree of satisfaction with Hospitality

offer food twice a day and at a specific time. The results show that 47 (19%) of the respondents encountered difficulty in changing the time, 3 (1.2%) of the respondents had difficulty in helping with the services, 29 (11.7%) in limiting meals, 21 (8.5%) in the duration and number of sequences, 9 (3.6%) in following many rules, 1 (0.4%) in waking up in the morning, while 138 (55.6%) stated that they had no difficulty with anything from all these. However, the impressions recorded by the guests regarding the process of the common meal (table) are characterized by wonder and awe. The reading while eating is what impressed the majority of respondents because this is how you offer both material and spiritual food. The results show that 93 (37.5%) of the respondents stated that they were impressed by the reading while eating, 22 (89%) of the respondents were impressed with the arrangement of the tables, 25 (10.1%) of the respondents with the common prayer before and after the meal, 64 (25.8%) with the ringing of the bell by the Abbot for the stages of the meal, 21 (8.5%) of the respondents were impressed with the laying of the Bank and 23 (9.3%) were not impressed with any of the above (Figs. 5 and 6).

The Mount Athos cuisine is characterized by the best cuisines combining love and pure ingredients. The blessed Monk Elder Epiphanios was the one who highlighted this way of cooking since it combines patience, slow cooking and fresh ingredients. The majority regarding the food answered that they did not find any difficulty in the food regarding the intake of meat, special flavors and small portions. The results

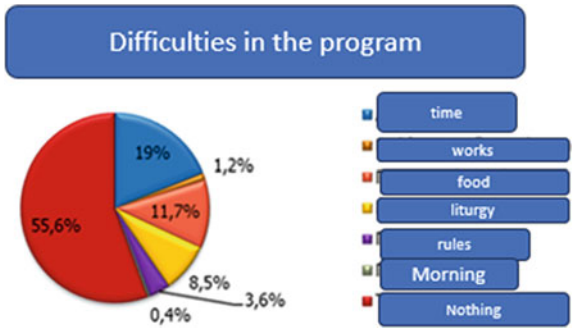


Fig. 5 Difficulties in the program

Fig. 6 Degree of satisfaction with hospitality

showed that 19 (7.7%) of the respondents encountered difficulty in the lack of meat, 16 (6.5%) of the respondents had difficulty because they encountered special recipes, 3 (1.2%) of the respondents had difficulty in the time that had to eat, 13 (5.2%) in that the portions were small and 197 (79.4%) in none of the above. Absolute satisfaction with the food was characterized by all respondents.

Visitors described their impressions of the hospitality they received and evaluated the quality of their accommodation and food. The results showed the pleasure of the majority of the sample of visitors with the accommodation and the hospitality they received. As literature has shown the Mount Athos cuisine is very special because the food contains fresh ingredients and pure love who become from God love. The food and hospitality on Mount Athos leave unforgettable experiences for visitors that will remain with them forever. On the one hand, the beauty of nature and the tranquility, and on the other hand, the unique flavors of the cuisine and hospitality are something unique for the visitor [12].

4 Conclusions

The hospitality of the Saint Monks is characterized by selfless love and giving. In fact, it occupies a dominant position in the hearts of the monks since in the eyes of the visitors they see Christ himself. The results show that the nobleman's behavior and reception is what made the most impression on the respondents, since the welcome is done with love towards the guests and with a lot of care. After all, the Mount Athos hospitality is visible from the beginning, as soon as the visitor enters the Monastery. The vast majority of respondents claimed that they were completely satisfied with the hospitality they received from "Archontaris". Subsequently, a large portion of the respondents answered that they did not find any difficulty in the program of the monastery, since the portion that answered had visited Mount Athos several times. Mount Athos receives daily visits from people who arrive to live unique experiences. The way of reception and hospitality could be used as an example by those involved in tourism bringing good results. The combination of respect and love for the guest is the key to success. What has been mentioned above, are interesting facts about Mount Athos and hospitality. Future research could focus on adapting the Monks' hospitality philosophy to the tourism industry.

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Higher Education Students' Necessity to Be Educated About the Concept of Water Footprint

Stergios Gkitsas, Spyridon Mamalis, and Irene Eirini Kamenidou

Abstract This research is part of a larger study and focuses on university students' perceptions of five behaviors (conserving water at home, conserving water outdoors, using a gasoline-powered car, conserving electricity, and purchasing new clothes) in the context of their generated individual water footprint (WF). Using an online questionnaire and data collection with a non-probability sampling method, a total of 694 university students were recruited and their responses were analyzed. Data analysis included frequencies, percentages, mean scores (MS), hierarchical, and K-means cluster analyses, for a first-level segmentation approach. The results of this study are preliminary results of a larger study. They show that university students (on a 7-point Likert-type scale), perceive that all five actions neither increase nor decrease their WF. Students perceive that using a gasoline-powered car leads to the highest personal WF (MS = 4.44). The segmentation analysis resulted in a two-group solution, the "Overly sensitive" (N = 313), and the "Somewhat knowledgeable" (N = 381). Results suggest that most participants are unaware of the impact of basic behaviors on a person's WF. These findings propose that sustainability education for university students and younger generations needs to be improved and that policy-makers need to fully incorporate sustainability and environmental education issues into university and school curricula. In addition, there is a need for intensive social marketing campaigns through various channels involving university students.

Keywords Water footprint · Higher education · Communication marketing campaigns

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1 Introduction

The water footprint (WF), an indicator of water use based on consumption, provides useful information about the usage of water by individuals and communities that can lead to more sustainable utilization of water resources [1]. The concept of WF was developed by Hoekstra και Hung in 2002 [2] to have a consumption-based indicator of water use that contains more information than traditional indicators of water consumption, such as water pollution caused by human activities [1]. WF has gained popularity among scientists, policymakers, and the public because it can inform a wide audience about water-related issues and future sustainability [3].

Since WF appears to be a useful indicator, it is important that everyone, but especially the new generations, know about it in order to make adequate environmentally conscious decisions regarding the consumption of products/services and water management. The ecological and carbon footprint, which are analogues to the WF concept [4], have attracted much more attention in educational approaches in universities [e.g., 5–9]. On the other hand, similar efforts for WF are much fewer [e.g., 10–13]. To our knowledge, there is only one study that deals exclusively with the perceptions of university students on WF, namely Çamur et al. [14].

The current paper attempts to partially fill this gap by examining higher education students' perceptions of WF. It seeks to highlight their comprehension of the WF concept and suggest ways to enhance their understanding if needed.

The research questions (RQ) underlying this study are as follows:

RQ1: How do university students perceive the impact of their daily activities on their WF?
RQ2: How can they be classified based on these perceptions?
RQ3: What are the ways to improve their understanding of WF so that they can make more environmentally conscious choices in their daily lives?

The results of this study (even though they are the preliminary results of a larger study) are significant on a personal and governmental level. First of all, they provide insight into the youngest adult members of society and their perceptions of their behavior on their WF. Secondly, they provide a basis for government officials to reform school curricula based on related research results on a primary, secondary, or higher education level.

2 Literature Review

While there are numerous papers regarding the WF, the majority of them lay on its methodology. Specifically, most of them are not pedagogically focused but aim to calculate the WF of products, territories, and countries [e.g., 15]. As for research on WF and education, there are only a handful of studies (to our knowledge) that focus on teaching university students the concept of WF [e.g., 10–13]. The aim of these studies is to make students aware of the impacts of their daily activities on water resources by calculating their WF and suggesting ways to change their behavior to reduce these impacts [10, 11]

The study by Çamur et al. [14] is the only study exclusively aimed at assessing university students' perceptions of the WF concept. They found a lack of knowledge about water resources and water consumption and found that students who know about WF have a more environmentally friendly attitude. There is also a study by Bilgin et al. [16] that aimed to measure the knowledge level of university students ($n = 446$) about global warming and climate change and all the environmental footprints, including WF. They reported that students generally had little or no knowledge about any of the environmental footprints.

3 Methods

An online questionnaire adapted specifically for this purpose based on a previous ecological footprint study [17] modified for the aim and objectives of this study was used. Data were collected from 694 university students who met criteria for participation. These criteria were to (a) study at a higher education institution in Greece (therefore, snowball sampling was utilized), (b) have access to the internet, and (c) give consent for the use of the collected data. The question analyzed in this paper refers to students' perceptions of the impact of certain "uses" or behaviors on their personal WF. Specifically, after providing with a definition of the WF and its difference compared to carbon footprint, university students were requested to indicate how they perceived the impact of five presented actions on their personal WF. These five actions-statements were the following: conserving water at home, conserving water outdoors, using a gasoline-powered car, conserving electricity, and purchasing new clothes. These five actions were selected due to existing prior research that documents ecological footprint perceptions [e.g., 17]. The answers were given on a 7-point Likert-type scale (1 = decreases it a lot, 2 = decreases it a little, 3 = somewhat decreases it, 4 = neither increases nor decreases it, 5 = somewhat increases it, 6 = increases it a little, 7 = increases it a lot). Data analysis included descriptive statistics (frequencies, mean scores, standard deviation), hierarchical, and K-means cluster analysis.

Based on the aforementioned data collection method a sample of 694 university students were obtained, in the majority males (58.1%), 18–27 years old, single (95.8%), living in urban areas (72.0%) and having a personal net monthly income below < 600.00€ (57.9%).

Table 1 Perception of the impact of actions on personal WF

Actions	1	2	3	4	5	6	7	MS	Std
Using a gasoline-powered car	5.9	8.4	13.0	22.6	21.6	16.0	12.5	4.44	1.67
Purchasing new clothes	7.5	8.5	11.4	26.5	21.2	14.8	10.1	4.30	1.66
Conserving electricity	10.4	15.0	17.7	18.4	15.9	10.8	11.8	3.94	1.84
Conserving water at home	15.9	15.6	13.3	14.4	14.0	12.5	14.4	3.90	2.03
Conserving water outdoors	15.9	17.1	11.1	14.8	14.1	12.1	14.8	3.90	2.05

4 Results

4.1 Impact of Actions on Personal Water Footprint

As Table 1 displays (in descending order of MS), university students do not consider that these five behaviors increase in essence their WF, since no MS > 4.51 (i.e., tending to somewhat increase their WF). Therefore, the results reveal that all behaviors are perceived as neutral ("neither increases, nor decreases" their WF). Moreover, the results reveal that the two actions that they perceived as the most harming to the environment and simultaneously increases their WF (MS > 4.00) is using a gasoline-powered car (MS = 4.44, std = 1.67) and purchasing new clothes (MS = 4.30, std = 1.57), still falling in the "neither increases, nor decreases it" range. The other three measures, water conservation at home (MS = 3.90, std = 2.03), water conservation outdoors (MS = 3.90, std = 2.05), and electricity conservation (MS = 3.94, std = 1.84), also fall into the "neither increases, nor decreases it" zone. Therefore, there is a concentration around the 4-point answer of the Likert-type scale.

4.2 Segmentation Based on Perceptions About the Water Footprint

Segmentation was performed using at first hierarchical cluster analysis in order to have a first insight of the numbers of clusters based on participants behavior. Subsequently the K-means cluster analysis was performed, and a range of clusters were tested in order to provide with meaningful groups [18], resulting in a two-cluster solution. Table 2 displays the two derived segments, the number of participants per cluster (N), the Final Cluster Centers (FCC), and the results of the ANOVA tests (F-statistic and p-value). ANOVA tests (F) showed that the two segments differed in all cases ($p < 0.001$).

The first cluster: "Overly sensitive" (N = 313) believe that all the actions that were presented to them increases their WF (FCC: 4.74–5.74). They perceive that "conserving water at home" and "conserving water outdoors" are the two actions that increase their personal WF the most (FCC = 5.74 for both). They also believe

Table 2 Segments based on perceptions of the impact of actions on personal WF

Actions	Final Cluster Centers		ANOVA test	
	1st cluster N = 313	2nd cluster N = 381	F	Sig. (p)
Conserving water at home	5.74	2.39	1437.437	< 0.001
Conserving water outdoors	5.74	2.38	1405.814	< 0.001
Using a gasoline-powered car	5.28	2.84	537.010	< 0.001
Conserving electricity	4.77	4.17	22.760	< 0.001
Purchasing new clothes	4.74	3.94	42.198	< 0.001

that using a gasoline-powered car, saving electricity, and purchasing new clothes somewhat increases their personal WF (FCC range: 4.74–5.28).

The second cluster: "Somewhat knowledgeable" (N = 381) understand that conserving water at home and outdoors decreases their WF (FCC = 2.39 and FCC = 2.38 respectively). The members of this group as compared to the first cluster have a better understanding of actions that impact on their WF, and for so are named "Somewhat knowledgeable".

5 Discussion

Overall, university students perceive that the impact of the five presented actions-behaviors neither increases nor decreases their personal WF, thus revealing that they lack knowledge of what in reality impacts it. These findings are in line with the findings of Çamur et al. [14], who reported that the university students who participated in their study have a lack of knowledge about water resources and water consumption.

By grouping university students with similar behavior, two distinctive groups were formed, namely the "Overly sensitive" and the "Somewhat knowledgeable". The «Overly sensitive» group seems to not understand the concept of WF since water conservation is considered by them the most harmful. On the other hand, purchasing new clothes which has a high negative impact on WF is considered by them as the least harmful. Therefore, a necessity of educating these students arises. As to the "Somewhat knowledgeable" group, they seem to better understand what the WF is and what impacts it, as they understood that conserving water indoors and outdoors decreases their WF. Though, they presume that using a gasoline-powered car also lowers their WF, which is not the case because fuels like gasoline have a high WF. As Stephan and Crawford [19] point out there are other ways of transportation (e.g., bicycle, bus, and train), that decrease personal WF in comparison to travelling with a gasoline-powered car. This group also perceived that conserving energy and purchasing clothes "neither increases, neither decreases" their personal WF, which is also a misconception. Electrical energy has a very high WF [20], as does the purchase of new clothing [21], so energy conservation decreases, and the purchase of new clothing increases personal WF. Therefore, this group also has a lot of room for improvement, as they cannot fully distinguish between actions that reduce their WF and those that increase it.

Çamur et al. [14] found that the students that had a prior knowledge of the concept of WF had more environmentally friendly attitudes towards water use. The pedagogical approaches developed to date that target the WF concept attempt to make students aware of the impacts of their everyday activities on water resources. This is accomplished by calculating their WF with online WF calculators and suggesting ways to change their behavior to reduce those impacts [10, 11].

The findings of this study suggest that sustainability education for university students and younger generations needs to be improved and that policy makers need to more fully incorporate sustainability and environmental education issues into university and school curricula. In addition, there is a need for intensive social marketing campaigns through various channels that engage students, such as social media and online communities [22]. These educational efforts, marketing campaigns, and incentives would enable new generations to better manage their behavior in relation to their WF in their daily lives and consequently when visiting tourist destinations.

6 Conclusions and Limitations

This study had as its aim to explore university students' perceptions of the impact of their daily activities on their WF and especially for five presented actions-behaviors. This was realized through field research with 694 students. The results revealed that there is lack of knowledge regarding the impact of their behavior on their WF. Additional objective was to group the university students with similar perceptions. This was achieved through a segmentation analysis that resulted in two student groups, namely the "Overly sensitive" and the "Somewhat knowledgeable". The last objective was to provide with suggestions for increasing awareness of everyday behavior on their WF, which was provided on educational and governmental basis.

Therefore, the results of the present study are significant on a personal and governmental level since it offers information about the youngest adult citizens and their perceptions of their behavior on their WF. Additionally, it offers a foundation for policy makers to reorganize school curricula on a primary, secondary, or higher education level with aim to provide better sustainability education.

This study is subject to a number of limitations due to time and economic constraints. First, due to the nature of the study (exploratory—preliminary results), the subject requires further research. In addition, the targeted sample was university students and not the general population, so a non-probability sample was used and generalizations to the general population cannot be made. However, these limitations may prompt future research to validate the results of this exploratory study.

Ethical Approval "There are no ethical issues involved in the processing of the questionnaire data used in the study. The necessary consent has been obtained by the persons involved, and the anonymity of the participants has been secured. All procedures performed in studies involving human participants were in accordance with the ethical standards of the International Hellenic University research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards".

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The Use of Social Media in Higher Education. The Case of Greek Universities

Margarita Kefalaki

Abstract Social media has nowadays become an important driver for sharing information, knowledge, and marketing promotion, used by enterprises and universities around the world. After COVID-19 crisis businesses and organizations have accelerated procedures for the implementation of new technologies. This research aims to shed light and to add to the existing literature in regard to the Greek case and the implementation of social media in Higher education. This study investigates Greek Higher Education Institutions (HEIs) students' actual use of social media for educational purposes. The research questions are the following: What is the higher education students' use of social networks for educational purposes in the classroom? How can universities integrate social media as an important tool to ameliorate their curriculum and knowledge sharing? A structured questionnaire was sent to a convenient sample of forty-eight students from Greek universities and a focus group with three students from a Greek university was created to support this research. This consists a pilot study research which is part of a broader study and preliminary results illustrate that at the moment there is little or no use of social networks for educational and creative purposes in Greek HEIs, although students believe that media and technology in general can help the education process. Understanding why and how social media can be integrated in the classroom might become a key competitive advantage for universities in the future. When using social networks for educational purposes and also for sharing information and promotion, universities can significantly improve their research opportunities, profit, academic and organizational arrangement.

Keywords Social media's implementation in higher education · Greece · Higher education

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1 Introduction and Background of Research

Everyone involved in school can benefit from the use of communication technology and social media in the educational process, including students and teachers [1]. Social media has an important role in our everyday lives [2], impacting especially the lives of emerging adults, as they spend approximately six (6) hours per day using social media and often explore multiple platforms simultaneously [3].

There are many and different definitions of social media. In this article I use the term to describe the network tools that can be used by students and academics to consume, produce and share educational content. Thus, social media may include large platforms such as Facebook, Skype, WeChat, Google drive, You Tube, TikTok, Twitter, Instagram and WhatsApp as well as individual web and blog sites.

1.1 Should We Promote Social Media in HEIs?

At this point we will examine how the literature describes some of the the positive and negative aspects of using social media in the classroom. Greenhow and Galvin explain how social media can improve online education by [4]: (a) widening the context for learning beyond the class to larger networked publics; (b) introducing a hybridization of expertize (e.g. past learners, practicing professionals); (c) mixing different types of information and resources; and (d) re-shaping instructors' roles as facilitators [4]. The researchers propose strategies for educators concerning social media, starting with knowing students through personal profiles [5].

Then students' collaborative digital content creation can promote quality interaction [4]. Students could for example be encouraged to work together to create a blog, website, video, video channel or other account hosted through a social media platform as YouTube and Twitter. Office 365 and Google Apps can facilitate students accessing and working together synchronously and asynchronously on various types of digital products [4].

With Facebook fan pages, launched in November 2007, many universities created official Facebook presence for their university [6]. As Reuben explains, these pages, similar to personal profiles, can be used by universities, and include wall posts, discussion boards, photos, videos, and many other applications [6]. Such pages can also give the opportunity to universities to communicate with their 'supporters' (people who have liked the page) through direct and targeted messages [6].

It is also that with YouTube we can watch and share videos that everyday people around the world can easily upload and share. Universities can share easily their original videos via this platform to a wide audience, without costs. Students and teachers can also be inspired and even use this tool for academic purposes, to create content and share information [6].

The online photo site Flickr can be also used to upload photos of the university with students, alumni, faculty and staff. Then blogs can be a great tool, with academics and students as authors and interactions via posts and comments by the readers. Twitter can be a very important tool to use during courses as well, exchanging instant short messages, posing questions or comments, during the course, always supervised in the correct way by the academic delivering the course.

With the increased focus on technology in education and business, this will help students build skills that will aid them throughout their lives. Additionally, social media can help a student overcome any kind of isolation [7]. Social networking sites can also help students develop leadership skills as they focus on building online communities with common interests or activities.

In addition, social media can be effective for research, because it encourages students to be creative while also making it easier to access relevant materials and engage in various activities to learn more about a subject [8].

Rustan explains how using social media to collaborate on group projects and discuss assignments seems to be a great idea [8]. For the researcher students become more engaged in the learning process when using suitable communication technologies. It is possible to create cooperative spaces with social media, such as social networks, for students to communicate with professors and other students [8]. Students' abilities to compose texts, research subjects, present viewpoints, and engage in debates can all be improved by leveraging social media platforms [8].

Nevertheless, there are some negative effects of social media that higher educational institutions and academics should take into consideration. Raut and Patil provides some effects of social media that can negatively impact learning, when students check social media networks at least once during a 15 min study period [7]. Furthermore, the popularity of social media, and the speed at which information is published, has created a lax attitude towards proper spelling and grammar, which reduces a student's ability to effectively write without relying on a computer's spell check feature [7].

Additionally, there are students who rely on the accessibility of information on social media and the web to provide answers [7]. Students and teenagers tend to believe whatever they read in social media, without really examining the information. This might cause serious problems to the students and the society as a total. It is also that most students don't constantly evaluate the content they're publishing online, which can bring about negative consequences. Especially COVID-19 pandemic has reinforced the importance of developing critical thinking skills in students as a fact-finding strategy to address the rising popularity of misinformation and disinformation found on social media sites [11]. Kefalaki and Karanicolas highlights the importance of building a capacity to recognise fake news while seeking out reliable and valid information sources, exploring strategies to address fake news by international and local organizations [11].

Then, the more time students spend on social sites, the less time they spend socializing in person [7]. Students who spend a great deal of time on social networking are less able to effectively communicate in person. This effect has serious consequences to the students in their later life as well [7].

At the same time educators should consider the ethical dimensions of integrating social media into education, as they blur boundaries between public and private life (data privacy) [4]. To avoid problems, it is important that instructors talk openly with students about the potentials and pitfalls of integrating social media and establish shared expectations and ground rules [4].

Even if numerous universities around the world already use social media such as Facebook, my space, twitter, YouTube and some form of blogs on their site, there are some concerns like, (a) the loss of control, when there might be comments allowing two-way dialog that can lead to such a fear, (b) time commitment, as workload is already something academics and many students have to deal with [6]. (c) information overload, because of the many different platforms and forms to use them should also be taken into consideration, and (d) the fact that anyone can create an official account for your university calls universities to reserve their names and create their own space themselves [6].

1.2 The Use of Social Media in HEIs and the Case of Greek Universities

Colleges and universities start to embrace social media realizing their potential power [6]. A plethora of studies indicate the benefits of integrating social media into educational settings [4, 12], and especially the benefits of teaching with specific social media such as Facebook [5, 13, 14], Twitter [15, 16] or WhatsApp [1].

Social media in combination with communication technology can improve the quality of learning, and that everybody in university (academics, stuff, and students) can benefit [8]. Relevant social media groups can improve the competencies of academics' through participation in a variety of academic activities [9, 10]. Additionally, numerous research activities, like conferences, seminars, symposiums, workshops, courses, can become more effective through the use of communication technology [8].

2 Methodological Approach

The case study of Greek Universities aimed to investigate the use of social media after COVID-19 and to add to the exciting literature. We used bibliographical research, a structured questionnaire sent to a convenient sample of students from various universities in Greece, with the help of Microsoft forms and also questionnaires distributed one by one by the researcher to initiate the pilot research. Forty-eight (48) students in total filled out the questionnaire from 5 to 15 July 2023. The questionnaire was given and filled in Greek.

The questionnaire consisted of eleven (11) questions, including a first question that they agree to complete it and another specifying their sex (masculine, feminine, and other). Then, there were seven (7) multiple choice questions and two open questions that students could choose to reply or not.

We also held a focus group of three students. Fruitful discussion gave us the opportunity to better understand the students' thoughts on the use of social media in the classroom. The questionnaire was inspired by the study of Figueras-Maz et al. [17] that demonstrated the little use of social networks for educational and creative purposes in Spanish universities.

3 Results

Results of the pilot study showed that most of the students (40%) already use their mobile phones more than five (5) hours per day. At the question "which is the most often use of your phone, tablet or/and computer", most of the students (27%) replied to communicate and visit social media. Of course, it is important to say that a significant number of students (18%) use this technology for education purposes as well. At the question "which technological means you use in the classroom", most of the students replied that they use the computer (41%) and their mobile phones (31%). At the question "why you use electronic devices in the classroom", most of the students (26%) claimed to visit the courses online platform and generally consult material on the internet that has to do with their course to find information. At the question "what technology tools you recommend to improve your courses", most of the students answered Youtube (29%), Google drive (16%) and LinkedIn (15%). At the question "Do you believe your teachers would be open to use social media in the classroom", most of the students (37%) gave a negative answer and some of the students (33%) replied that they didn't know.

At the open and not compulsory to answer question, 'Why do you believe that your teachers would be/ or would be not open to use social media in the classroom?', I received twenty-nine (29) responses. Most of the students who answered this question (51.7%), agreed to the importance of using social media in the classroom, with the guidance of their teacher, as this can ameliorate the course and can help knowledge sharing. One student cited "teachers should use social media as it is now a part of our daily life. Integrating it carefully and with safely into teaching would potentially make this process more engaging, enjoyable and creative, using tools that students are already familiar with". Then some students (34.5%) explained that teachers of a certain age do not know how to use social media and this is why they do not wish to spend time on organizing the course in such a way. I cite what one student said: "Due to the age gap, teachers feel uncomfortable with the use of social media". Two (2) of the students answered that using social media totally depends on the teacher's temperament, his/her age, and his/her familiarity with new media as well as his/her creativity, i.e. how the educator perceive can utilize social media beyond their defined and trivial use.

The results of the study showed that students appreciate that the use of social media in the classroom can help the course become better. Nevertheless, students believe that most academics are not willing to organize the course in such a way, due to the age gap and the fact that this would demand from them a lot of time and energy (focus group research). Additionally, students believe that their teachers are afraid to use social media in the classroom because of possible cases of coping or sharing themes during the exams. This is a reason why teachers do not want to integrate this type of technology in their course (focus group research). Then, there where answers of students (24.13%) explaining that educators are not willing to use social media because they are afraid of cases of exam subject's dissemination and/ or copy in general. Two students consider that academics suppose that if they use social media in the classroom students will have too many distractions and they will not be attentive to the course. At the question which social media platforms students use more often, YouTube, Facebook and Instagram come first with a 23%, a 22 and a 19% respectively. The gender of the students that answered the questionnaire was 63% female and 37% male students. The last open and free to answer question requested students if they would like to mention something related to the use of social media (suggestion, complaint, idea). Students sited that they would be open to the use of social media in the classroom as, new media can improve interactivity and communication with students and provide supplementary material especially through YouTube, Google drive, Viper and Facebook. Nevertheless, there were also answers explaining that educators should be attentive as too much exposure to social media is not good. A respondent mentioned: "Monitoring the process is important for students as there is exposure to potentially large reproduction of posts without consent".

4 Discussion and Conclusion

Our research showed that university students agree to the importance of using social media in the classroom, with the guidance of their teacher, as this can ameliorate the course and help knowledge sharing. YouTube, Face book and Instagram are for the students the most popular platforms of social media that educators could also use in the classroom.

The age gap seems for the students' one important reason that educators do not propose social media in the classroom, as they feel uncomfortable with the use of social media. Subject's dissemination and/or copy in general is another factor mentioned by the students that retains academics from using social media in the classroom.

To overcome the negative effects of using social media without control, parents are the first to moderate their children's' access to social media by reducing the amount of time they spent on social network sites [7]. Then, the guidance of educators when using social media in the classroom can help students avoid negative effects.

It is important to remember that platforms based on social media place the control of learning into the hands of learners themselves, not to forget that young people are motivated to learn more from each other than from adults [7]. Two key features for supporting instructors [18] that can also inspire the Greek case, follow: (1) analyze the teaching scenario and suggest the best-match class of social media from an instructional design perspective, and (2) provide guidance on the suggested technology's usage for instructional purposes [18] can support instructors' use of social media in the classroom.

Last but not least, three strategies to enrich interactions in remote learning environments in higher education [4], can also inspire the Greek case: (a) Establish social media as an informal backchannel or as a means for alternate student-driven communication tied to the course; (b) Actively encourage and model using social media for relationship-building tied to the university course and university, (c) Incorporate what students share in their social media into the classroom as this shows that the educator value each student.

It should be taken into account that information and communication technologies are well adopted in higher education and their further implementation can take place [19] as long as we organize and take into consideration factors as the ones we have noticed in this paper. The use of social media for educational purposes and also for sharing information and promotion can help universities improve their research opportunities, profit, academic and organizational arrangement. Further research is needed to provide specific proposals and methods for universities to become both successful 'enterprises' to cover their expenses and accomplish their educational purpose.

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Smart Participatory Methodologies for Sustainable Cultural Tourism in Rural Areas

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Abstract Rural areas encompass an abundance of cultural and natural heritage that offers great potential for attracting tourism. Nevertheless, many of these regions are neglected and deserted, facing many hard problems like limited job opportunities, poverty, low literacy rates, and a lack of basic infrastructures. In order to deal with these problems, we need to boost sustainable development by promoting participatory methodologies, engaging all interested stakeholders (public authorities, tourism organizations, cultural and creative industries, local communities, marginalised social groups, etc.) in novel co-creation of new touristic products and services (including real, digital or hybrid experiences). Using effective local and remote stakeholder engagement strategies as well as by adopting modern ICT technologies for developing high added—social, educational or economic-value products and services is a key element for boosting cultural tourism in such areas. In this paper, we first review recent state of the art practices and methodologies for Sustainable Cultural Tourism (SCT) in rural areas based on participatory approaches and modern ICT technologies. The proposed methodology first brings together all relevant key stakeholders to form hybrid (both real and online) communities ("SCT Innovation Hubs, SCTIHs"). We then formulate a concept for the establishment of a multi-disciplinary and cross-sectoral co-creation ecosystem for SCTIHs, based on (a) a participatory platform for consultation, decision-making and business model canvas creation, (b) a set of easy-to-use advanced smart apps/configurators to facilitate co-creation of new engaging hybrid cultural tourism products and services and (c) a digital marketplace to distribute these products, ensuring a fair distribution of profits for the co-creators and facilitating evaluation and identification of best practices. The main contribution of this study is to identify current challenges for SCT in rural areas and attempt to meet them by proposing a bottom-up and inclusive ICT-based methodology for co-design and co-creation.

Keywords Participatory methodologies · ICT applications · Cultural tourism and rural development

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1 Introduction

The dynamic role of tourism for local economic development of both urban and rural areas is nowadays largely appreciated. Tourism is indeed one of the main drivers of the economy in EU and worldwide and is strongly connected with cultural resources. According to UNWTO 2018 report on Tourism and Culture Synergies [1], cultural tourism plays a major role in global tourism, representing about 37% of the total tourism sector, with an annual growth of around 15%. This highlights the importance of cultural heritage to support local sustainable development. For this reason, local communities need to put great emphasis on the preservation, conservation and restoration of cultural monuments and artifacts as well as to their local intangible cultural assets. On the other hand, the uncontrolled growth of tourism activities in specific "tourist hotspots", also puts considerable pressure on the culture and environmental resources of these areas, as well as to day-to-day lives of residents.

In order to avoid these negative effects, some local communities and heritage experts have opposed tourism and its associated development. For this reason, EU and other organizations promote an alternative concept of Sustainable Cultural Tourism (SCT) [2]. SCT offers a new perspective, as it places cultural heritage, natural environment and local communities at the centre of decision making processes. It provides a solution to tackle the detrimental effects of mass tourism by capitalising on natural and cultural assets, by contributing positively to local development, by supporting economic activities, and by fomenting cohesion and cooperation among its stakeholders.

Nowadays, the cultural tourism imbalances indicate that there is a need to reform cultural and touristic activities considering their macro-regional impact. Tourism is strictly interconnected to a destination's natural and cultural endowments, as well as local communities and stakeholders and its impact is far from only economic, but it also concerns the socio-cultural and environmental dimension as well. Force majeure events (e.g., Covid) and over-tourism has caused tremendous shifts in tourism trends and tourist expectations, with increasing demand for travel to places less well known, and more authentic travel experiences to immerse themselves in local cultures. The pursuit of authenticity—consisting of cultural and social identities, traditions, memories, intangible connections, local peculiarities, and rural landscapes—has, therefore, led communities and local, national, and European governments to seek novel ways to respond to new tourism demands. For rural areas, this shift creates a need for new strategies aiming to promote and valorise in a sustainable way their tangible and intangible resources [3]. Such strategies should bring together stakeholders of cultural heritage, tourism activities and local communities, enhancing social, environmental and economic benefits for all. Furthermore, they should employ technological features, smart strategies and the support of digital tools to provide knowledge and experiences about the local cultural values and meanings. According to EU [4], "The collaborative economy creates new opportunities for consumers and entrepreneurs. The Commission considers that it can therefore make an important contribution to jobs and growth in the European Union, if encouraged and developed in a responsible manner. Driven by innovation, new business models have a significant potential to contribute to competitiveness and growth".

2 State of the Art

Research suggests that there is still a lack of consensus on the conceptualization and assessment of sustainable tourism development [5], particularly for rural areas. Previous EU projects, such as RURITAGE, IMPACTOUR, BESTMED or DESTIMED, have identified challenges regarding the sustainable development of cultural tourism, including: (i) the definition of cultural tourism, (ii) lack of relevant data (due to lack of interoperability, homogenization, sharing and availability), (iii) governance of tourism destinations with stakeholder multiplicity, fragmentation of competencies and coordination issues, (iv) lack of skills, knowledge and capacity, and (v) resource limitations [6].

Collaboration and community participation are crucial for securing sustainable tourism and highlight the need to listen and respond to the broad range of stakeholders' voices, opinions, and concerns. These concepts dominated the discourse of sustainable-responsible tourism and gave rise to collaboration theory [7], as well as various types of community participation. Many scholars in both Western and emerging economies have employed these concepts, however, there is limited research on how they can be applied to rural areas, where tourism is in the early phase of growth. Recent research showed that, "while the stakeholders and local communities are willing to collaborate, challenges affecting their efforts include autocratic governance structures leading to mistrust, clash of responsibilities, inadequate funding for security, lack of tourism awareness and little respect for local culture" [8]. Research also showed that in rural areas there is a lack of social space and participation opportunities for vulnerable groups [9]. A participatory process is needed, based on the widest possible inclusion and overlapping consensus between different opinions, which will, therefore, be reasonable and accepted by all reasonable participants in deliberation [10, 11]. Therefore, deliberation requires at least showing a minimum of respect for the interlocutors, stimulating discussion between people of different backgrounds. The deliberation process insists on the most rational argumentation, but also on leaving particular interests for the common good and consensus [11].

Research on the sharing economy has almost exclusively focused on urban contexts in 'advanced economies', while sharing practices in rural, small town and 'less advanced' contexts have received far less attention [12]. There is a gap of exploring perspectives, knowledge and practices of sharing in the peripheries, beyond big sharing economy platforms. In addition, currently, almost all major collaborative economy platforms share the same disadvantage: content producers, prosumers and active user communities receive a very low share of the profits, while the owner company behind each platform exploits its users activities, data and personal information. In addition, most collaborative economy platforms focus on sharing private goods or services, without promoting co-creation.

The application of the concept of "smart" development in rural areas (also called Smart Villages) gradually receives increased attention, despite the fact that smart villages and their practices were introduced much later than smart cities [13]. People have many expectations for the sustainable development of rural areas through the smart village initiative and practices. New forms of ICT are essential to enhance the visibility and the promotion of tourism opportunities in rural areas. However, fragmentary and parochial visions typical of rural areas inevitably lead to heterogeneous approaches to planning and programming smart tourism products [14]. In addition, the successful integration of rural, smart and cultural tourism can be achieved only if there is agreement among the various stakeholders—including the local and regional administrators and the local community—to coordinate and encourage the promotion of local cultural resources.

3 A Co-Creation Ecosystem for SCT and Rural Development

In this section, we will present a new vision towards rural development by establishing and promoting a new co-creation ecosystem for SCT. The transition to the digital age and to sharing economy models constitute an extremely fertile ground for the implementation of new economic activities to create a virtuous circle from culture, tourism and heritage. Today's rural areas' development requires the involvement of all stakeholders from the value chain (science, business, society, government and entrepreneurs) and that the new digital technologies play an important role in the acceleration of this process. In the specific field of cultural tourism, the application of ICT technologies, data analysis and social innovation can create value for rural communities and give rise to new strategies in the local, regional or macro-regional level. Towards this goal, a multi-disciplinary and cross-sectorial ecosystem needs to be established, covering the technological, sociological and business aspects and bridging modern ICT tools with new bottom-up initiatives. These tools will allow communities to negotiate (i.e. online participatory tool), co design (i.e. business model canvas tool), co-create (i.e. SCT apps, tools and configurators) new engaging cultural products and services, and finally distribute them, ensuring a fair share of profits (i.e. digital marketplace tool). In this way, SCTIHs can become the center of innovation. The core components of the proposed ecosystem are illustrated in Fig. 1 and are briefly described in the following subsections.

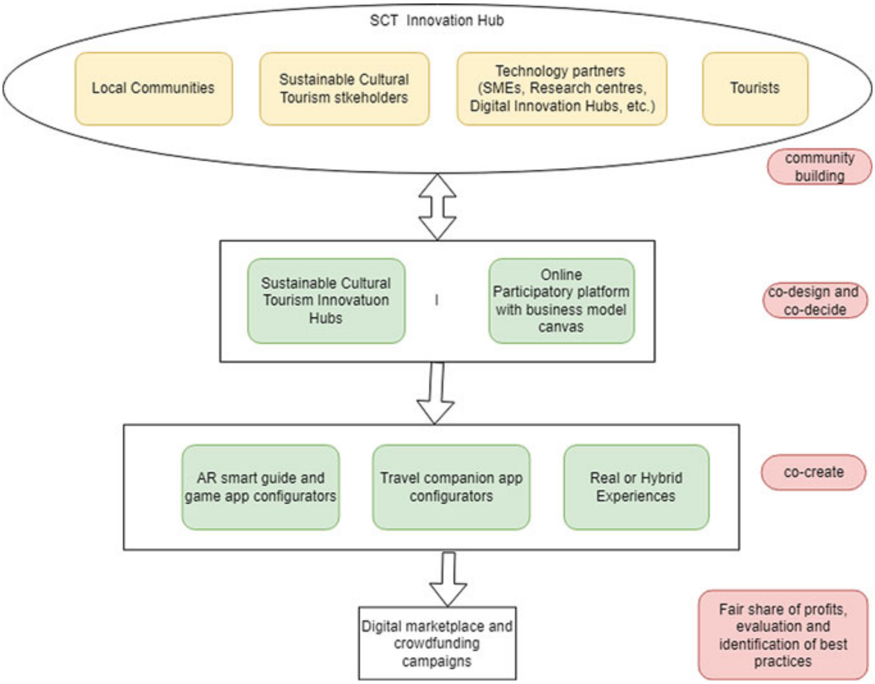

Fig. 1 The proposed co-creation ecosystem for SCT in rural areas

3.1 Community Building: SCT Innovation Hubs

We propose to foster the development of SCT in rural areas using a participatory approach, involving local communities in the co-definition process and building on the cooperation between local stakeholders. Towards this aim, we propose to form SCT Innovation Hubs (SCTIHs), similar to EU's Digital Innovation Hubs [15] or Online Communities ([16]) that will engage and involve all necessary stakeholders in a specific rural area. SCTIHs will perform research and innovation activities related to SCT within a public–private-partnership. They will be integrated through the co-creation, exploration, experimentation and evaluation of innovative concepts and technologies for rural smart tourism development. The main goal is to bring together knowledge from different fields to work on solutions that may have a strong social, economic, cultural, touristic or ecological impact. Each SCTIH will include local (in a broader sense) community members, including local vendors, residents, employees, students, etc. as well as representatives from key stakeholders, such as tourist organisations, IT experts and researchers, artists, manufacturers, tourists etc. Vulnerable and marginalised groups should also be well represented.

The main purpose of SCTIHs is to open communication, foster collaboration, share information and resources, to efficiently develop and quickly launch services, products and solutions that contribute to the sustainable development of cultural tourism activities in rural areas. Their value lies in the access to resources for the local communities, businesses, Cultural and Creative Industries, entrepreneurs/start-ups and the flow of information for the ecosystem's stakeholders. This information flow creates more investment opportunities for the right institutions to connect with the right ideas for their businesses and portfolios, at the right time, and for the right reasons. In rural areas, this innovation ecosystem is often scattered, lacking the knowledge, infrastructure, and resources to efficiently support and improve innovation. Networking of rural innovation players is the key to the success of any rural innovation ecosystem. The mechanisms and governance framework put in place through the SCT Hubs will strengthen the cooperation of the cultural tourism stakeholders in rural areas, will boost and support innovation, and will allow rural businesses to have access to a comprehensive pool of talent, tools, data and services, enabling them to develop SCT services, products and solutions.

3.2 Online Participatory Platform

An open-source participatory platform is an important tool for online deliberation within SCTIHs. As an example, the DECIDIM platform [17] can be used and extended to cover this need. DECIDIM is a digital infrastructure for participatory democracy, built entirely and collaboratively as free software. It is developed in Ruby on Rails and allows users to create and configure a website platform or portal, to be used in the form of a social network, for democratic participation. The portal allows any organisation (e.g., association, NGO, cooperative, etc.) to create massive democratic processes for strategic planning, participatory budgeting, collaborative regulatory design, product co-creation and decision-making. It also enables the organisation of in-person meetings, signing up for them, publication of minutes, proposing points for the agenda and receiving notifications of the results. It can also help organise governing bodies, councils or assemblies, the convening of consultations and referendums or channelling citizen or member initiatives to impact different decision making processes. All together, DECIDIM makes it possible to digitally structure a complete system of participatory democratic governance for SCTiHs, enabling evidence-based understanding of the techno-social issues related to key aspects of the networked society. The platform offers extensions and customization possibilities and its codebase is actively maintained by a large community of contributors. For instance, the software can be extended to accommodate a "business model canvas" template, allowing the SCTIHs to define and evaluate new business model ideas.

3.3 Co-Creation of Smart Apps and Configurators for SCT

SCTIHs will be able to co-create new tangible or intangible products (e.g., an AR smart guide app featuring the highlights of the region) and services (e.g., a real cooking experience with locals).

In order to facilitate content creation by inexperienced users, a user-friendly web-based authoring tool will be designed for creating web/mobile CT apps for digital or AR experiences, by customizing and extending existing free or open source tools. For instance, based on the previously awarded Artful application [18], we can create a web configurator allowing inexperienced users to develop (configure) AR smart-guides, story-telling or game experiences using preconfigured templates. This configurator will provide an intuitive user interface with drag and drop interactions that facilitates the import of new digital content, including text descriptions or narrations, videos, interactions (e.g., hotspots or location-based) and other effects. Templates for different scenarios (open-air AR exhibitions, treasure-hunt games, etc.) will be provided for enhancing users' engagement when visiting a rural area. The final products will be developed as Progressive Web Apps (PWAs), ensuring compatibility with all modern mobile smartphones/browsers. In addition, they will support social features to enable end users (tourists) to share their feedback to the app.

Similarly, configurators for open-source travel apps may be co-created by extending and combining applications like: (a) Wanderlog [19] letting users create, update, and delete curated lists of destinations as well as view other users' lists. (b) Travel Route Optimization apps (e.g., [20] based on the Travelling Salesman problem), can be configured to provide optimised touristic circuits using selected Points of Interest (POIs) that a person would like to visit. Such tools could be a valuable tool for promoting tourism and improving the overall tourist experience, provided that information regarding POIs is properly updated. (c) Artificial Intelligence (e.g., OpenAI APIs) can also be used to accelerate content creation (e.g. gather information related to Points of Interest at a specific location).

3.4 Digital Marketplace

A digital marketplace can be easily created using free/open source tools, such as the popular Wordpress CMS plugins (WooCommrce plugin for creating individual e-shops together with the Dokan plugin [21] for implementing a digital marketplace). Such tools can support multiple payment methods (e.g. PayPal or even cryptocurrencies (Bitcoin), while crowdsourcing campaigns can also be supported by the WP Crowdfunding plugin [22]. Real-time splits in the payments to achieve a fair distribution of profits between all co-creators of a product or service is currently supported only in Dokan paid version, but can be added in the future. Alternatively, open-source blockchain-enabled digital marketplace can also be used, e.g., [23].

4 Conclusions

In this paper, we first review the recent state-of-the-art approaches for SCT in rural areas and identify related challenges. In order to meet challenges, we then propose a bottom up and inclusive ICT-based methodology that allows key stakeholders to design, co-create and market products in three steps: (a) Establish hubs active or potential stakeholders of cultural tourism in rural territories, (b) Co-create strategies, business models, tools and design cultural experiences together with all value chain stakeholders, and (c) Distribute the resulting products and services to a digital marketplace and split profits in a fair manner to all co-creators.

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The Changing Consumer Landscape in the Wake of COVID-19 in Greece: Trends, Insights and Implications

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Abstract This study investigates the impact of the COVID-19 pandemic on consumer behaviour in Greece, particularly focusing on changes in purchasing habits, affordability, and lifestyle. Through the analysis of 1603 digital questionnaires, the study identifies three distinct consumer clusters: Cautious High Flyers, Top Performers, and Cautious Low Performers, based on their pandemic era behaviour and preferences. The research reveals that the pandemic significantly altered shopping habits, with approximately 80% of respondents reporting changes. These changes included increased purchasing quantities and a heightened focus on sales promotions. Notably, online shopping surged during the pandemic, with implications for businesses to adapt and meet this growing demand. Understanding these shifts and consumer clusters provides valuable insights for businesses to tailor their strategies effectively.

Keywords Covid-19 · Consumer behaviour · Retailing · Greece · Pandemic

1 Introduction

The COVID-19 pandemic has profoundly impacted both social and economic aspects globally [1–3]. With over 6.8 million worldwide deaths reported by the World Health Organization [4], it triggered a multi-dimensional response. During the pandemic's early stages, scientific and medical communities worldwide collaborated to address the virus's impact, while political leaders implemented social distancing measures. Various industries were affected, altering lifestyle and consumer behaviour across generations [5–7]. As a result, multidisciplinary interest in studying the pandemic grew, including consumer behaviour. This study focuses on analysing the COVID-19 pandemic's impact and lockdown measures on Greek consumer behaviour, particularly in supermarket shopping patterns, brand preferences, and purchasing habits.

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2 Literature Review

The COVID-19 pandemic has had a profound global impact on health, economics, and daily life [8–10]. The pandemic significantly altered consumer and business behaviour [1, 2, 11, 12]. Monitoring these shifts is crucial for adapting marketing and retail strategies [13–16]. Lockdowns posed challenges, impacting work, education, and food consumption habits [17, 18]. Lockdowns led to stockpiling of staples, hygiene products, and medicines globally [3, 8]. Online shopping saw a significant surge during the pandemic [11, 19]. Consumers shifted to online purchasing, changed retailer preferences for safety, and turned to food delivery services [20, 21]. The crisis prompted conscious shopping, support for local businesses, and digital commerce adoption [5, 6, 10].

This study aims to analyse the COVID-19 pandemic's impact and lockdown measures on Greek consumer behaviour, focusing on supermarket shopping patterns, brand preferences, and purchasing habits. Greece's unique context warrants specific research to understand how the pandemic has affected consumer behaviour in this distinct cultural, economic, and social environment. To address this, we pose the following research questions (RQs): RQ1: What changes in consumer behaviour have occurred in Greece due to the COVID-19 pandemic and associated lockdown measures? RQ2: What are the potential differences in consumer behaviour during the first phase of the COVID-19 pandemic in Greece, and how can these differences be used to identify distinct consumer clusters using an exploratory approach? RQ3: What are the implications of changes in consumer behaviour in Greece during the COVID-19 pandemic for businesses?

Exploring these questions will provide insights into the pandemic's effects on Greek consumer behaviour, which may have distinct characteristics compared to other regions. Additionally, understanding these changes is crucial for retailers and manufacturers to adapt to the evolving market landscape.

3 Methodology

The study aimed to understand consumer behaviour during the first lockdown in Greece in April 2020. A survey methodology was used, with a structured questionnaire. The questionnaire was pre-tested by interviewing 12 consumers to identify errors and improve clarity. A total of 1603 usable responses were collected out of 1882 digitally submitted questionnaires. The sample is characterized as a convenience one. The questionnaire covered demographics and shopping behaviour, including shopping frequency, quantity purchased, preferences, channels, and spending per transaction. Discriminant analysis was used to select the best cluster analysis model [22, 23].

Table 1 Sample's profile

N = 1603		Freq	%
Gender	Male	639	39.9
	Female	964	60.1
Household's size	1	68	4.2
	2	161	10.0
	3	331	20.6
	4	696	43.4
	≥ 5	347	21.6
Household's monthly income	≤ 500€	116	7.2
	501€–1.000€	361	22.5
	1.001€–1.500€	418	26.1
	1.501€–2.000€	305	19.0
	> 2.001€	403	25.1

4 Findings

4.1 Sample Profile and Descriptives of Consumers' Behaviour

In the context of our study's findings, Table 1 illustrates key participant demographics.

The impact of COVID-19 and the lockdown on Greek consumer behaviour, as shown in Table 2, is evident. About 80% of respondents changed their shopping habits significantly. They bought more (66.4%) and focused on sales promotions (73.9%). Online shopping surged, with over half of respondents switching to online platforms. However, this shift strained businesses unprepared for the e-commerce demand, potentially causing issues for consumers. The move toward online shopping is likely a lasting change.

4.2 Consumer Profiles

Next, we will delve into the examination of Greek consumer behaviour during the Covid-19 pandemic lockdown by employing k-means clustering analysis [22, 23]. The objective is to identify distinct consumer clusters based on behaviours in crisis situations. The analysis considered three key variables: (a) changes in supermarket visit frequency, (b) increased quantities purchased during lockdown, and (c) higher spending per supermarket visit, all known from literature [11] to differentiate consumer types. Discriminant analysis indicates that the three-cluster model outperformed others [22, 23] (Table 3).

Table 2 Descriptives of consumer behavioural attitudes

	Abs disagree	Disagree	Neutral	Agree	Abs Agree	$\bar{x}$	σ_X
Our buying behaviour has been affected by pandemic [%]	1,3	6,4	12,1	59,2	21	3,92	0,84
Frequencies	21	103	194	949	336		
During lockdown we have increased the quantities of products we buy from supermarket	2,3	13,3	18,2	45,9	20,4	3,69	1,01
Frequencies	37	213	291	735	327		
During covid-19 period we shop more by internet	1,9	7,5	14,2	45,5	30,9	3,96	0,96
Frequencies	30	120	228	729	496		
We continue to buy the same brands as the period before the pandemic	1,7	11,9	32,3	47,1	7	3,46	0,85
Frequencies	27	191	517	755	113		
We focus more on promotions this period of covid-19 crisis	1,7	10,4	29,1	44,8	14	3,59	0,91
Frequencies	28	166	467	718	224		
During the pandemic we purchased new products/brands for us	4,6	32,9	37,1	22,4	3,1	2,87	0,91
Frequencies	73	527	595	359	49		
During the pandemic my family attempts to make some savings	5,4	19,8	29,9	37,7	7,2	3,22	1,01
Frequencies	86	317	480	605	115		

Table 3 Final cluster centres and number of cases in each cluster

	Cluster 1		Cluster 2		Cluster 3	
	$\overline{x}$	σ_X	$\overline{x}$	σ_X	$\overline{x}$	σ_X
Shopping frequency	1,54	0,50	2,73	0,45	1,41	0,58
Shopping basket size	2,30	0,49	2,84	0,40	1,68	0,75
Money spending per s/m transaction	2,30	0,46	2,82	0,41	1,15	0,35
Number of Cases/Cluster	1101		352		150	

After determining cluster solutions, demographic characteristics, and questions related to the Greek consumer profile concerning shopping behaviour were examined. The first cluster, *Cautious High Flyers*, primarily comprises females (around 60%) with the highest monthly income among clusters. Approximately 40% of this group spends over 50 euros per supermarket transaction. They visit physical stores less often but purchase more products per visit and spend more per transaction. Brand loyalty remains strong, and they acknowledge increased product quantities purchased (Table 4). Shopping preferences still lean toward "brick-and-mortar" stores but with reduced frequency. Some in this group opt for e-shops and phone orders with delivery (Table 5). The second cluster, *Top Performers*, mostly consists of females (67.2%). Nearly half earn over 1500 euros monthly, with a similar proportion spending more than 50 euros per supermarket visit. Unlike the first cluster, their supermarket visit frequency increased during the pandemic. They acknowledge increased product quantities and a preference for promotional items (Table 4). They continue to visit physical stores regularly. The third cluster, *Cautious Low Performers*, includes both females (52.7%) and males (47.3%). Most in this group earn less than 1000 euros monthly (38%), differing from *Cautious High Flyers* and *Top Performers* (Table 4). The majority (76%) spends 50 euros or less per supermarket visit. Their behavioural changes during the pandemic are less positive than the other clusters. They explored new products and brands (Table 4) and aimed to minimize physical supermarket visits, preferring e-shopping and phone orders with delivery (Table 5).

5 Discussion and Conclusions

This research unveils the impact of the COVID-19 pandemic and associated lockdown measures on Greek consumer behaviour. The study reveals intriguing patterns across various consumer groups, offering valuable insights for retailers and manufacturers to adapt their marketing strategies. The pandemic had a significant effect on shopping habits, with nearly 80% of respondents reporting changes. This included increased purchasing quantities and a heightened focus on sales promotions, potentially due to financial concerns. The pandemic encouraged consumers to explore new brands, suggesting a temporary decline in brand loyalty. The pandemic's online

Table 4 Kruskal–Wallis *H* test—estimates

		N	Mean rank
Our buying behaviour has been affected by pandemic [1]	Cautious high flyers	1101	787,36
	Top performers	352	**860,25**
	Cautious low performers	150	772,75
During lockdown we have increased the quantities of products we buy from supermarket [2]	Cautious high flyers	1101	752,62
	Top performers	352	**1023,33**
	Cautious low performers	150	645,09
We continue to buy the same brands as the period before the pandemic [3]	**Cautious high flyers**	1101	**835,34**
	Top performers	352	752,65
	Cautious low performers	150	673,09
We focus more on promotions this period of covid-19 crisis [4]	Cautious high flyers	1101	772,51
	Top performers	352	**874,86**
	Cautious low performers	150	847,45
During covid-19 period we purchased new products/brands for us [5]	Cautious high flyers	1101	751,65
	Top performers	352	900,68
	Cautious low performers	150	**940,00**

[1-5] Kruskal–Wallis H Asymp. Sig. < 0.001

Table 5 Crosstabulation Clusters* Different shopping channels during lockdown period

		Cautious high flyers		Top performers		Cautious low performers	
		N	%	N	%	N	%
Store*	Once	78	7,10	6	1,7	12	8,0
	Two times	128	11,6	44	12,5	35	23,3
	Three times	145	13,2	68	19,3	27	18,0
	Always	735	66,8	224	63,6	75	50,0
	Never	15	1,4	10	2,8	1	0,7
e-shop**	Once	63	5,7	20	5,7	18	12,0
	Two times	59	5,4	24	6,8	15	10,0
	Three times	43	3,9	21	6,0	13	8,7
	Always	21	1,9	14	4,0	9	6,0
	Never	915	83,1	273	77,6	95	63,3
phone order & delivery ***	Once	51	4,6	29	8,2	14	9,3
	Two times	38	3,5	20	5,7	7	4,7
	Three times	37	3,4	16	4,5	7	4,7
	Always	16	1,5	17	4,8	7	4,7
	Never	959	87,1	270	76,7	115	76,7

*/ **/ *** = Asympt. Sig. (2-sided) p < ,001

shopping surge will have lasting effects, necessitating business adaptation. Surprisingly, about half of respondents maintained their physical supermarket visits despite the online trend. Lockdown restrictions boosted supermarket visits for shopping and leisure, a permitted activity.

Distinct consumer groups with varying behaviours emerged. The Cautious High Flyers, characterized by high income and brand loyalty, spent more per store visit but visited less frequently. Top Performers, with the highest income, remained loyal to physical stores and sought promotions. Conversely, Cautious Low Performers, with lower income, minimized store visits, embraced new products, and used e-shopping and deliveries more. These clusters provide vital insights for marketers and retailers in Greece. Tailoring strategies to each group's needs can enhance engagement. The study also highlights firms' challenges in meeting online shopping demand and the role of promotions in consumer decisions.

This research aligns with prior studies, confirming the significant impact of the COVID-19 pandemic on Greek shopping habits (e.g., [2, 3, 10, 26]). Around 80% of respondents reported changes, including increased purchasing quantities, consistent with observations in [2] and [7]. Sales promotions gained prominence during the pandemic, reflecting consumer concerns, as seen in [7]. Notably, a shift towards online shopping emerged, echoing findings in previous studies [20, 26]. Brand loyalty appeared less significant during crises, akin to [10] and [26]. Intriguingly, nearly half of respondents maintained physical supermarket visits, mirroring generational variations noted in [2]. Segmenting consumers by income and behaviour, as in [20] and [26], offers insights for tailored marketing, mirroring trends discussed in [15]. Lastly, the focus on e-commerce and the role of sales promotions resonates with discussions on the structural impact of COVID-19, as highlighted in [1]. This study's implications for retail businesses in Greece and our understanding of COVID-19's impact on consumer behaviour are significant.

Firms must recognize the lasting effects of increased online shopping and adapt accordingly. Bolstering digital presence, optimizing e-commerce platforms, and prioritizing quality, pricing, and promotions are key. Segmenting consumers by income and behaviour aids tailored marketing and product development. This localized knowledge extends beyond Greece, helping businesses worldwide anticipate and adapt to future disruptions effectively. In essence, these insights guide firms in resilient, customer-centric strategies to thrive in the post-pandemic landscape.

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Exploring the Limits of Cultural Tourism: The Convergence of Applied and Visual Arts as an Educational Tool for Activating Inactive Sites of Cultural Interest

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Abstract Cities are living, complex organisms that change and at the same time project history and culture as a constitutive element of their identity. Each city's unique spatial, social, and cultural identity is inextricably linked to the artistic expressions, customs, history, and every spatial activity that is part of the urban space that functions as an active, experiential place. This paper explores the convergence of applied and visual arts as an educational tool to unlock the potential of abandoned sites in the urban fabric and promote a deeper connection between tourism and cultural heritage. The article will be a useful educational tool capable of helping to develop abandoned areas, through the prism of art and for the benefit of cultural tourism.

Keywords Cultural tourism · Abandoned buildings · Visual art · Workshops

1 Introduction

Cultural tourism has become an integral part of the global travel industry, attracting millions of tourists each year who seek to explore the diversity of history, art, and heritage in various destinations. Traditionally, cultural tourism focuses on historical and architectural landmarks, museums, and cultural heritage monuments in the countryside as well as the urban area [1]. However, an emerging trend goes beyond the conventional approach—the use of applied and visual arts to activate inactive or undervalued cultural spaces. The convergence of the different sectors encourages the production of a hybrid product of art and cultural heritage, which is an important prospect for the development of heritage tourism. Although cultural heritage refers to the past and tradition, while the arts look to the future and innovation, the combination of these two fields leads to a hybrid model of art and culture [2].

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The purpose of this work is to explore the convergence of applied and visual arts as an educational tool, to unlock the potential of abandoned sites in the urban fabric and promote a deeper connection between tourism and cultural heritage.

2 Literature Review

2.1 Arts and Cultural Tourism

The role of the arts in cultural tourism is multifaceted and decisive in enhancing the overall tourist experience. The arts, which include visual arts, performing and applied arts, and music, are integral components of cultural tourism destinations. Here is an exploration of the role of the arts in cultural tourism and how they contribute to a well-rounded tourism experience [3].

2.2 Cultural Identity and Artistic Expression

The arts reflect the cultural identity and expression of a community. Promoting knowledge of the traditions, values, history, and beliefs of a particular culture or region allows visitors to connect with the core of a destination. 'Cultural' or 'artistic' tourism is signified differently from people tourism, but generally, these terms denote a range of attractions and activities that reflect the 'persona' (personality) of the place [4]. Cities, as living complex organisms, change and at the same time project history and culture as a constitutive element of their identity. Each city's unique spatial, social, and cultural identity is inextricably linked to the artistic expressions, customs, history, rituals and every spatial activity that is part of the urban space that functions as an active, experiential place. In the city, everyday life and its practices coexist and are affected accordingly by the imaginary background of the surrounding place. According to Harrison and Dourish [5], the structure of the space that surrounds us shapes and guides our actions and interactions. It is, according to Milgram and Jodelet [6], a mental mapping that has nothing to do with the true mapping of a space. The residents who live in a city, map it by marking some elements of the city selectively, as important, connecting them through their daily experiences as well as through the social representations of the spaces that they have and which may or may not be part of the daily experience there [7]. Space is understood as a function of historical events, societies, production systems, and relations that have developed in it but also as a personal experience [8]. According to the theory of city branding, as reported by Knierbein et al. [9], cities can refer to human entities that have distinct personalities, with the result that the evaluation of a city is not subject exclusively to aesthetic terms, but is linked to the way life, the memories evoked by the urban environment and the social trends associated with it. Cities inspire feelings, stories, and initiatives to improve them. The strategy of city marketing/city branding refers to the management of the image and promotion of the city's identity, to strengthen sustainable development [10]. Art is called upon to act as a tool to strengthen the identity of each city by promoting cultural heritage with innovative digital tools and media, as well as with educational actions giving a comparative advantage. Through the different forms of art such as interventions in spaces with mapping projections or augmented reality, visitors can have authentic and immersive experiences in a dynamic and evolving cultural landscape.

In summary, the arts play a central role in cultural tourism, offering tourists authentic, educational, and emotional experiences. They contribute to the holistic development of cultural tourism destinations, encouraging a deeper appreciation of cultural heritage, creativity, and the diverse artistic expressions that enrich our global cultural tapestry. The arts engage tourists on a spiritual, emotional, and sensory level, creating integrated and transformative tourism experiences.

2.3 The Convergence of Applied and Visual Arts as a Strategy to Enhance Cultural Tourism

In the history of civilization, creativity has been associated with the creative individual. However, Amabile [11], suggests the re-examination of creativity in recent decades where the creative product is increasingly highlighted. Through the tradition of the Bauhaus as well as the multi-thematic performances of the Dada movement, the convergence of the arts, as integration, or interaction of different art forms or disciplines, contributes to the creation of a new and innovative expressions of creativity.

The combination of elements from different artistic and technical fields, blurs the boundaries between different artistic media (visual and applied arts, literature, music, performance, architecture, and new media), between art and technique, private and public, moving away from categorizations. The breaking down of traditional boundaries between the arts led to the uncertainty of the creator's identity, highlighting the importance of hybrid works in the public space and on a large scale [12]. The convergence of the arts emphasizes that art should not be passive but an interactive experience where tourists are invited to actively participate in the creation process, interact with artworks, and engage with their senses and personal experiences. Art is an experience and the point is to recover a continuity between the aesthetic experience and the ongoing processes of life. "In such experiences, each successive part flows freely, without seam and without gaps, in which follows" [13]. Tourists thus gain knowledge about the artistic process, cultural heritage, and local traditions, fostering a deeper understanding and appreciation of the destination, through active participation [14].

Cultural tourism is inextricably linked to the exploration of historical sites, architectural sites, and museums. The convergence of applied and visual arts creates synergistic encounters that transcend the boundaries of individual artistic disciplines, adding a new level of depth and engagement to the tourism experience. Also it can be used as a strategy to enhance cultural tourism [15]. Creativity has been used to transform traditional cultural tourism, shifting from tangible heritage to more intangible culture and greater engagement with the everyday life of the destination. The emergence of 'creative tourism' reflects the growing integration between tourism and different place-making strategies, including the promotion of creative industries, creative cities, and the "creative class" [16]. It represents a dynamic and innovative approach to redefining the way tourists engage with cultural heritage and artistic expression.

3 Educational Actions: Co-Creating City Identity

The urban space gathers crowds of people, goods, and markets, as well as a multitude of actions and symbols. Lefebvre [8] describes the city as the stage on which all these complex interactions of everyday life take place. In the following educational activities of the University of Western Attica, the city functions as a stage, a living archive of social, cultural, and artistic performance, connecting personal and collective memory with local stories and cultures—material and immaterial. These synergies use the architectural space, the experience of the body within it as well as the video art to redefine and reconstruct the collective memory, the perception, through experiential and artistic processes projecting new narratives in the urban space.

4 Methodology

This paper is based on three scenography projects held in between 2016–2023 under the courses Stage Design, Spatial Narratives, Architectural design and Design of exterior spaces, Video_New Media Art and Editing of University of West Attica (UNIWA), Greece. The aim was to develop abandoned areas, through the prism of synergies between various groups (professors, students, artists and residents of the areas) and as well as different forms of art. The main methodology of the projects used to utilize abandoned spaces through art are the following:

- Initially, the professors in charge carried out a first assessment of the safety of the premises, checking the structural elements as well as the surrounding area, so that they are safe and visited by the participating artists, students, and the public.
- Collaboration was carried out with a set of independent artists or groups with the participating students, defining the context and the content of each action.

- A fruitful dialogue was sought with the residents, regarding the history of the action area, and their experience to understand the needs that were important parameters for each project.
- The range of technological and material equipment needs was determined, which was necessary for its implementation.
- Funding and resources that would ensure the implementation of the project were sought such as grants, sponsorships, crowdfunding, or community fundraising efforts.
- The possibility of community engagement for the participation of residents as well as different associations in the creation process was discussed.
- It was deemed necessary to supervise the installation of the artwork, by groups of students and residents for the safety of the work and the participants.
- Due to the ephemeral nature of the works, an attempt was made to preserve the memory of it through documentation with photographs, videos, and written records.
- Participant groups, students, and institutions (UNIWA, Prague Quadrennial, Athens Festival, communitism group, etc.) actively contributed to the promotion of the project in the promotion of its projects and results on social media, local media, and cultural events, exhibitions.

• Long-term planning possibilities for the future of derelict buildings and urban areas were discussed extensively to determine the temporary or permanent nature of the project or whether there are plans for the eventual reuse or redevelopment of the site.

5 Results

The above stages lead to the following workshops. Through these the artistic vision is enriched by the integration, architecture, history of the buildings and the places and the personal stories, proposing a new narrative in the city encouraging the active participation of the residents and promoting cultural tourism.

5.1 Case Study 1: Reuse of a Neoclassical House Through Performing and Visual Arts

Through the coupling of different arts, we aimed to create a [in]visible place, a hybrid system. A system, that uses the performance event as a vehicle, connects text with Architecture, public with private space, and live interaction with digital technology. The interaction of Body, Space, Movement, Installations, and Digital media caused the birth of a new place between imaginary and real and explored the possibilities of coexistence of live performance with the space and the image that will emerge as a result [17]. An abandoned 19th-century neoclassical house, on Salaminos street, as well as the archaeological site of "Dimosion Sima" burial monuments was chosen as the site of intervention in the Kerameikos area.

The participants (faculty, students, residents and artists) were inspired by literary texts about the ephemerality of memory and virtual reality. The purpose is to activate memory, personal and collective, but also to reflect on the relationship between the imaginary and the real in virtual reality, through live, ephemeral constructions, recordings, videos and photographs. Our proposal focused on two axes:

A. The creation of a performance event, which sometimes uses modern ways of digital imaging, and its recording in direct relation to the history of the place and the experiences of the residents.

B. The creation of an architectural prototype, in the form of a model or construction on a physical scale.

The spatial proposal functioned as a means of public interaction with the space and as a perceptual and synthetic tool of participatory planning. The experiential experience of space, form, language, and representation reconstructed the abandoned building, presenting it as a platform for artistic expression, bringing the participants and the residents of the area into contact with the constantly evolving techniques in the field of sound and image. The photographic and video art and documentation of the proposal in all phases gave a completely new perspective both in the area of promoting the event and in the "on stage" coexistence of the three-dimensional with the two-dimensional space proposing an open, performative record of our community spaces redefining the city and the human connection to its history and culture.

The "intervention", integrating elements of interaction with the space as well as with the participants, was a springboard for dialogue within the public and the wider social context but, above all, triggered new thoughts and reflections on space and memory, on the intangible and the material, for the private and the public.

5.2 Case Study 2: Reuse of an Abandoned Industrial Space Through Performing and Visual Arts

The workshop combined the choreographic action, the design of the scenographic space and the production of visual videos and mapping projections on the occasion of the different theatrical fields (text, stage space, lighting, etc.). The industrial building, formerly the Tsaoussoglou Furniture Factory on Piraeus Street, was chosen as the place of intervention.

Students from different fields collaborated on unified spatial concepts. The combination of different aesthetic approaches and techniques multiplied the possibilities in the design of the scenographic space [18], enriched the aesthetics and content of the works, and gave rise to interesting proposals, which were part of the exhibition. The project aimed to explore the concept of space, architectural and visual as an active field, a spatial system that presupposes narrativity, meta-plasticity, and movement, to convey the vitality and restlessness of the creative process.

The final result of the workshop resulted from the synthetic process of designing space and video, material and immaterial, digital and real as a single product that presupposes narrative, mutation, movement, and concepts that emerge from the analysis of the dramatic text and the existing industrial space. The project was presented as a platform for expressive artistic expression, form, language, and representation, reconstructing the abandoned building of the industrial space through the constantly evolving techniques in the field of scenography, sound environment, and image, strengthening the feeling of common identity, of collectivity and continuity.

5.3 *Case Study 3: Reuse of an Atrium Square Through Performing and Visual Arts*

On the occasion of UNIWA's participation in the 15th International Exhibition of Scenography-Performing Arts PQ 2023-Prague. A scenography workshop was held to explore the concept of space, scenography, architecture, visual performance, and new media installations in the urban landscape as an active field on the occasion of Euripides' play "Medea" [19]. The synthetic course includes three successive stages of critical and aesthetic interventions to connect the conceptual framework of the tragedy with the city and the contemporary multifaceted and conflicting social and cultural urban reality. It includes the design and implementation of small-scale spatial constructions in direct dialogue with the body and movement for situ performance by the students in the atrium of the building at 48 Piraeus Street.

The performance action in the atrium square of the building functioned as a dialectical place of intersection of multiculturalism and historical memory. The creative processing of the audio-visual material in its phase functioned as an autonomous visual work and at the same time as an active memory archive of the ephemeral project by displaying it in an important international exhibition abroad. In the end, the inactive decadent empty space was presented as an active field of cultural event, redefining the possibilities of its reuse.

6 Discussion and Conclusions

The above actions contributed to a strategy proposal for the branding of a city based on the perceptions, stories and emotions produced by the experiences of the residents and the history of the place as well as the artistic creation of the participants. Through theoretical and practical approaches to the use of public space as a setting for the reception of performance events, the intention is to reclaim it as a collective space, a fact that in our time is questioned, degraded and constantly shrinking. The model of performance activities in the city, which comes from the performance tradition of the outdoor space, is based on the dynamic production of new forms, with an emphasis on innovation, personal artistic identity, and the ease of adaptation to a constantly changing urban environment. The gathering of different arts, synergies, and participation, can be a powerful tool to transform and highlight neglected spaces into living cultural assets. The use of abandoned buildings through public art and educational activities encourages a sense of place, and community participation and contributes to the overall well-being of urban environments and the promotion of cultural tourism.

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The Effect of Political Marketing on the Electoral Behavior of Greek Voters

Harry Sophocleous, Sofia Anastasiadou, Andreas Masouras, and Sotiris Apostolopoulos

Abstract The current paper is positioned primarily on the statement that the voter is influenced by political communication and political marketing, produced by the political system and the political markets in particular, and which is partly shaped by the political issues of society. Accordingly, the specific study is established on the fact that electoral behaviour is a practice of consumer behaviour and consequently, the voter is the prospective consumer of the political marketing mix, produced by the political system. In this respect, the paper gives a relevant theoretical background regarding voters' behaviour and political marketing. More specifically, research involved a survey through the use of a structured questionnaire with closed questions and the use of a 5-point Linkert Scale, which allows the measuring of the impact of the factors that are forming the marketing mix of the Greek political market. The survey occurred electronically, with the use of a convenient sample, with 605 Greek citizens with electoral right. The answers were given between the 27th of June and the 11th of July 2023, just after the two subsequent electoral contests. The particular timing was preferred, in order to obtain the reflection of a clear electoral output and therefore, to attain the monitoring of a transparent impact of the political marketing. Beyond the favorable timing, another reason for which the Greek case was preferred, is the fact that there is a favorable ground for the particular field, and the specific research is likely to contribute to the existing research gap by focusing on the impact of political marketing produced by the Greek political market. In conclusion, the research demonstrates and measures the electorate impact of the various elements of the political marketing mix.

Keywords Political marketing · Voters' behaviour · 4Ps of political marketing

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1 Introduction

"…Political communication is changing, but it is not clear how the changes relate to concerns about inequalities in the media sphere…" [1]. Accordingly, the method by which academics frame the field of political communication clarifies that the field is not broadly static, but rather something that changes and grows in response to changing social trends and the fluid changing socio-economic and behavioral environment [2]. In regard to Greece, Greek voters discredit the parties, the general system and politics in general. On the contrary, we see the parties, in any way, legitimate or illegitimate, trying to keep themselves at the center of the whole process, using a straighter network of political marketing and treating the voter as a consumer. In this respect, the specific paper attempts to explore how the political marketing mix of political parties are perceived and consumed by the potential voters and therefore to examine the impact of political marketing upon the behavior and the electoral actions of Greek voters. Accordingly, in order to accomplish the projected research in an appropriate and effective manner, it has been considered as essential to identify in an investigative manner the vital research principle. Therefore, the following sections aim to specify the research aims and objectives and to make an introduction to the required theoretical background, as well as the data gathering and analysing methods that have been used towards the accomplishment of the research and therefore to discuss the findings and to stress the implications of the research.

2 Literature Review

2.1 Political Marketing and the 4 Ps

As it is acknowledged in relevant research works, "political parties and candidates have used marketing tools, especially the 4 Ps, and strategies to gain elected positions [3–5]. Political events also appear to be equivalent to mainstream marketing conditions [4] and therefore, in political marketing terminology, political parties are synonymous to businesses, whereas candidates are similar to other commercial goods [3, 4]. An earlier study [3], categorizes the wider notion of political marketing mix into 4P's and more specifically: product (party platform, past records, personal characteristics) place (publicity from staged events, debate), price (economic cost, psychological cost, national images) and promotion (posters, signs, ads, personal appearance, volunteer program). In a similar manner with [6, 7] resented a 38-item nine dimensional statistically valid structural model of political mix for a developing country. Moreover, the following paragraphs give some particular references in regard to each of the 4 PS of Political marketing, as they appeared in previous research.

Product/Candidate. It is well documented in the political literature that candidates are considered as products [4, 8]. Previous research [3] highlighted characteristics such as past political records of the candidate, personal characteristics, and their stance against corruption. An earlier study [9] emphasised "the image as a popular leader and social person, the candidate's level of education, and persuasion ability. Literature [10] mentioned the importance of a candidate's professional background, level of education, commitments made before the election, and voice [6, 7].

Price. Price as it is perceived by the electorates is the mixture of the costs that the voters have to accept if the candidate wins. Previous research [6] stated both economic (such as an increase in tax and fees if elected) and psychological costs to the electorates." Consequently, whether selecting a candidate would diminish the national image is vital as well [6, 7].

Place. Place strategy contracts with the methods by which a candidate can contract electorates in a particular manner. Literature [11] preferred maintaining relationships with grassroots workers, door-to-door activities, and being available in the area throughout the year. Previous research [10] suggested strong public relations, organizing press conferences, and more frequent public appearances [6, 7].

Promotion. Promotion has always been viewed as the key marketing tactic in political marketing irrespective of the type of election (local or national), as previous research [10] suggested that campaigns with personal appearances, use of the media, especially TV, and customized speeches are useful in politics. A previous study [8] mentioned showcasing the achievements of the candidate and party, using local language in speech, and sending direct mail to the voters, literature [12] suggested telemarketing, internet communication, and radio and billboard promotion [6, 7].

In this manner [7, 13, 14] a research model was created "about the effect of political marketing mix (politics product, political price, placement and politics promotion) on the decision to select candidates and political parties. This study is a theoretical study to disclose the connection between the study variables in the context of legislative elections." Accordingly, rendering to theoretic studies, it can be argued that theoretically a political product, placement, promotion politics and political decisions are connected to the voter's choice, whereas the political price is not.

3 Methodology

3.1 Problem Statement

The paper attempts to investigate how political marketing of Greek political parties are produced and adapted through the pre-electoral period communication campaign, in order to attract and keep their voters. Moreover, the projected research aims to clarify how, in what perspective and why the average Greek voter and its electoral behavior is affected by the particular marketing and communication mix and its 4Ps. The research question/hypothesis is associated with the impact of political marketing mix upon voting behaviour. Each element of the political marketing mix/4Ps has a certain level of impact upon shaping the perceptions of the voters and thus influence their electoral motives, their electoral behaviour [6] and their electoral actions.

3.2 Primary Research Design

In order to meet the requirements of the proposed research objectives, it has been considered essential to deploy certain research methods and tools. Accordingly, primary research is the only way through which the organisation could take some answers relevant to its own situation. As it is acknowledged in relevant research works, "political parties and candidates have used marketing tools, especially the 4 Ps, and strategies to gain elected positions [3–5]. Political events also appear to be equivalent to mainstream marketing conditions [4] and therefore, in political marketing terminology, political parties are synonymous to businesses, whereas candidates are similar to other commercial goods [3, 4].

Survey's Sample and Population. The survey occurred electronically, with the use of a convenient sample, with 605 Greek citizens with electoral right and a nationwide geographical coverage, in order to be representative to the research population (Greek citizens with electoral rights). In the specific case researchers preferred convenience sampling as allowed them to generate a relatively large sample within a rather short period [15]. More specifically, the answers were given between the 27th of June and the 11th of July 2023, just after the two subsequent electoral contests. The particular timing was preferred, in order to obtain the reflection of a clear electoral output and therefore to attain the monitoring of a transparent impact of the political marketing. Beyond the favorable timing, another reason for which the Greek case was preferred, is the fact that there is a favorable ground for the particular field, and the specific research is likely to contribute to the existing research gap, by focusing on the impact of political marketing produced by the Greek political market.

4 Research Results and Discussion

4.1 Perceptual/Electoral Impact of Political Marketing

As it has already been mentioned, the survey involved 15 items/elements and examined the impact of Political Marketing Mix, as it has been indicated in Literature Review and as it has been addressed by previous scholars [6, 10]. Therefore, the questionnaire measured, the political marketing mix, in a manner similar to the approaches that have previously been used by other researchers [6, 7, 16, 17] upon electoral behaviour and consists of 4 sections, each responding to each of the 4 elements (Ps) of political marketing mix (Place, Product, Price, Promotion).

Place. Accordingly, the general outcome that drives form the findings is that the element of "Place" as it is presented in Table 1, with mean values (2,49; 2,9; 2,9; 3,18) as a component of wider political marketing mix, with an average mean vale of 2,89, appeared to have enough impact upon the vast majority of the respondents. However, it lies behind the elements of "Product" and "Price" which indicated an even higher impact upon the voting behaviour of Greek voters. As it is reported by the given results, "The Frequent public appearance of the candidate" (2.98), even the fact that it presents a mean value higher than average, appears to be the weakest point of the wider element of "Place", while "The availability of the candidate in the area" (3.42) appears to be the strongest point of the wider element. This fact suggests that the Element of "Place" does not present an actual weakness. However, its actual strength is placed around the availability of the candidate in the area, and thus, the concentration around local interest, rather than a general public appearance. Nonetheless, the latter also appears to be relatively important as a campaign element.

Product. In a comparable way, the general outcome that derives from the particular findings, is that the element of "Product" (See Table 1) as a component of political marketing mix, with mean values (3.31; 3,51; and 3,87), with an average mean vale of **3,56** presents an even stronger impact upon the voting behaviour of Greeks Even though, "the previous political records of the candidate" (3,31) demonstrated a relatively high impact upon voting behaviour, it lies behind "the image of the candidate as a leader" (3,51) and "the image of the candidate as a social entity" (3,87), a fact that suggests that both the leader and the social figures should be the major priorities of parties and candidates in regard to the element of "Political Product".

Table 1 Political marketing mix

Place		Product	
	Mean		Mean
Frequent public appearance	**2.59**	Previous political records	**3.31**
The candidate is known in the area	**2.9**	Image as a leader	**3.51**
The candidate ilives in the area	**2.9**	Image as a socilal entity	**3.87**
The avaliability of the candidate	**3.18**		
	2.89		**3.56**
Price		*Promotion*	
	Mean		Mean
Financial cost	**3.7**	The central slogan of the candidacy	**2.73**
Psychological cost	**3.75**	The candidate's election music	**1.9**
Perspective on both genders	**3.73**	Use of candidate's posters	**2.02**
		The candidate's election signs	**2.02**
		The candidate's meetings/appearances	**2.88**
	3.73		**2.31**

Price. In a very similar manner, the general outcome that derived from the particular outcome, is that the element of "Price" as a component of political marketing mix, with mean values (3,7 3,75; 3,73), seems to be the most influential element of the wider Political Marketing Mix, with an average mean vale of 3,73. Moreover, the results contradict the findings of Widagdo, et al. (2014) who claim that "Product", "Place" and "Promotion" are connected to the voter's choice, however price is not. Even though "the financial cost if the candidate is elected" (3.7) demonstrated a relatively high impact upon voting behaviour, it lies behind "the psychological cost if the candidate is elected" (3.75) and "the candidate's perspective on both genders" (3.73), a fact that suggests that both the social and the psychological cost might need slightly greater emphasis rather than the actual economic cost in regard to the element of "Political Price", as an element of "Political Marketing".

Promotion. In a different manner from the other "3Ps", the general outcome that derives from the particular research, is that the element of "Promotion" as a component of political marketing mix (See Fig. 4), with mean values (2,73; 1,9; 2,02; 2,02 and 2,88) has less impact upon the vast majority of the respondents, in relation to the other elements of the wider political marketing mix ("Place", "Product" and "Price").From the five factors, "the meetings of the candidate" appearances (2,88) to be the strongest factor of the elements of promotion, followed by the "Central Slogan of the Candidacy" (2.73). Accordingly, the combination of a distinctive central slogan and a sound public appearance appeared to be critical for the wider political marketing of a candidate or a party. However, "Promotion" in general lies behind the rest of the elements of political marketing.

5 Research Implications and Conclusions

5.1 Perceptual/ Electoral Impact of Political Marketing

As it is acknowledged in relevant research works and reflected in the results of the specific research as presented in the previous section of the specific paper, the political parties and candidates have used marketing tools, especially the 4 Ps, and strategies to gain elected positions [5, 8, 10]. Accordingly, the given research results and findings might support the view that political events also appear to be equivalent to mainstream marketing conditions [5, 8]. The findings align with previous research [16] as for the fact that "Promotion" and thus the actual campaign less influential from the other elements of the political marketing mix (Product, Place and Price). Moreover, the results contradict previous research [6] which claims that "Product", "Place" and "Promotion" are connected to the voter's choice, however price is not. Additionally, according to literature [17] "…Candidates practice a diversity of practices to influence the voters, from public appearances and rallies to the use of mass media advertising" [17, 18].

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Factors Affecting Pay TV Consumption: An Exploratory Study in Greece

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Abstract The purpose of this study is to investigate the role of socio-demographic factors that influence the use of Pay TV usage in Greece. We try to understand the impact of the continuous innovations in the media, information, and communication technology (ICT) industries, such as Over the Top services (OTT) which have allowed consumers to access video content anytime and anywhere through various devices. The research aims to highlight the unique challenges that Greek television companies face, including socio-economic characteristics and technological factors. Through quantitative research, the influence of various socio-demographic factors on the likelihood of being an OTT TV user are examined. Panel data analysis and cluster analysis are conducted to identify which factors affect pay TV usage. Data from the Hellenic Statistical Authority analyzed for the period 2016 up to 2022, that refer to the usage of information and communication technologies by households and individuals. Results suggest that age, income, education level and urbanization degree are positive predictors of OTT pay tv consumption. New directions for television businesses' models concerning new trends in TV consumption and the rise of broadband services are suggested.

Keywords OTT services · Pay TV · Data analysis

1 Introduction

In recent times, the audiovisual industry has undergone significant shifts due to technological progress and changing market trends [1]. The rise of digitalization has paved the way for new content creators and transformed the way we consume audiovisual content [2]. The lines separating broadcasters, telecommunication entities, and OTT service providers have become increasingly indistinct, as illustrated by the shift from conventional value chains to platform-centric business frameworks [3]. As audiences diversify their media consumption, the need to establish and execute a coherent

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business strategy has grown critical. Novel revenue streams, innovative distribution methods, a varied audience base, and cutting-edge technologies have given birth to unique business models that challenge their conventional counterparts [4].

For traditional TV businesses the threat is multidimensional. They have to alter their strategies according to the new category of Internet-based television providers [5] which are the so-called on demand or Over-The-Top (OTT) services such as Netflix, CINOBO, HBO, Apple TV, Disney+ , and Amazon. The objective of this study is to establish the effects of socio-demographic factors on the use of pay tv in Greece, and to construct a forecasting framework for the usage of OTT tv. The lines distinguishing broadcasters, telecommunication firms, and OTT platforms have become increasingly blurred in the evolving marketplace. In essence, the audio-visual sector is now more characterized by its consumers and their content preferences than by the service providers or the technologies they use. For viewers, industry distinctions matter little. Instead, their focus lies on securing premium audio-visual content, considering factors such as cost, user experience, and accessibility [1].

As Yu et al. mention, demographics have been a main issue, as shown by the history of rating firms such as Nielson, founded in 1923 [6]. After decades and as communication technologies have progressed, the role of the individual has been emphasized. In cable TV audience research, Li says better-educated people tend to be early adopters, although demographics vary across studies [7]. Yoon, Kim, and Kim concluded that because digital TV is shared in a household, household attributes, such as household income and location, are more influential than personal attributes [8].

Banerjee et al. outline three main patterns of OTT consumption: co-consumption (combining pay TV with OTT); pure substitution (replacing pay TV entirely with OTT) and first-timer behavior (users who've never experienced pay TV). The selection of OTT was influenced by factors like the household's geographical and demographic traits, device possession, and prior subscription habits [8]. Especially the younger households in the lower-income brackets lead the charge in both shifting entirely to OTT and trying out OTT for the first time. Those who abandon pay TV for OTT platforms are termed 'cord cutters' and are majorly younger, tech-oriented users [9]. These individuals, having lesser income yet being tech-oriented, view the internet as an attractive, budget-friendly alternative and thus swap their cable commitments for diverse OTT offerings [10]. This suggests that OTT platforms possibly cater to a broader demographic, including younger individuals and those on tighter budgets. Reinforcing this, McCreery and Krugman indicate that younger demographics are more inclined towards online mediums for video content than conventional TV [11]. Moreover, Medina et al. reveal that gender and education are key variables in the subscriber profile [1].

Lee et al. found that gender and education were the most influential factors in payment decisions based on their study spanning 2008 to 2012 [12]. Notably, telecommunication companies have traditionally banked on bundling as a pricing approach. However, this method faces challenges in the age of internet streaming. As consumers find more affordable and varied avenues to access video content, many are departing from telecom providers and opting to "cut" the cord, as highlighted by Chulkov and Nizovtsev [13].

Understanding the demographic makeup of Greek SVoD users is the primary objective of this study, given that consumers can both resist and embrace innovation for similar reasons. Markets are typically segmented, with each segment containing distinct groups of customers with potential shared attributes and requirements. For example, when examining mobile service adoption, there were identified four unique clusters of mobile internet users, segmented by both demographics (like age, gender, marital status, etc.) and attitudes (like credibility and entertainment value) [14]. Similarly, another research has explored the value of segmentation in understanding the intricate dynamics between demographics, lifestyles, and the adoption of communication tools like pagers and mobile phones in China [15]. A recurring theme in these studies is the reliance on demographic factors to categorize tech users. Generally, market segmentation is brought about through demographic, psychological, and behavioral standards.

2 Methodology

According to the literature review and the maturity of Pay tv services in Greece, the evolution of OTTtv usage is examined through the socio-demographic profile of Greek users. Hence, the research questions are the following: How do demographics factors affect the use of OTT-tv? Which characteristics can forecast the use of OTT-tv? What groups of users are formed for the Greek market?

2.1 Data

Data comes from a survey that is conducted every two years in Greece according to European research held by Eurostat and concerns the use of information and communication technologies (ICT) by households and their members. We use datasets for the years 2016, 2018, 2020 and 2022 that refer to Greek households. The datasets were designed to be comparable, collecting representative samples of the respective populations and using the same set of questions. The surveys were conducted on approximately 4500 private households and an equal number of members throughout Greece, with the only prerequisite that there was, at least, one member aged 16–74 in each household.

2.2 Statistical Analysis

To examine the effect of demographic variables (gender, age, education level, employment status, income, number of household members) and the urbanity of the area of residence, a binary logistic regression model was applied to each of the binary dependent variables "have you watched a streaming internet TV program (IUSTV)" and "have you watched video-on-demand (IUVOD)". For the categorical predictors, all pair-wise comparisons were estimated, using Fisher's LSD procedure. For each model, the estimates (B), along with the odds ratio (OR) are presented. For the sample segmentation, the methodology of k-prototypes was adopted, that was introduced by Huang [16] and implemented in R by Szepannek [17]. According to Huang [16], the k-prototypes algorithm belongs to the family of partitional cluster algorithms, where the distance function between two points is given by a linear combination of its scalar and nominal characteristics: $d\left(x_i, \mu_j\right) = \sum_{m=1}^{q}\left(x_i^m - \mu_j^m\right)^2 + \lambda \sum_{m=q+1}^{p}\left(x_i^m, \mu_j^m\right)$, where m is an index over all variables in the data set where the first q variables are numeric and the remaining $p - q$ variables are categorical. The distance $d(\cdot)$ corresponds to weighted sum of the Euclidean distance between two points in the metric space and simple matching distance for the categorical variables. For the cluster analysis, we included only observations from the latest year of measurement (2022) and 13 variables were included, from which 3 were assumed to be numeric and 10 categorical, and the within-sum-of-squares (WSS) measure was used to assess the optimal number of clusters.

3 Results

3.1 IUSTV-IUVOD Adoption

Both VOD and streaming TV viewing have increased, with the rates in 2016 being 10.5% and 13.7% respectively, while in 2022 the rates increased to 33.3% and 23.2%. The rise in VOD viewing appears to have been rapid between 2018 and 2020, while for STV services it appears smoother and more linear throughout the period under review.

Results of the logistic regression model for the IUSTV variable show that all factors showed statistical significance. Each two-year measurement resulted in a significant increase in streaming internet TV usage. Adjusting for all the covariates, the year 2022 exhibited the highest percentage of streaming TV services, which was 27% higher than 2020, and more than twice the percentage of 2016. The number of household members had a negative relationship with the probability of using the IUSTV service. Age also showed a negative relationship, with each one-year increase in age reducing the probability of use by approximately 2%. Income showed a positive relationship, with a one quintile increase in income increasing the probability of use by 9.2%. Regarding gender, men were 25.7% more likely to use IUSTV services compared to women. Individuals with a moderate level of education were approximately 35% less likely to use IUSTV services, while participants with a low level of education were approximately 55% less likely to use services compared to participants with a high level of education. Participants living in urban areas were 57.9%

more likely to use IUSTV services compared to those living in rural areas, while those in semi-urban areas were 15.7% more likely to use IUSTV services compared to those living in rural areas. Finally, regarding employment, students showed the highest odds of using streaming TV services.

In terms of the biennial measurements, 2018 and 2016 showed no significant difference of VOD use. After 2018, VOD use increased substantially, showing a 332% increase between 2020 and 2018, adjusting for the covariates. The number of household members had a non-significant relationship with the probability of using the IUVOD services. Age showed a significant negative relationship, with each one-year increase in age reducing the probability of use by 2.9%. Income also showed a positive relationship here, with a one quintile increase in income increasing the probability of using IUVOD services by 13.8%. In terms of gender, men were 21.4% times more likely to use IUVOD services compared to women.

As with IUSTV services, for the IUVOD variable, individuals with a moderate level of education were 31.8% less likely to use IUVOD services, while participants with a low level of education were approximately 57.5% less likely to use services compared to participants with a high level of education. Participants residing in urban areas were 62.1% times more likely to use IUVOD services compared to rural areas, and 43.6% times more likely to use those services compared to semi-urban areas, however the difference between semi-urban and rural areas was not statistically significant. Employed individuals were 41.3% more likely to use VOD services compared to non-economically active, and 31.7% times more likely compared to unemployed. Students showed the highest percentage of using VOD services, however their percentage was very close to employed participants, as the difference was non-significant. Finally, unemployed individuals and economically inactive participants showed the same rate of VOD use.

3.2 Market Segmentation

For the household clustering of the year 2022, we utilized a four-cluster solution, as suggested by the scree plot of WSS. Cluster 1 mainly consisted of females (61%), with a median age of 48, with a medium educational level, employed (75.7%) who did not use VOD (82.3%) or STV (93.6%) services. Cluster 2 included younger individuals (Mdn = 23 years), mainly students (51%), that were using mostly VOD (43.5%) and STV services (32.5%). The 3rd cluster included older participants (Mdn = 65 years) that showed very small percentages on using both VOD and STV services. Finally, the fourth cluster members showed the highest VOD (76.4%) and STV (61.6%) usage. The members of this cluster were mostly males, with a median age equal to 45, employed (86.2%), with the highest income and educational level.

4 Discussion

The analysis of the logistic regression results focusing on the IUVOD variable has provided a comprehensive overview of Video on Demand-OTT (VOD) service usage patterns and their influencing factors.

There was a stagnation in VOD usage between 2016 and 2018, but a dramatic surge was witnessed between 2018 and 2020. This implies a swift transformation in consumer behavior and technological adoption within this short period. This can be explained since content usage time depends on people's places of stay, such as television viewing and newspaper reading, which can mostly be regarded as home-based activities [18]. Also, Sung and Kim state that the total content usage time increased abnormally because of the pandemic [19].

The size of a household did not show a decisive role in influencing VOD service adoption, suggesting that VOD consumption is relatively consistent across various household sizes.

Age continued to be a determining factor, with older individuals to be less likely to adopt VOD services. This finding agrees with Lee et al. who showed that age matters when it comes to adoption of different types of media and that younger consumers are more open to the idea of purchasing online streaming services [12].

Income levels play a pivotal role; higher income brackets indicate a greater inclination towards VOD usage; Income is known to be a variable directly linked to an individual's ability to pay for media services. This is also in line with the argument that subscribers with high incomes generally prefer the type of media that allows them to choose content that suits their personal preferences [20].

A gender-based disparity is apparent, with males showing a higher propensity towards VOD services compared to females. This can be commented as a general finding in several studies that examine the usage of Internet and technologic application, since females use internet less often and play computer games less frequently than male adolescents do. A clear correlation between education levels and VOD usage is observed. Those with higher education levels are the primary adopters, whereas those with moderate to low education levels have a lesser inclination to engage with VOD services. Empirical research shows that adopters in these services are more likely to be male, younger, and better educated and to have higher incomes than are nonadopters [21].

Urban residents display a significantly higher preference for VOD compared to their rural counterparts. Moreover, urban-centric adoption for STV is significantly higher.

5 Conclusions

In essence, the determinants influencing VOD consumption, ranging from demographic factors to geographical settings and employment status, reflect the evolving nature of media consumption in contemporary society. Such insights are valuable for both industry stakeholders aiming to expand their user base and policymakers looking to bridge digital divides.

Given the distinct growth trajectories and demographic preferences for STV and VOD, content providers and marketers can tailor their promotional campaigns to resonate better with specific age groups, particularly younger demographics who show a higher propensity for adoption. They might need to enhance certain aspects of their offerings to provide cost-efficient, convenient, and high-quality services to their subscribers.

The clear correlation between income levels and service usage suggests a potential for introducing tiered subscription models, ensuring broader accessibility while catering to varied economic capacities.

The gender disparity in both STV and VOD consumption hints at the need for content that appeals to diverse gender preferences, potentially driving up adoption rates among underrepresented groups. The heightened consumption in urban areas underscores the importance of robust digital infrastructure in these locales. Simultaneously, digital outreach programs in semi-urban and rural areas can help narrow the consumption gap.

With employed individuals showing significant media consumption, and with the engagement of younger individuals in Cluster 2, mainly students, presents a fertile ground for introducing student-centric subscription models or promotional deals, tapping into their evolving digital consumption patterns to boost subscriptions and viewer loyalty. Additionally, given Cluster 4's strong engagement with both VOD and STV services and their higher socio-economic standing, there might be opportunities for upselling premium content or services to this demographic, given their apparent readiness to engage and likely financial capacity.

Limitations: Demographic elements by themselves do not adequately account for the varied and constantly evolving consumer behaviors. This recognition has led to the incorporation of lifestyle considerations in market segmentation to gain a deeper insight into consumer actions.

Future research may take under consideration the general digital profile of TV users, such as the usage of smart TV, the consumption of music through OTT applications, the listening to podcasts etc., aiming to draw a more precise consumers scheme for OTT media paying services.

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Tourism Agents in Greece Recovering from COVID-19

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Abstract The COVID-19 pandemic profoundly affected the tourism sector which heavily relies on human interaction and movement. As travel resumes, travel companies have a chance to revamp and prepare for the future. The industry is experiencing a significant shift in consumer behavior and business practices, leading to new tourism trends. This study aims to examine the effects of the pandemic on tourism agents, their resilience and to explore emerging trends in the industry. Conducted through a quantitative research method, the study surveyed 132 travel agencies across Greece. Finings revealed that during the lockdown, respondents focused on planning for the post-COVID-19 era and invested in staff training and skill development to enhance business operations. Findings highlight the diverse perspectives of the agents, regarding their resilience, demonstrating a skepticism for the future of the business. The pandemic has resulted to changes in tourist behavior, such as a shift towards shorter trips and boutique tours, as well as an increased emphasis on hygiene measures. Understanding these shifts in behavior is crucial for the recovery of tourism businesses, as it enables them to tailor their services to meet client expectations and strive for long-term sustainability.

Keywords COVID 19 · Tourism agents · Recovery

1 Introduction

The global outbreak of COVID-19 caused a substantial decline in the desire for tourism [1]. In 2020, there was a significant 74% decrease in international arrivals, resulting in a reduction of export earnings by USD 1.3 trillion. Moreover, this decline posed a threat to approximately 100 to 120 million jobs in the tourism industry [2]. External limitations like border closures, restricted transportation, mandatory quarantines, and vaccine passport requirements, coupled with internal factors such as risk perceptions, health concerns, fear of the pandemic, loss of control over behavior,

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and coping challenges, significantly impacted travel decisions [3]. Consequently, the aviation industry, accommodation providers, transport operators, travel agencies, and related sectors endured severe hardships [4]. The consequences extend beyond the financial losses experienced by tourism service providers, as they have also had a significant impact on the overall demand for tourism [5]. In a promising sign of recovery, international tourist arrivals surged to 80% of pre-pandemic levels during the first quarter of 2023. The recovery in 2022 had achieved a 66% level overall, making the current year's progress even more impressive [6].

This study aims to comprehensively analyze the profound effects of the COVID-19 pandemic on travel agencies and outline potential strategies for recovery. In order to address this overarching question, the following research questions have been formulated: To what extent have tourism agents been impacted by the pandemic? Are businesses demonstrating the necessary resilience to withstand the challenges posed by COVID-19? How has the pandemic influenced tourist behavior leading to new tourism trends?

2 The Pandemic's Impact on the Tourism Industry and Paths to Recovery

2.1 The Travel Market

The spread of COVID-19 has had a significant negative impact on the global travel industry [7]. According to UNWTO [8], international tourist arrivals plummeted by 74% in 2020 compared to 2019, severely impacting the aviation sector. With most fleets grounded and travel demand at an all-time low, the strain on the aviation industry surpassed that of the SARS outbreak and 9/11 terrorist attacks [9]. This decline resulted in the loss of approximately 120 million jobs and an estimated USD 1.2 trillion in export revenues [10]. The cruise tourism industry also experienced a significant economic decline, with its total contribution decreasing by 91.1 billion (59%) from 154.5 billion in 2019 to 63.4 billion in 2020, leading to a reduction of 590,000 jobs (50.6%) [11, 12]. However, revenues from international travel and tourism sur-passed the $1 trillion mark in 2022, increasing by 50% in real terms over 2021 and regaining 64% of their pre-pandemic levels [6]. Global employment in the travel and tourism sector increased somewhat in 2022 compared to the previous year. Despite the growth, there were 295 million travel and tourist jobs globally in 2022, which is still below pre-pandemic levels. This number is anticipated to increase to 320 million in 2023 [13].

Greece heavily depends on tourism, ranking third among countries with a significant connection to this industry, constituting around 21% of its GDP [14]. However, in 2021, the number of overnight stays by travelers drastically decreased by −43.5% compared to 2019, with travel receipts also declining by −41.6% to €10,328 million [14]. This sharp reduction reflects the pandemic's adverse impact on Greece's tourism sector, which relies heavily on international visitors for economic growth [15]. Despite challenges, the Balance of travel services saw some recovery, reaching €15,751.5 million in 2022 [16]. According to the latest WTTC [17] report, the sector has recovered 82% of pandemic job losses and is expected to create over 17,000 jobs this year, aiming to reach pre-pandemic employment levels of 820,000 in Travel & Tourism, matching the peak in 2019.

2.2 Travel Agencies

Travel agencies and tour operators faced an unprecedented economic crisis, primarily driven by widespread cancellations and delays caused by the COVID-19 pandemic [18]. This has resulted in a substantial loss of revenue, creating a dire economic situation for these businesses [19]. However, few investigations have been conducted on the association between Covid-19 and travel agents [19]. Celik and Atac [19] studied the impact of Covid-19 on travel agencies. They found that many agencies had to temporarily halt their business activities, resulting in a significant reduction in turnover, with some experiencing a decrease of 81% or more compared to the previous year. To cope with this situation, agencies have been implementing strategies such as offering grants and credit assistance to support their operations. Additionally, negotiating the postponement of payment dues has been another approach adopted by many agencies to alleviate immediate cash flow pressures. The goal of Atsiz and Eşitti's [20] study was to determine how the Covid-19 epidemic affected the travel agencies based in Çanakkale. The study's findings demonstrated that the Covid-19 pandemic had a negative impact on travel agencies, that they gave hygiene regulations a high priority and implemented them on their buses and excursions, and that the needs and demands of visitors to the agency altered. Tanakov et al. [21] investigated the impact of digitalization on travel companies and client perspectives. The study revealed significant changes in consumer behavior, with travelers increasingly relying on social media, online travel agencies, and websites to plan their trips. As a result, travel agents must rethink their digitalization strategies to effectively reach their target audience. The COVID-19 pandemic further emphasized the need for adaptation and innovation to meet changing consumer demands, especially with the rise of remote communication methods in selling tourism offerings. The study of Pradini et al. [22] attempted to determine what marketing techniques are employed by travel agency enterprises or travel agents to survive in the Covid-19 pandemic. Based on the findings the following recommendations can be made: Focus on the marketing tactics that have been used to reach the goals that have been set; continue to innovate to keep customers; use employees in sales marketing to build databases to attract more clients; maintain good relations, particularly with those employees who are still in the workforce; and follow government advice to adhere to health protocols to prevent the covid-19.

3 Methodology and Sample

The study used a quantitative research method, surveying Greek travel agencies from January to March 2023. A Greek version of the questionnaire was created and hosted on Google Forms. The survey link was distributed to 430 email recipients across Greece and 132 usable questionnaires were collected. A convenience sample was utilized. Since there were no previous questionnaires available, a focus group consisting of 5 experts was convened to assess the effectiveness of the questions in capturing the relevant topics. Their input helped establish the face validity of the instrument. Following this, a pilot test of the survey was conducted, and participants' feedback and comments were used to revise and refine the questionnaire.

In Table 1 the agents sample profile is presented. The majority of the surveyed businesses (62.1%) employ 1–5 employees, while 18.9% have more than 15 employees. In terms of years of operation, 70.5% have been operating for over 11 years, with 9.8% operating for 6–8 years or 9–11 years. Only 0.8% are newly established (less than 2 years). The main activities of the businesses include tour operating (31.1%), sale of transport tickets and incoming services (18.2%), bus charters (15.9%), Meetings, Incentives, Conferences and Exhibitions (MICE) services (6.1%), rent a car services (4.5%), and outgoing services or other related activities (3%).

Table 1 Agents' sample description

Number of employees	Frequency	Percentage (%)	Main activities of business	Frequency	Percentage (%)
1–5	82	62,1	Tour operating	41	31.1
6–10	16	12.1	Sale of transport tickets	24	18.2
11–15	9	6.8	Incoming Services	24	18.2
> 15	25	18.9	Bus charters	21	15.9
Years of operation	Frequency	Percentage	MICE	8	6.1
0–2	1	0.8	Rent a car services	6	4.5
3–5	12	9.1	Outgoing services	4	3
6–8	13	9.8	Other related activities	4	3
9–11	13	9.8			
> 11	93	70.5			

4 Findings and Discussion

The majority of participants (55%) experienced a significant revenue decrease of 81% and above, while 24.2% reported declines ranging from 61 to 80%. Additionally, 15.9% noted a revenue decrease between 41 and 60%. Conversely, 8.3% reported a minimal decline of 0% to 20%, and 7.6% saw a decline of 21% to 40%. Notably, 66% believed that relevant revenues for 2022 would decrease compared to 2019, while 31.8% anticipated an increase, and 18.2% expected revenues to remain the same. In terms of cost reduction, respondents sought cooperation with other companies (23.5%) and reported staff reduction (15%). Technological infrastructure enhancement (11.4%) and alternative cost reduction methods (8.3%) were also mentioned. Commission reduction or branch closure was implemented by 7.6% of respondents, and 5.3% changed suppliers. Additionally, 3.8% ensured cost reduction through asset sales (Table 2).

During the lockdown period, respondents demonstrated a proactive mindset by utilizing the time in various ways. A significant portion (25.8%) focused on planning for the post-Covid-19 era, while 12.1% invested in training for staff or skill development. Innovation and adaptation were emphasized, with 15 respondents developing new products. Maintaining customer connections was important, as approximately 10.6% utilized social networks. Diversification was pursued by 12 respondents through new activities. Rest and personal well-being were recognized by nine participants, while adaptability was shown by some respondents (9) through industry changes. Overall, businesses demonstrated diverse approaches, including planning, training, product development, customer communication, new activities, rest, industry change, and other innovative strategies during the lockdown period (Table 3).

A five point Likert scale was used to investigate agents' satisfaction with the government support measures (Q1). In Fig. 1, it is evident that the opinions of the respondents are diverse, showcasing a range of perspectives. The data reveals that 35% of the participants expressed complete dissatisfaction or dissatisfaction, while 25% maintained a neutral stance. Notably, 40% of the respondents reported being satisfied or very satisfied with the subject at hand.

Table 2 Actions taken to reduce cost

Actions	Freq	Perc (%)	Actions	Freq	Perc (%)	Actions	Freq	Perc (%)
Cooperation another company	31	23.5	Alternative means for cost reduction	11	8.3	Selling an asset	7	5.3
Reduced staff	20	15	Reduced the commission	10	7.6	Changing supplier	7	5.3
Increased technological infrastructure	15	11.4	Closed a branch	10	7.6	Not yet implemented	23	17.4

Table 3 How agents took advantage

Actions	Freq	Perc (%)	Actions	Freq	Perc (%)	Actions	Freq	Perc (%)
Plan for the post-Covid-19	34	25.8	Use of social networks to communicate with customers	14	10.6	Rest and recharge	9	6.8
Training	16	12.1	Creation of new activities	12	9.1	Other	7	5.3

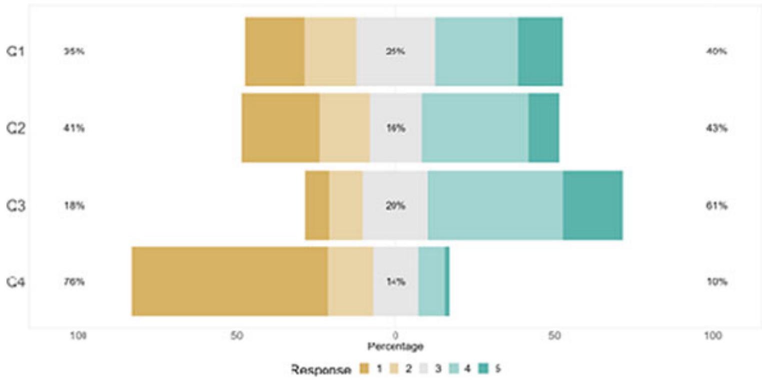

Fig. 1 Agents' satisfactions with governments support measures and companies' resilience

The questions, namely Q2: "My business had the resilience to deal with the pandemic," Q3: "My business adapted to the new data created by the pandemic," and Q4: "The company's revenue during the pandemic was sufficient for its sustainability," were designed to assess the agents' resilience. To assess the reliability of this dimension, the Cronbach's alpha coefficient was employed. The obtained value of 0.746 suggests a satisfactory level of internal consistency among the questions, indicating that the measure is reliable.

The responses from the agents indicate a diverse range of opinions. Regarding Q2, 41% of the agents disagreed or completely disagreed that they possessed the resilience required to navigate the challenges posed by the pandemic. Conversely, 43% agreed or completely agreed that they did have the necessary resilience. For Q3, a significant majority of 61% of the respondents claimed that their companies successfully adapted to the new data generated by the pandemic, demonstrating their ability to adjust their strategies and operations accordingly. Furthermore, when it comes to Q4, a substantial majority of 76% of the agents stated that their companies' revenue during the pandemic fell short of ensuring long-term sustainability. Overall, these findings show that during the pandemic the companies' revenue was significantly reduced but the vast majority of the agents successfully adopted to the new circumstances.

Table 4 Means/number of employees

Employees	Mean
1–5	2.547
6–10	3.039
11–15	2.727
> 15	3.128

Interestingly, the opinions of the agents regarding their resilience are equally divided, demonstrating a skepticism for the future of the business.

In order to investigate the diverse perspectives of the agents a new variable RESILIENCE was created from the average of Q2, Q3 and Q4 and Analysis of variance (ANOVA) was conducted to examine the relationship between the number of employees in a company and the dependent variable, RESILIENCE. The independent variable in this analysis was categorized into different groups based on the number of employees.

H0: The mean values of RESILIENCE are equal across firms with different employee ranges, specifically 1–5, 6–10, 11–15, and 15+ .

Ha: That there is a difference in at least two mean values among the employee range groups.

In this case, with a p-value of 0.027, it suggests that the observed differences in means are unlikely to have occurred by chance alone, providing some evidence to support the alternative hypothesis that at least two of the means are different. Based on the table provided, it is evident that businesses with 15 or more employees have achieved success (Table 4).

Table 5 presents the participants' perspectives on the travel trends that emerged as a result of the pandemic. The data highlights a notable shift towards shorter trips and the emergence of boutique tours, which accounted for 18.2% of the responses.

Table 5 Travel trends created by the pandemic

Trend	Freq	Perc (%)	Trend	Freq	Perc (%)	Trend	Freq	Perc (%)
Shorter journeys	24	18.2	Avoid mass tourism destinations	12	9.1	Demand for specific types of accomod	12	9.1
Creation of boutique tours	24	18.2	Price increase due to the restrictive measures imposed	12	9.1	Emphasis on hygiene rules	12	9.1
Turn to nature	12	9.1	Price reduction for reasons of business survival	12	9.1	Other trends	12	9.1

5 Conclusions

The study reveals a significant decline in revenue for the majority of participants, with businesses anticipating a decrease in revenues for 2022 compared to 2019. To address the financial impact, various cost reduction measures have been implemented, including seeking cooperation with other companies, staff reduction, technological enhancements, strategic adjustments such as commission reduction or branch closures, and supplier changes. Travel agencies utilized the lockdown period for planning, training, product development, customer communication, and other innovative approaches. The satisfaction with government support measures varied among respondents, and there were diverse perspectives on resilience, adaptation to new data, and revenue sustainability during the pandemic. Larger businesses were found to demonstrate higher levels of resilience compared to smaller ones. Furthermore, the study highlights the emergence of shorter trips and boutique tours as prominent travel trends in response to the pandemic. Gaining insights into these behavioral shifts is vital for the revival of tourism businesses, as it allows them to customize their services to align with client expectations and pursue long-term sustainability. The study is subject to a limitation due to the utilization of a small convenience sample.

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Social Media Use for Covid-19 Related Information: Generation X, Y and Z Differences

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Abstract Social media platforms seem to be popular for consumers and businesses as they provide new opportunities for interactivity, connectivity and information seeking. During Covid-19 there was an increase in the use of social media all over the world. The current study presents the results of a research that was conducted in 2021 during the second wave of the Covid-19 pandemic. It aims to explore and analyze social media usage during Covid-19 pandemic among the generation X, Y and Z cohorts in Greece regarding information about Covid-19. For this purpose, a questionnaire was designed and 312 responses were collected through online channels. By carrying out ANOVA analysis and Post Hoc tests, significant differences among generations X, Y, Z were noticed for the following questions: (a) quality of social media coverage with respect to Covid-19 (b) feeling of happiness and calmness while browsing social media during Covid-19 and (c) reliability of information obtained from social media pages with respect to the pandemic. On the other hand, referring to the feeling of anxiety or fear while browsing social media during Covid-19, no significant difference was observed. Implications are discussed for social media use from companies in related periods with crisis issues.

Keywords Social media · Covid-19 · Generations X, Y, Z · ANOVA · Data analysis · Communication · Health crisis

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1 Introduction and Literature Review

It has been common practice in global marketing to group consumer segments into target market categories [1]. Cohorts are groups of individuals who are born during a specific time interval of 20 years and travel through life together [2, 3]. Contemporary researchers consider that generational cohorts are better demographic indicators as compared to age, since cohorts exhibit similar and consistent intra-cohort behavior, while there are noticeable inter-cohort differences [4, 5]. Cohort effects are life-long effects. They provide the communality for each cohort being targeted as a separate market segment [2, 5]. According to Johnston [6] generation *X* refers to people born within years 1961–1981, Generation *Y* to people born within the interval 1982–1991 and Generation *Z* to people born after 1992. Generation *X* is the generation that is using Facebook at a higher rate than the other generations, generation *Y* users use social media to interact with others and they are "digital natives", while generation *Z* navigate the digital world, using social media for more varied purposes [7, 8].

Social media have dynamically entered our lives changing the ways that users communicate and gather information. "Over the last decade, social media have come to influence human lives in a manner that is unprecedented in its scale and magnitude" [9]. "Social media platforms are among the most widely used sources of information in the world, the easy and inexpensive access to the internet and a large number of registered users in these platforms make them one of the easiest and most effective ways to disseminate information. During major events, the overall response is usually a greater search for information, be it a sports event, a disease, or a natural disaster" [10]. Companies use mobile and web-based technologies in order to create interactive platforms where individuals and organisations share content, exchange ideas and views and publish their interests. Moreover, it should be taken into account that information and communication technologies are well adopted in higher education as well and their further implementation can take place [11].

The coronavirus disease (Covid-19) is the recent pandemic which affected every part of the world and started in Wuhan city of the People's Republic of China [12]. The Covid-19 has unfolded like an inferno in more than 213 countries in the globe [13]. People's response to the disease has differed from country to country and region to region, but there was also a great variety in their severity. Lockdown measures and quarantine were ubiquitous, but not everybody reacted essentially to the measures of precaution [14]. Health anxiety is an issue of concern during the Covid-19 pandemic as many citizens had higher levels of health anxiety and tend to search for health-related information [15].

Social media played a positive role during the Covid-19 pandemic by promoting effective strategies for helping individuals in dealing with social and physical distancing and reducing stigma, prejudice, discrimination and inequalities [16]. The onset of the Covid-19 pandemic has led to a rapid consumption of social media services. It has now become an integral and popular communication tool for information generation, consumption and dissemination [17]. As Liou [18] found in her work, Covid-19 information seeking through digital media was a salient parameter that encouraged people to practice preventive behaviors either directly or indirectly.

The use of social media by different generations occurs naturally, but this means that this space must respond to needs arising from different life cycles (e.g., school, work, or retirement) [19]. In terms of differences between the generations and respective use of social media, a study conducted in Canada in 2021 found that older adults increased their usage of Facebook and teleconferencing tools after Covid-19, but technology was more important to the younger generation for enabling them to connect to their elders [20]. Jones [21] in his work in 2020 found that 68% of consumers are seeking out pandemic updates online—over any other activity—expect generation Z that prefers to listen to music, or play computer games rather than search for news.

The aim of this study is to explore the attitude and points of view of Greek citizens with respect to social media usage during the pandemic and differentiate upon the three aforementioned generations. Specifically, the following aspects are examined: (a) different feelings (happiness, anxiety/stress, calmness, fear) and their respective level experienced by members of the generational cohorts, while browsing social media pages seeking Covid-19 related information; (b) different degree of belief found among the cohorts with respect to the quality of social media pages, groups and accounts covering Covid-19 evolution; (c) different degree of belief found among the cohorts with respect to the reliability of Covid-19 associated information obtained from these social media pages.

2 Methods and Materials

The research strategy implemented in this study is case study-based on quantitative research. Regarding the research design, the study targeted three generational cohorts, i.e., generations X, Y and Z. A non-probability sampling frame was implemented, and data were collected via an online questionnaire targeting to generations X, Y and Z. The respondents were asked to forward the questionnaire link to friends and acquaintances who met the criterion [22]. Beattie, Lamm, Rumble, and Ellis [23] used non-probability sampling to gain an understanding of how the public thinks and makes decisions. Participants were Greek citizens that had access to the Internet and consented to the use of data. The study was conducted in the early post-covid period and more specifically between October and December 2021. In the context of this work, 312 responses were collected.

3 Descriptive Statistics

The sample comprised 128 (41%) male and 184 (59%) female participants. The distribution of the respondents was 46 (14,7%) for generation X, 236 (75.6%) for generation Y and 30 (9.6%) for generation Z. The number of participants that had completed secondary level of education was 46 (14.7%), tertiary level of education 216 (69.2%), for MSc/MA level there were 38 participants (12.2%), for PhD studies two (0.6%) and for other level eight respondents (2.6%) There were two missing responses. For the family status 239 (76.6%) responded as single, 65 (20.8%) as married, 4 (1.3%) as divorced and 2 (0.6%) as widowed. There were two missing values. With respect to whether the respondent or a close relative has been infected by Covid-19 the answers were 236 for "yes" (75.6%), 66 for "no" (21.2%) and 10 (3.2%) did not want to answer. The average time spend daily while browsing social media pages was 60 (19.2%) for "less than one hour", 188 (60.3%) for "one to two hours", 36 (11.5%) for "three to four hours", 18 (5.8%) for "five to six hours" and 10 (3.2%) for "more than six hours". The above times were modified during lock down accordingly: 4 (1.3%), 78 (25%), 162 (51.9%), 36 (11.5%) and 32 (10.3%). Most of the respondents choose to spend their time on: Instagram, Twitter, YouTube (34–10.9%) and Facebook, Instagram, Twitter, TikTok (28–9%).

During lockdown the mostly visited platform was Instagram (154–49.4%), followed by YouTube (46–14.7%) and Facebook (42–13.5%). The main reasons for visiting these social media platforms were relaxation, entertainment, information seeking, and communication (122–39.1%) while during lockdown the top reasons were relaxation, entertainment, information seeking, communication and nothing else to do (160–51.3%). The type of information sought was various news (162–51.9%).

Overall, most participants believe that the quality level of Greek social media pages, groups and accounts that cover Covid-19 is: "average" (198–63.5%).

The following Tables present the results on participants' feeling of happiness while browsing social media during the pandemic (Table 1) and their point of view with respect to the reliability of information found on these pages (Table 2). The degree of happiness experienced was mostly "average" (110–35.3%) followed by "low" (98–31.4%). The vast majority of respondents believe that the reliability of information is "average" (182–58.3%).

Table 1 Feeling of happiness

		Frequency	Percent	Valid Percent	Cumulative percent
Valid	1	46	14.7	15.1	15.1
	2	98	31.4	32.2	47.4
	3	110	35.3	36.2	83.6
	4	48	15.4	15.8	99.3
	5	2	0.6	0.7	100.0
	Total	304	97.4	100.0	
Missing	System	8	2.6		
Total		312	100.0		

Table 2 Reliability of information

		Frequency	Percent	Valid Percent	Cumulative percent
Valid	1	50	16.0	16.0	16.0
	2	46	14.7	14.7	30.8
	3	182	58.3	58.3	89.1
	4	32	10.3	10.3	99.4
	5	2	0.6	0.6	100.0
	Total	312	100.0	100.0	

4 Inferential Statistics

As stated before, the hypotheses that were posed were that the three cohorts exhibit differences in the following aspects: different feelings, belief about the page quality level and belief about the information reliability. In order to carry out an ANOVA procedure, some assumptions are required to be met. Specifically, the independence of observations, the normality of distributions for each subpopulation and the homogeneity of variances across the subgroups. In our case, all these assumptions were met as the three subgroups are distinct, with a size $n > 25$ (thus there is no need to check for normality) and the homogeneity assumption was verified with Levene's test.

The one-way ANOVA test (Table 3) was conducted to compare the three groups average feeling. The analysis produced a statistically significant result for happiness: ($F(2.301) = 10.439$, $p < 0.001$, reject H0) and marginally significant for calmness ($F(2,2.9) = 6.958$, $p = 0.001$, reject H0). The effect size was found to be roughly medium ($\eta^2 = 0.065$ for happiness and $\eta^2 = 0.044$ for calmness). The results for the other feelings (anxiety/stress, fear) were statistically insignificant.

For the second hypothesis (page quality) results also showed a significant difference; ($F(2.307) = 9.256$, $p < 0.001$, reject H0), while for the third hypothesis (information reliability) the results were: ($F(2.309) = 8.013$, $p < 0.001$, reject H0). The effect size was again medium; $\eta^2 = 0.057$ for page quality and $\eta^2 = 0.049$ for information reliability.

Post Hoc Tukey tests revealed that significant (at the 0.05 level) differences in happiness between groups were found for all three groups (pairwise) with mean values 2.04, 2.59 and 3.00 respectively (Table 4). Significant differences in calmness were found for the third group (2.50) with respect to the other two (1.74, 2.07) (Table 5). For the second hypothesis (page quality) the test revealed that the difference lies between subgroups 1 and 2 (3.09 and 2.54) whereas no difference is found between any of the above groups and group 3 (2.87) (Table 6). Similarly, for the third hypothesis (information reliability) the test revealed that the difference lies between subgroups 1 and 2 (3.09 and 2.54) whereas no difference is found between any of the above groups and group 3 (2.80) (Table 7).

Table 3 ANOVA results

		Sum of squares	Df	Mean square	F	Sig.
Quality of pages	Between groups	13.102	2	6.551	9.256	< 0.001
	Within groups	217.273	307	0.708		
	Total	230.374	309			
Feeling of happiness	between groups	17.860	2	8.930	10.439	< 0.001
	Within groups	257.496	301	0.855		
	Total	275.355	303			
Feeling of anxiety and stress	Between groups	0.237	2	0.119	0.092	0.912
	Within groups	394.937	307	1.286		
	Total	395.174	309			
Feeling of calmness	between groups	10.180	2	5.090	6.958	0.001
	Within groups	218.747	299	0.732		
	Total	228.927	301			
Feeling of fear	Between groups	0.269	2	0.135	0.105	0.900
	Within groups	384.770	301	1.278		
	Total	385.039	303			
Reliability of information	Between groups	12.190	2	6.095	8.013	< 0.001
	Within groups	235.028	309	0.761		
	Total	247.218	311			

Table 4 Tukey B test—happiness

	Frequency	1	2	3
1	46	2.04		
2	230		2.59	
3	28			3.00

Table 5 Tukey B test—calmness

	Frequency	1	2
1	46	1.74	
2	228	2.07	
3	28		2.50

Table 6 Tukey B test—page quality

	Frequency	1	2
2	234	2.54	
3	30	2.87	2.87
1	46		3.09

Table 7 Tukey B test—information reliability

	Frequency	1	2
2	236	2.54	
3	30	2.80	2.80
1	46		3.09

5 Discussion and Conclusion

The study sample respondents confirm that Covid-19 information seeking has affected them. The research showed that feelings could, in some cases, be significantly different while browsing for Covid-19 related information in social media. According to Sathish et al. [13] social media is used to create awareness as well anyone can influence the emotion of individuals through social media. The three cohorts do not differentiate with respect to anxiety, stress or fear. Kaya [24] in his research found that "social media did not create any panic or anxiety within the respondents, which is a good indication". On the other hand, Skouri [25] found in her work that anxiety strongly affected social members in information seeking about Covid-19. However, when it comes to happiness younger people (generation Z) are significantly happier than generation Y, who are in turn significantly happier than generation X. With respect to calmness generation Z is the one that appears to be calmer than both the other two cohorts. Finally, the second hypothesis was related to the cohorts' point of view on webpage quality. Results have shown that generation X considers the webpages to be of a higher quality than generation Y. Generation Z does not differ with either generation X or Y. The same apply for our third hypothesis. The observed differences between generations can be attributed to the different life experiences they have. Moreover, members of different generations have a varying perception of feelings such as stress, fear or calmness. Thus, their assessment of technological tools as an aid in crises periods also differs. Results for these generations show that social media platform managers and marketers can proceed with no doubt and provide information on future crises, as these generations seem not to exhibit feelings such as stress, anxiety or fear.

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Exploring Gender Differences: The Relationship Between Personality and Teleworking Preferences

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Abstract This study investigates the link between the Big Five personality traits and the well-being of teleworkers while considering potential gender differences. The sample consisted of 230 teleworkers who answered an online questionnaire. Then, a path analysis was employed to explore the relationships between the variables. Findings indicate that distinct personality traits can affect employees' attitudes towards teleworking, with a discernible impact on their subjective well-being. While both genders exhibit similar patterns of relationships between personality traits and telework outcomes (positive feelings for extraversion and agreeableness, and negative feelings for neuroticism), there are differences in the magnitude and significance of some of these relationships, particularly in the case of conscientiousness, where its impact on negative feelings towards telework is more pronounced for men. Findings have important practical implications for organizations and individuals in the evolving work landscape.

Keywords Teleworking · Covid-19 · Subjective well-being · Big five personality traits · Gender differences

1 Introduction

The current pandemic crisis has changed lifestyles and work habits of people worldwide, who had to work productively and stay in touch with their work obligations and workloads [1, 2]. The mandatory work from home (WFH), caused different effects on people's well-being [3]. The main advantages of teleworking refer to program flexibility, time and cost savings and promotion of work life balance and mental

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health [4]. On the contrary, many scholars [4, 6] mention increased work stress due to extended working hours, constant accessibility of the remote worker, lack of control in communication and task overload, reduction in professional development opportunities, complexity of communication, and time required to resolve such issues [6]. There has been limited research on the association between personality and teleworkers' well-being [1, 6–8]. Many scholars point that telework heightens job satisfaction, strengthens supervisor collaboration, and fosters better work-family equilibrium [9]. On the contrary, studies highlight possible drawbacks, including amplified work stress and depression occurring at higher levels, burnout and poor sleep, due to constant availability, communication ambiguity, task overload, and escalated work-family conflicts [1, 5] which can significantly impact both on productivity and subjective well-being [10]. The present study aims to investigate the impact of the telework environment on the negative and positive feelings of subjective well-being for the five-factor model of personality, underlining any differences between males and females, which is the main contribution of the research.

2 Big Five Personality Traits and Affect Toward Work from Home (WFH)

There is relationship between the Big Five personality traits and peoples' attitudes toward work from home [7, 10–18]. Conscientiousness is characterized by being cautious, responsible, organized, efficient, and competent [16, 21]. Time management, self-organization, and self-motivation are some of the fundamental qualities that teleworkers should have and they are mainly found among female teleworkers [16, 19, 20, 22–24]. Conscientiousness and Openness to Experience are positively associated with higher productivity from home, especially for females who do not have parenting obligations [26]. However, Entringer and Gosling [27] showed that loneliness increased significantly for women and for conscientious individuals. Taking these into account, we suggest that: H1. There is a positive relationship between consciousness and positive feelings towards teleworking. Extroverts tend to prefer sociability and interaction with others, and teleworking provides them opportunities to increase their contacts with people outside of work [14]. Men's preference to teleworking is related to their greater extraversion levels, which thrive on social connections [20, 24]. On the other hand, extrovert females, especially mothers who had to take heavier responsibilities for caring, even teaching children, did not prefer teleworking, because they did not have time to communicate with other people [28]. The effects of extraversion on the acceptability of WFH and its effects on employees' mental health need further investigation [16]. As a result, we expect that: H2. Extraversion has a positive relationship with positive feelings towards teleworking.

Agreeable people appear to have an easier time engaging with social situations and achieving goals, both of which lead to the development of a sense of well-being

[17]. People with agreeable personalities enjoy teleworking because they believe it matches their nature and is more flexible and handier. Boca et al. [19] proposed that gender-based attitudes toward working from home based on parental responsibilities resonates with the agreeableness trait. Women's heightened agreeableness inclines them to accommodate their family's needs, making telework an attractive option [14, 25, 29, 30]. Meanwhile, men's lower agreeableness could contribute to their preference for conventional work setups [19]. From the above, we suggest that: H3. Agreeableness has a positive relationship with positive feelings towards teleworking for women and a negative relationship for men. As telework relies on new technological processes and work methods, it is assumed that employees who are open to experience are better suited to these unconventional work environments [14]. People with high scores on that trait, are more adventurous and open to new responsibilities [31]. As a result, it is anticipated that the experience of teleworking would be enjoyable for them [14, 18]. On the contrary, in some sectors such as the public sector, employees have showed less flexibility and a strong resistance to this change mainly from women [32]. Research [33] found males to be higher in openness to experience. However, teleworking increased the workload for women, leading to a clash between their family and work roles [34], leading to a negative attitude to this new way of working [35]. Thus, we expect that: H4. Openness has a positive relationship with positive feelings towards teleworking. Finally, insecurity, instability, and emotionality are all related with neuroticism [36]. Neurotic people are more prone to be pressured by daily duties, making them unsatisfied and unhappy [13, 18]. Smith et al. [8] mentioned that neurotic personalities may struggle to adjust to remote work since telework may enhance their anxiety. Regarding the differences between genders, studies agree that females are higher in neuroticism [14, 37, 38] due to their strong need to manage boundaries (for example between work and family obligations) which is very complicated in teleworking conditions. Taking these into account, we propose that: H5. Neuroticism has a negative relationship with positive feelings towards teleworking.

3 Materials and Methods

After defining the research objective and assessing its complexity during the second wave of the COVID-19 pandemic (February–April 2021), the authors conducted a quantitative online survey. The relationships between variables were examined using a 20-item questionnaire with a 5-point Likert scale. The sample was convenient as it comprised 230 teleworkers who were easily accessible, allowing for a cost-effective and efficient data collection process ad enabling us to apply a reasonable statistical analysis and come to valid conclusions. The sample was divided into males and females and a regression analysis determined whether the five personality factors are related to positive and negative feelings in each group. The data was empirically tested using SPSS software version 24 and R language. To ensure the credibility of the research, we compared the current results with those in the literature.

4 Results

The linear components in the data were verified using a PCA with Varimax rotation. Rotated component Matrix is presented in Table 1. The 69.54% of the variance in the dependent variable can be explained by the independent variables (openness, conscientiousness, extraversion, agreeableness, neuroticism, positive feelings, and negative feelings). There is an alpha coefficient of 0.72 for openness, 0.74 for conscientiousness, 0.77 for extraversion, 0.72 for neuroticism, 0.68 for agreeableness, 0.71 for negative feelings and 0.78 for positive feelings. Regression analysis for males (Table 2) indicated that there is a statistically significant and positive relationship between extraversion with positive feelings, agreeableness with positive feelings and neuroticism with negative feelings. There is also a statistically significant and negative relationship between conscientiousness with negative feelings and neuroticism with positive feelings. Regression analysis for females (Table 3) showed that there is a statistically significant and positive relationship between extraversion with positive feelings, agreeableness with positive feelings and neuroticism with negative feelings.

5 Discussion and Conclusions

This study examined the dynamic relationship between Big Five personality traits and teleworkers' well-being, taking into account possible gender differences. The results suggest that certain personality traits may indeed influence workers' attitudes toward teleworking, with a remarkable effect on their well-being. Extraversion, agreeableness, and conscientiousness were associated with positive attitudes toward telework, whereas neuroticism had a negative effect on teleworkers' well-being. These results are consistent with recent studies [8, 14–17]. There were significant gender differences in the relationships between personality traits and teleworkers' well-being. In particular, a negative relationship between conscientiousness and negative feelings toward telecommuting was more pronounced in men, a finding that contrasts with current research [16, 19, 20] and supports the findings of Entringer and Gosling [27]. The remaining three hypotheses were all confirmed and aligned with the literature. The results include the use of personality traits during the telework process, the promotion of employee well-being related to telework experiences based on gender differences. They can significantly help organizations to plan better teleworking policies and provide a tailored support, enhancing job satisfaction and productivity as well as employees' well-being.

Table 1 Rotated component matrix[a]

	Component						
	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism	Negative Feelings	Positive Feelings
I am authentic with new ideas	0.631						
I have a vivid imagination	0.798						
I'm interested in the arts	0.733						
I don't tend to be lazy		0.699					
I work efficiently		0.776					
I focus on the details		0.849					
I am talkative			0.778				
I am not shy			0.727				
I am sociable			0.803				
I forgive easily				0.887			
I am never rude				0.660			
I have a lot of concerns					0.849		
I feel anxious					0.745		
I feel scared						0.782	
I feel angry						0.774	
I feel sad						0.748	
I feel optimistic							0.856
I feel calm							0.811
I am optimism							0.609

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
[a]Rotation converged in 8 iterations

Table 2 Results of regression analysis for males

Model fit measures					Model fit measures				
Model	R	R^2			Model	R	R^2		
1	0.386	0.149			1	0.546	0.299		
Model coefficients—Negative feelings					*Model coefficients—Positive feelings*				
Predictor	**Estimate**	**SE**	**t**	**p**	**Predictor**	**Estimate**	**SE**	**t**	**p**
Intercept	3.032	0.893	3.396	0.001	Intercept	1.482	0.704	2.100	0.038
Openness	0.081	0.129	0.630	0.530	Openness	0.126	0.101	1.240	0.217
Conscientiousness	**−0.355**	**0.147**	**-2.411**	**0.018**	Conscientiousness	0.160	0.116	1.380	0.171
Extraversion	0.071	0.129	0.550	0.584	**Extraversion**	**0.241**	**0.102**	**2.360**	**0.020**
Agreeableness	−0.027	0.116	−0.235	0.815	**Agreeableness**	**0.210**	**0.091**	**2.300**	**0.024**
Neuroticism	**0.318**	**0.111**	**2.871**	**0.005**	**Neuroticism**	**−0.247**	**0.087**	**-2.830**	**0.006**

Bold text in the table denotes statistically significant results, such as the correlation between neuroticism and negative feelings and the correlation between conscientiousness and negative feelings

Table 3 Results of regression analysis for females

Model fit measures					Model fit measures				
Model	R	R^2			Model	R	R^2		
1	0.392	0.153			1	0.395	0.156		
Model coefficients—Negative feelings					*Model coefficients—Positive feelings*				
Predictor	**Estimate**	**SE**	**t**	**p**	**Predictor**	**Estimate**	**SE**	**t**	**p**
Intercept	2.690	0.901	2.987	0.003	Intercept	1.140	0.778	1.466	0.145
Openness	−0.121	0.108	−1.127	0.262	Openness	0.002	0.093	0.022	0.982
Conscientiousness	−0.152	0.116	−1.313	0.191	Conscientiousness	−0.009	0.100	−0.095	0.925
Extraversion	0.055	0.103	0.535	0.594	**Extraversion**	**0.292**	**0.089**	**3.289**	**0.001**
Agreeableness	0.037	0.132	0.279	0.780	**Agreeableness**	**0.337**	**0.114**	**2.971**	**0.003**
Neuroticism	**0.429**	**0.092**	**4.659**	**< 0.001**	Neuroticism	−0.118	0.080	−1.487	0.139

Bold text highlights statistically significant associations in this table,such as the positive correlation between extraversion and positive feelings and the negative correlation between neuroticism and positive feelings

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Artificial Intelligence's Revolutionary Role in Search Engine Optimization

Christos Ziakis and Maro Vlachopoulou

Abstract In recent years the digital landscape has been rapidly evolving as the application of artificial intelligence (AI) becomes increasingly important in shaping search engine optimization (SEO) strategies and revolutionizing the way websites are optimized for search engines. This research aims to explore the influence of AI in the field of SEO through a literature review that is conducted using the PRISMA framework. The study delves into how AI capabilities such as generative AI and natural language processing (NLP) are leveraged to boost SEO. These techniques in turn allow search engines to provide more accurate, user-centric results, highlighting the importance of semantic search, where search engines understand the context and intent of a user's search query, ensuring a more personalized and effective search experience. On the other hand, AI and its tools are used by digital marketers to implement SEO strategies such as automatic keyword research, content optimization, and backlink analysis. The automation offered by AI not only enhances efficiency but also heralds a new era of precision in SEO strategy. The application of AI in SEO paves the way for more targeted SEO campaigns that attract more organic visits to business websites. However, relying on AI in SEO also poses challenges and considerations. The evolving nature of AI algorithms requires constant adaptation by businesses and SEO professionals, while the black-box nature of these algorithms can lead to the opaque and unpredictable evolution of SEO results. Furthermore, the power of AI to shape online content and visibility raises questions about equality, control, and manipulation in the digital environment. The insights gained from this study could inform future developments in SEO strategies, ensuring a more robust, fair, and user-centric digital search landscape.

Keywords Search engine optimization · Artificial intelligence · Semantic search · Digital marketing

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1 Introduction

Search Engine Optimization (SEO) stands as a cornerstone of the digital marketing world, playing a pivotal role in enhancing a business's online visibility, thereby directly impacting its reach to the target audience [1, 2]. A strategic SEO approach provides deeper insights into search engine user behaviors, ensuring more informed business decisions and a robust digital presence [3]. As digital landscapes evolve, so do the methodologies and technologies underlying SEO [4]. This paradigm shift marks a transition from a keyword-centric SEO approach to one that prioritizes understanding the comprehensive context behind a user's search [5]. In the vanguard of this evolution is AI. AI has changed both the user's search experience and the strategies implemented by companies to optimize their content. With AI, search engines become more adaptive, focusing on user needs and delivering more personalized results [6].

This paper explores AI's transformative impact on SEO in the digital age. We use the PRISMA framework for a systematic literature review (SLR) [7]. After detailing our methodology, we overview SEO techniques and AI's influence on them. We conclude by summarizing key findings and suggesting future research directions.

2 Methodology

Utilizing the PRISMA framework as our guiding methodology, we initiated a comprehensive search on the Scopus database. Our focus was primarily on the TITLE-ABS-KEY fields, leveraging a combination of keywords: "Artificial Intelligence" AND "Search Engine Optimization" OR "Search Engine Optimisation". This foundational search produced a modest count of 33 articles. Recognizing the limited pool of results from this initial endeavor, we expanded our research parameters to encompass grey literature and employed the snowballing technique. This broader approach enabled us to identify a richer pool of 73 articles. A subsequent screening, centered on article titles and abstracts, refined our selection to 44 articles. Ultimately, we consolidated our findings regarding AI and SEO to a set of 28 articles, which became the backbone of our review. We have to mention that further references not related to the topic of AI were utilized to introduce each SEO technique.

3 Artificial Intelligence and SEO

Boyan and Freitag's groundbreaking AI and SEO work introduced heuristics, notably a reinforcement learning-inspired approach [8]. Their system auto-combines these heuristics from user feedback, improving search engine rankings. Fast forwarding to 2011, Wang et al. presented a novel approach to search engine optimization rooted in the algorithm of BP neural networks [9]. Their method made the search engine smarter and more personalized, adjusting results based on individual user preferences. Yuniarthe explored the intricacies of AI's role in SEO, delineating its structure into evolutionary computation, fuzzy logic, and classifiers, along with statistical models [6]. He detailed an array of AI-driven SEO tools, including Polidoxa and the Fuzzy Inference System. Two further studies emphasized the potential of the Random Neural Network (RNN) in enhancing search capabilities [10, 11]. Their studies confirmed that the RNN model could adeptly predict user search queries and offered superior accuracy compared to traditional search algorithms. Further, an "Intelligent Internet Search Assistant" based on the RNN model showcased better performance relative to conventional search engines, particularly in gauging user preferences. Joglekar et al. introduced a tool aiming to rank search results exclusively on content quality, eschewing the traditional parameter of user click likelihood [12]. This tool leveraged the 'term frequency-inverse document frequency' weighting algorithm, coupled with subsequent processes like 'singular value decomposition' and 'spherical K-means' for optimal content display. In 2020, Horasan unveiled the potency of Latent Semantic Analysis (LSA) for keyword extraction in SEO [13]. Through LSA, the relationship between documents or sentences and the terms contained within were modeled, resulting in cost-effective strategies to target specific online audiences. Portier et al. in the same year, applied both filter and wrapper methods to select pivotal features from a vast dataset, and when combined with the Random Forest model, produced promising results in predicting Google's top search results [14]. In 2022, Yogesh et al. reinforced the fundamental pillars of SEO, asserting the primacy of keyword-centric web content and the significance of monitoring site traffic [15]. Another study illuminated the synergy between NLP and ML in amplifying SEO performance [16]. Their research hinted at a promising horizon where NLP and ML could revolutionize successful SEO outcomes.

The literature identifies various types and techniques of SEO, among which On-page and Off-page SEO hold paramount importance [17]. In the subsequent sections, we will delve into each SEO typology, elaborating on their distinct characteristics and significance. Additionally, we will explore the profound impact of AI on these specific SEO techniques, shedding light on the innovative ways AI enhances and transforms the traditional approaches to website optimization.

3.1 AI and On-Page SEO

On-page SEO enhances a website's visibility by optimizing factors within its pages [18]. Initially, search engines relied on content, meta tags, and keyword density, leading sites to overstuff keywords [19]. Modern on-page SEO addresses both content and technical aspects, emphasizing the right balance of keyword relevance with user value. Elements like title tags, meta descriptions, URLs, and image optimization play vital roles. Image strategies focus on user experience and efficient loading, such as compressing images and using descriptive filenames [20]. Mobile SEO, a subset, ensures websites are user-friendly on mobiles, highlighting responsive design and easy navigation [21].

AI is becoming an integral part of on-page SEO, influencing both its mobile and non-mobile technical and content aspects [22]. AI tools can analyze website performance in real-time, auto-adjust for faster page loads, and test mobile-friendliness across devices. They can also auto-implement schema markup to aid search engines and optimize images by determining ideal compression levels and generating ALT tags [23]. For content SEO, AI, like OpenAI's GPT-4, assists writers in crafting high-quality, keyword-optimized content [24]. AI systems can assess content against competitors and recommend improvements, like keyword integration or topic expansion. Content optimization now focuses on meaning, user intent, and context rather than just keywords. Advancements like Google's Knowledge Graph provide context-rich search results by understanding information relationships [25]. Similarly, Latent Semantic Indexing (LSI) evaluates the relationship between terms on a webpage, urging writers to emphasize comprehensive topic coverage over repetitive keyword usage [26]. The structural coherence of content has gained prominence with the rise of semantic SEO [27]. Topic clusters and pillar content interlink related articles, boosting contextual understanding and asserting a site's authority. In today's era, understanding user intent is vital. AI excels in semantic analysis, ensuring content aligns with keywords and the searcher's intent [28].

3.2 AI and Off-Page SEO

Off-page SEO focuses on third-party website actions, historically known as "link building." It emphasizes the quantity and quality of backlinks [29]. Beyond link building, it aims to boost brand exposure and online reputation through methods like social media, content marketing, influencer outreach, and guest blogging [30]. The objective is to gain authority and credibility through external endorsements from trusted sources on various platforms. AI is enhancing off-page SEO by optimizing external online presence strategies. It can monitor and manage the online reputation of a website and its competitors [31]. Using sentiment analysis, AI algorithms can track brand mentions across the internet, distinguishing positive comments from negative ones [32].

3.3 AI and Local SEO

Local SEO has risen in prominence with the proliferation of mobile search and the increasing importance of location-based queries [33]. Local SEO focuses on visibility in Google's local pack, Maps, and Bing Places. Essential steps include optimizing a Google My Business listing, gathering positive reviews, creating local directory citations, and maintaining consistent name, address, and phone number (NAP) information online to boost search engine trust [34].

AI is reshaping Local SEO, enabling businesses to better target geographic audiences. By analyzing extensive local search data, AI tools identify regional patterns and preferences, allowing businesses to refine content and marketing for local demographics [35]. Through sentiment analysis, AI can also gauge customer reviews and feedback on online platforms, providing businesses with insights into their local reputation and areas of improvement [36].

3.4 AI and Voice Search

The rise of smartphones ushered in the mobile SEO era, with mobile searches overtaking desktop [37]. Voice search, popularized by assistants like Alexa and Siri, shifted focus from keyword-based to context-driven, natural language queries [38]. AI, including algorithms like BERT, is crucial in refining Voice Search SEO by understanding and responding accurately to conversational queries, capturing nuances and intents as users interact naturally with voice-activated devices [39]. Algorithms discern nuances in phrasing, precisely matching user intent with content. AI-driven analytics predict user questions from historical data and trends, optimizing real-time results [40]. AI enhances voice search by ensuring contextual relevance and a more intuitive experience (Fig. 1).

AI has transformed SEO, but with challenges. The ever-changing AI algorithms require continuous adaptation by businesses. The "black-box" nature of many AI models introduces unpredictability, making consistent outcomes challenging for professionals [41]. As AI impacts online visibility, ethical concerns arise regarding digital equity, control, and potential manipulation [42]. It underscores the importance of merging AI in SEO with transparency, ethical practices, and inclusivity.

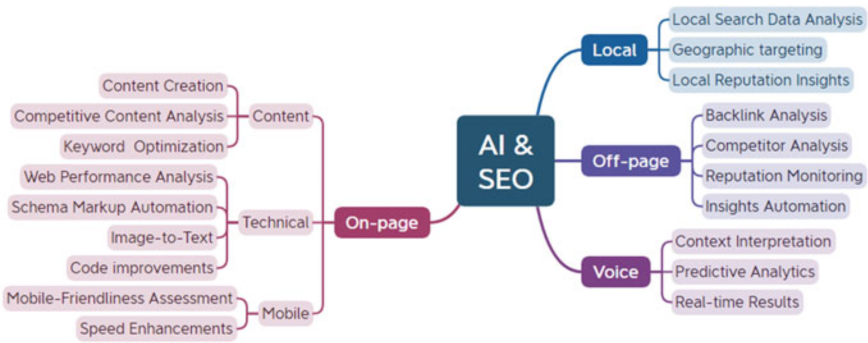

Fig. 1 AI Integration: influencing the four pillars of modern SEO

4 Discussion and Conclusion

The literature review explores the evolution of AI algorithms and their transformative impact on search engine optimization (SEO) techniques. Pioneering works such as Boyan and Freitag's heuristics and Wang et al.'s neural network-based personalized search results have paved the way for AI-driven SEO advancements [8, 9]. In on-page SEO, the historical focus on keyword-rich content has shifted towards considering user value and technical aspects, with AI's integration revolutionizing content relevance and technical optimization [18, 22]. Content optimization now emphasizes semantic search, aided by Google's Knowledge Graph and Latent Semantic Indexing, enabling comprehensive topic coverage [25, 26]. AI's strength in semantic analysis ensures content alignment with user intent beyond keyword usage [28], promoting a more user-focused and contextually enriched approach to on-page SEO. For off-page SEO, AI plays a pivotal role in monitoring and managing online reputations through sentiment analysis, enabling businesses to respond effectively to customer feedback [31, 32]. This integration of AI enhances off-page SEO practices, empowering businesses to establish and strengthen their online presence beyond their website's domain. In the context of Local SEO, AI-driven tools analyze local search data, enabling businesses to target specific geographic audiences more effectively [35]. Sentiment analysis further provides insights into local reputation and areas of improvement, contributing to a more data-driven and precise approach to engaging with local audiences [36]. AI's presence in voice search SEO is essential as it enables accurate interpretation of conversational queries, matching user intent with relevant content through algorithms like BERT [38]. AI-driven predictive analytics ensure contextually relevant voice search responses, creating a more proactive and intuitive voice search experience [40].

Overall, AI's integration into different types of SEO presents numerous advantages, transforming traditional practices and optimizing website optimization strategies. However, it also poses challenges in adapting to evolving AI algorithms and addressing ethical concerns related to data privacy and manipulation in the digital environment. By responsibly harnessing AI's capabilities, businesses can lead the digital transformation and achieve higher online visibility and user engagement in the competitive online landscape.

This study has limitations due to the reliance on proprietary search engine algorithms, making it challenging to understand universal AI-driven SEO applications. While AI offers automation, it also presents ethical issues around data privacy, biases, and user tracking. Future research should address AI's ethical impact in SEO and its role in emerging technologies like Augmented Reality (AR) and Virtual Reality (VR). In conclusion, AI and SEO's merging presents vast opportunities. Those who adapt and innovate within this framework will lead the digital transformation.

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Tourism Industry's Synergies with Cultural and Creative Industries as Marketing Tools: The Case Study of Film-Induced Tourism in Greece

Eirini Papadaki

Abstract The synergy of film and tourism industries has been the subject of much research, focusing on the ways a film can promote possible destination images, adding to the growth of tourism in the location the film is filmed. By creating associations with the location and the story, films motivate potential tourists to visit the lands, re-experience the depicted scenes and/or personalize the film seen. Greece is one of the countries that has appeared in many Hollywood film productions. From The Boy on a Dolphin (1957) to Mamma Mia 3 (2023), research shows an increase in visitor numbers at the filmed locations. The paper uses content analysis in 11 films filmed in Greece, in order to examine the visual mechanisms used to highlight the signs that denote Greekness. The paper shows that film productions shot in Greek locations—seen as important destination marketing tools—single out specific destination images and promote specific Greek signs—mostly familiar and recognizable "markers".

Keywords Tourism industry · Cultural and creative industries · Film-induced tourism · Greek tourism marketing

1 Introduction

The synergy of film and tourism industries has been the subject of much research, focusing on the growth of tourism in the location a film is filmed and the ways it promotes possible destination images [1–4], "including awareness, motivations, expectations, familiarity and complex images" [5]. By creating associations with the location and the story [5], films motivate potential tourists to visit the lands, re-experience the depicted scenes and/or personalize the film seen.

Greece is one of the countries that has appeared in many Hollywood film productions. From The Boy on a Dolphin (1957) to Mama Mia (2008) and the more recent Triangle of Sadness (2022) and Mama Mia 3 (2023), research shows an increase in

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visitor numbers at the filmed locations. As shown by the example of New Zealand's successful destination brand creation, after Toklien's trilogy "The Lord of the Rings" mediated the country's natural landscapes to film audiences, or the similar case of Great Britain and Harry Potter films, the opportunity a Hollywood production offers to a place chosen for the background of a screen script can be capitalized on by local authorities and tourist organizations and combined with PR and creative marketing forward the destination at the top choices of potential tourists' travel venues list.

The aspects of a place that a movie production chooses to promote to film audiences are crucial, as they can become indicators of the place's personality, identity and aura, attracting both the tourists' gaze [6] and their interest for their next holiday venue. This paper uses content analysis in order to examine the codes promoted through the trailers of the most popular Hollywood films filmed in Greece, starting from 1957 and until the establishment of the National Centre of Audiovisual Media and Communication in 2015. The aim is to highlight the "markers"/signs used by film industry to connote Greekness during the period of our study.

2 Theoretical Background

Emotional appeal, conversational capital and even celebrity value are the criteria set by Morgan et al. [7] for the choice of holiday destination by contemporary tourists. According to the World Tourism Organization, they mention, in twenty-first century tourism destinations can be paralleled to fashion accessories, expressing their possessor's identity, as well as financial, social and cultural status. Proofs of one's "been there, done that", souvenirs/postcards/snapshots/selfies are treasurable items of auratic value to the tourists, displayed in one's home or digital space as charismatic objects of cultural value [8, 9]. Tourist routes in the visited land and their representation through souvenirs and photographs are the status indicators of the metamodern human.

Places are chosen by tourists as holiday destinations on the grounds that they could offer them, besides status, rare experiences, different from the ones they encounter in their everyday lives [6]. For the attraction of Urry's "tourist gaze", the tourism industry's stakeholders, local authorities and the media—both mass and new media—have formed various synergies and outlined many different models for destination brand building and marketing, aiming at the increase of tourists' arrival numbers.

2.1 Tourism Industry Marketing

The Tourism Industry uses many channels in order to communicate its messages to its loyal and potential audiences. Rich content, designed by national entities or the private sector, appears in various printed material—tourist leaflets, posters, postcards and banners, for example—, audiovisual media, web pages and social media posts, in order to attract the tourist gaze and persuade potential tourists to visit the shown destination. Apart from promotional material and the media, other communicators send destinations' messages to various audiences. The possibilities are endless and the synergies innovative and rather creative. From international media to celebrities that function as opinion leaders—or influencers—, cultural and creative industries—, from archaeology to gaming and the hand-crafting industry—, the promotion iconography of destination brands is increasingly filling one's visual environment. Starting from one's young age through school books and animation films [10], Barthes' "language of travel" [11] is formed as an integral part of one's cultural habitus [12].

Tourism iconography has in the twenty-first century occupied a large part of one's surroundings. Tourism signs are decoded by individual factors, shaped by former experience and/or personal knowledge. Nevertheless, the media do, at a great extent, provide the potential tourist with much of his/her knowledge and recently digital, mediated, bodiless experience of the destination, shaping certain "markers" [13] and building specific "myths" [11] around a place. It is a vicious circle of co-shaping "imaginative geographies" [6], "invented traditions" [14], "staged" [13] and/or "emergent" [15] authenticity. The fact is that each potential tourist is aware—regardless of the ways he/she came to that end—of the recognizable landmarks and peculiarities of every famous destination, the ones he/she cannot miss if he/she were to visit the place.

The tourists' ritual [8] to visit different lands and search for the familiar "markers" has been broadened in recent years so as to include the wish to participate in the "authentic" local experience, the distinctively local uniqueness of a place [10]. Even if one understands that authenticity might be "staged" for his/her eyes [13], its invented, recreated generation [14] is seen as its evolution, timely dynamism [16], a new emergent authenticity [15]. The creation of "authentic" experiences and thematic tourist routes, not necessarily close to the known forms of mass tourism, highlighted the value of targeted and personalized tourist messages, with the use of different communication channels. New media and digital applications have come to replace traditional media tourism marketing, but the search for differentiated communication vehicles is constant and uprising. One of the cultural industries that has helped tourism industry reach specific target audiences—and the focus of this research—is film industry.

2.2 Film (-Induced) Tourism

A new thematic form of tourism has recently been formed, that of film-induced tourism. Despite being non-touristic practices, films can promote destinations unconsciously and therefore successfully. An "authentic stage" tourist destination [17] could be shaped through film, with the opportunity to create strong brand relationships and increase tourist growth in the promoted place before the screening, during the filming and sustained for years after the film release. As a cultural industry's product, film can create bonds with its audiences, create communities, even fandoms.

In addition, film's nature allows its viewer to fictionally participate in the storyline [18], identify with the protagonists, be ontologically transferred on screen and strongly appreciate the setting and by extension the place where the filming took place.

The potentials of film induced tourism have only recently started to be realized. Nevertheless, there is a gap in the scientific bibliography on the specific subject, as all research seems to reproduce the fact that filmic promotion is an important marketing strategy as regards to destination branding, providing statistical data on the increase of the numbers of tourist arrivals before and after the film release, but without examining the phenomenon further. Not all destinations that had the chance to host a film production have capitalized on the potentials this filmic promotion offers them. The opportunities presented by movies for destinations are linked to public relations and tourism marketing in ways yet under-explored. The aspects of the place shown on film and the ways they shape the destination's personality have also not been examined extensively, and definitely not in accordance/synergy to the "markers" usually promoted through other media of a destination's tourist marketing strategy.

3 Methodology and Results

In order to identify the main markers used to introduce the destination "Greece" to film audiences, the author applied content analysis on eleven trailers of Hollywood movies filmed in Greece. The sample includes the first American movie ever filmed in Greece in 1957 and goes until 2013, before the establishment of the National Centre of Audiovisual Media and Communication in 2015. The criteria for the selection of the American films filmed in Greece during these 57 years, were their exclusive or for the biggest part of the script filming in Greece, their box office success, as well as the reference to Greece, visually and/or linguistically, in their official trailers.

The decision to study the trailers rather than the films was not based solely on timely restrictions. As previews and "thresholds of meaning" [19], both cultural goods and marketing texts, the trailers include the most aesthetic visual codes of the film, as well as the main elements of the script that define the plot, including the setting. It was interesting, therefore, to examine, which elements of the Greek setting were seen as defining, key aspects of the film, so to be shown in the trailer. In addition, trailers, as "metatextual frames and filters" [20], function as textual bridge between film studio and audience [21]. Their promotional function outbalances, in many cases, their cultural one, trying to allure the audience into the films' screening experience. Some of the trailers studied could be used as promotional texts for Greece.

The films of the sample include The Boy on the Dolphin (BoD), filmed in 1957 in Hydra, The Guns of Navarone (GoN) filmed in 1961 in Rhodes, Zorba the Greek (ZtG) filmed in 1964 in Crete, James Bond: For your eyes only (JB) filmed in 1981 in Corfu and Meteora, Summer Lovers (SL), filmed in 1982 in Santorini, The Big Blue (BB), filmed in 1988 in Amorgos, Mediterraneo (M), filmed in 1992 in Kastellorizo, Captain Corelli's Mandolin (CCM), filmed in 2001 in Kefalonia, Mama Mia (MM), filmed in 2008 in Skiathos, Skopelos and Pelion, My Life in Ruins, (LiR), filmed in 2009 in Olympia, Acropolis and Athens and "Before Midnight" (BM), filmed in 2013 in Mani and Peloponnese. Films like The Greek Tychoon (1978), The Bourne Identity (2002) or Lara Croft: The Cradle of Life (2003) were not included in the sample, as they were only partialy filmed in Greece, although their tourist impact was important.

Following the methodological steps for content analysis, the author selected specific categories, focusing on some of the familiar "markers" of Greece as a tourist destination, namely: cultural heritage, sun, sea, natural landscapes, tradition, music, architecture and local people. The codes chosen for every category can be seen in Table 1, where the films that build their narration on each of these codes are also stated.

4 Discussion

We notice in Table 1 that 82% of the films are filmed in one of the islands, or at least includes filming in one of the islands of the country. The Greek islands are, unquestionably, one of the country's main touristic assets, promoted in every tourist marketing effort, both by official bodies and the private sector. The Greek islands welcome the most tourists during the summer and it is obvious that they attract the most tourist gazes in every visual appearance of Greece on every medium, including film.

The most commonly used categories are sun and sea, while local people, traditional architecture and natural landscapes are also shown in most of the films. Most of the trailer scenes unfold in sunny days and the sea is in most of the cases the background of the protagonists' adventures. In most of the trailers (91%) there is at least one scene where the film's characters are swimming, while in many cases they are on a boat or at the beach. Sun and sea tourism is the main product of the mass tourism phenomenon [22], but also coastal tourism, where the distance of the hotel to the beach and the sea-view rooms are the main advantages of accommodation properties and the main reasons for increased prices. The "four Ss" in tourism—namely sun, sea, sand and sex, as a stereotyped cliché to characterize the type of tourism that finds the forementioned characteristics more important than the culture, tradition and general identity of the place [23]—is a well-known promotional narrative for Greece and attracts big numbers of tourists annually. "Summer lovers" is the film in the sample that promotes the specific kind of tourism in the island of Santorini. All of the films examined promote the 2Ss—sun and sea—, two widely shared signs that denote relaxing holidays, in order to attract the mass tourist gaze. The 2Ss are two of the most recognizable markers of Greece as a tourist destination. Since the 1970s, the "sun and sea" tourism model was a big trend and most tourists coming to Greece preferred the islands and coastal regions for their vacations.

Table 1 The codes under each category

Category	Visual codes	Films
Cultural heritage	Objects of cultural interest Archaeological sites Monuments Underwater archaeological sites	8 films (BoD, ZtG, JB, SL, M, CCM, LC, LiR) 5 films (BoD, GoN, SL, BB, LiR) 2 films (SL, LiR) 3 films (BoD, JB, LC)
Sun	Sunny day Rain Clouds	All films – –
Sea	Sea view Beach The protagonists swim On a boat/ship	All films 6 films (GoN, ZtG, JB, M, CCM, MM) 10 films (BoD, GoN, ZtG, SL, BB, M, CCM, LC, MM, LiR) 7 films (BoD, JB, SL, BB, M., LC, MM)
Other natural landscapes	Rocky landscape Mountain Forest/Green scenery	10 films (BoD, GoN, BB, SL, M, CCM, SL, MM, LiR, BM) 8 films (BoD, GoN, ZtG, SL, M, CCM, LC, MM) 4 films (GoN, JB, LC, MM)
Tradition	Traditional habits and customs Traditional social activities Traditional clothing Local cuisine Local language heard/seen	2 films (ZtG, MM) 7 films (BoD, ZtG, GoN, ZtG, SL, CCM, MM) 4 films (GoN, ZtG, SL, M) 1 (LiR) 4 films (BoD, MM, LiR, BM)
Music	Greek instrument/orchestra Traditional dancing Greek music soundtrack	3 films (ZtG, CCM, LiR) 2 films (BoD, ZtG) 4 films (ZtG, BM, LiR, BM)
Architecture	Town/city/island—bird's eye Inner of a house Traditional elements	3 films (BoD, LiR, MM) 9 films (GoN, ZtG, JB, SL, M, CCM, MM, LiR, BM) 9 films (BoD, ZtG, JB, SL, M, CCM, MM, LiR, BM)
Local people	Appearance Participation Local actors involved	10 films (BoD, ZtG, BB, JB, SL, M, CCM, MM, LiR, BM) 3 films (ZtG, M, CCM) 5 films (GoN, ZtG, M, CCM, LiR)

Other visual codes are also offered, especially ones highlighting the "different" and/or "authentic" Greek scenery. Ancient monuments, archaeological sites and objects are seen in 10 of the 11 trailers studied. As the first poster promoting Greek tourism in 1929, so the first film filmed in Greece in 1957 was based on cultural monuments. It was a period of time that Greece attracted tourists mainly interested in Greek antiquities. Greek landscapes are seen in some of the trailers—mostly rocky landscapes, as most films are set on islands, but also mountains, and in some cases green images, e.g., of forests—attracting the gaze of nature lovers. Architecture is another aspect of visible locality and difference offered to the tourist gaze. Traditional architectural elements are visible in 91% of the trailers studied. Either through bird eyed views or following the actors inside a traditional local house, the viewer is acquainted with Greek traditional architecture and details such as traditional furniture and even traditional hand-painted ceramic dishes, where the protagonists of "Before Midnight" eat their dinner with friends in the courtyard, as many Greeks actually do. Local people, as the "others"—exotic, different, attractive—have also become an important part of tourism iconography, seen in many visual media promoting Greece, from postcards [8] and tourist brochures to documentaries and films. The "other" in anthropological terms refers to the notion of perceived differences, while in tourism studies it is mostly based on cultural differences. Local people appear in all film trailers, except one: "The Guns of Navarone". In the films "Zorba the Greek", "Mediterraneo" and "Captain Corelli's Mantolin" Greek people participate in the plot at a great extent, being sketched as proud, passionate and free-living. Greek actors are seen as members of the film's cast in 45% of the trailers. Traditional social activities, like sitting in a "kafeneio" (Greek traditional café) or attending a social event are seen in 55% of the films studied, while traditional clothing and local habits are seen in fewer films. Greek language is heard—through local people speaking and music—or seen—in labels on the streets—in 36% of the films. Greek music is heard either through a Greek instrument (27%), or the music soundtrack (27%). Traditional dances are seen in the trailers of two films.

The research shows that, parallel to the official bodies of the Greek government that were responsible for promoting Greece as a tourist destination, films used similar codes in order to attract the gazes of audiences and potential tourists. If we place the codes in a chronological order, we will see that first, the focus was on cultural heritage, then the "sea and sun" model and afterwards the need for "authentic" images—e.g., tradition, local people, architecture, etc. The visual codes in all the films follow this motif, while the linguistic codes come to clarify the message—filmic and touristic. Greece is characterized firstly as "the land of the Golden Gods" (BoD), then a "sea-bathed and sun-washed" world (ZtG) and "a secret of paradise on earth" (M). The Greek islands are characterized as "magical" (M), places "of enchantment" (M) and "untouched by time" (CCM). All these phrases promote Greece as a tourist destination, even if that was not the primary goal of the films, and actually follow Greece's official promotion strategy—and the chronological circle of the tourist phenomenon: sightseeing (the Grand Tour), relaxation (the 4 Ss), search for difference and authenticity and finally genuine experiences. The first "Mama mia" film trailer, to give another example of the parallel route between Greek tourist promotional strategy and film industry, was released in 2008 and includes scenes of Greek nightlife. During that period—from 2007 onwards—, the Greek National Tourist Organization (GNTO) tried to reposition Greece in the tourist industry [24] and show other aspects of it, like nightlife, as the focus was on experiences, rather than sightseeing or relaxation by the sea. By 2012, the promotional iconography returned to that of "all time classic" Greece [24]. In the 2013 film of our sample, "Before Midnight" we see the typical wandering of the protagonists in a graphic coastal area of southern Greece and we hear the phrase "a place filled with thousands of years of myth and tragedy" (BM).

5 Conclusions

The paper examined 11 films filmed in Greece during the period 1957–2014, as tourist marketing tools. The analysis revealed that all films use the familiar at the time symbols of the country and promote these specific signs as "authentically" Greek. Greece has always been promoted as a summer holiday destination and this fact is evident through the visual signs of sea and sun in all the trailers of our sample. Cultural tourism is also promoted and to a minor extent so is nature-based tourism. The viewers and potential tourists' search for authenticity is satisfied with images of Greek tradition, as expressed in architectural elements of traditional Greek houses, traditional music and dances, as well as traditional clothing, habits and the Greek language. These singled out and promoted destination images denote Greekness in ways already familiar, strengthening the existent brand and verifying the identity image of the place, in parallel ways to the country's official promotional tourist strategy.

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Online Marketing Strategies Used in the Promotion of Dietary Supplements in Romania

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Abstract The sale of dietary supplements in Romania has become increasingly important, competition is high and the online environment is an important channel for communication, promotion and sales. With the growth of online sales of dietary supplements, the increase in the number of users on social media platforms and mobile applications, there has been a significant increase in the number of companies that have chosen to promote their products online. Apart from that, there are other reasons for intensive online promotion: low cost, control and sorting of the target audience, analysis of the results, but also the lack of Romanian regulated legislation controlling online advertising of dietary supplements and especially on social media platforms. In this paper, we aim to identify the online marketing strategies used in the promotion of dietary supplements by five leading Romanian companies according to a study conducted in 2020 by the publication "Ziarul Financiar", conducting a content analysis of how these companies promote themselves online and what strategies they use for this purpose. The data obtained from the analysis reveals that the online marketing tactics and strategies adopted are designed to increase the market visibility of dietary supplement companies, and that companies that develop strategies such as affiliate marketing, association with a virtual community or discussion group, etc., stand to gain. This approach and the results obtained can be helpful and relevant to specialists in the field.

Keywords Dietary supplements · Promotion · Online marketing strategies · Romania · Content analysis

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1 Introduction

In general, health is said to be a priority for most people. Preventing the onset of disease by staying healthy has brought dietary supplements to the forefront. These are "concentrated sources of vitamins, minerals or other substances with a nutritional or physiological effect" [1]. According to the Romanian Association of Non-Prescription Drug Manufacturers, dietary supplements "do not prevent, do not treat but maintain health". They are indicated for human consumption when the substances they contain are not found or not in sufficient quantity in the daily diet, having a non-traditional or psychological effect [2].

Nutrients are packaged separately or in combination and marketed in the form of capsule heads, tablets, powders, ampoules with liquid and in single, dropper or spray bottles intended for human consumption by mouth in small, measurable quantities [3]. Food supplements are becoming increasingly popular among the Romanian population. If in 2015 Romanians spent €250 million on supplements, surpassing the markets of Bulgaria, Hungary, Czech Republic, Slovakia and Poland [4] in 2022, they will have spent €540 million [5] partly due to the COVID-19 pandemic that occurred in 2020, as people are more receptive to finding alternative methods of maintaining health (85% of Romanians used food supplements during the pandemic).

Among the most preferred dietary supplements are vitamin C, vitamin D and magnesium. Romanians also consume a very high proportion of supplements for immunity and liver protection. The average monthly amount spent by Romanians on these supplements is 84 Lei (approximately 17 Euro) in 2021, with most Romanians buying supplements from pharmacies and health food shops without a prescription, as they are used to prevent illness and maintain health [6].

In general, the sale of these products is made through pharmacies, supermarkets and also via the internet, which has become more widespread with the outbreak of the pandemic in early 2020, with travel restricted at that time by the authorities. Many retailers have added food supplements to their product portfolios, eMag online shop being one of them, with over 3000 products in this category on offer. The trend is now on the rise, as people are getting used to ordering all kinds of food products online [7].

With the increase in online sales of dietary supplements, the increase in users on social media platforms, mobile apps, we see a significant increase in companies choosing to promote their products online. Among the social media platforms used by organisations to promote natural health products are Facebook, Instagram and YouTube. However, traditional promotion channels such as TV, radio, display of promotional materials in pharmacies, sponsorship of events, projects, etc. are still preferred by manufacturing companies, even if the costs are higher. According to Cătălin Vicol, President of the Romanian Food Supplements Industry Association, Romanian consumers of food supplements are "medium and highly educated" people, ranging in age from "one year to advanced age", concerned about "the relationship between food and health" [8]. Due to the increasing number of companies producing dietary supplements, competition in the Romanian market is fierce.

According to a study from 2020 [9], Fiterman Pharma, Fares, Dacia Plant, Alevia, Herbagetica, Plant Extrakt, Secom, Himalaya, Sun Wave Pharma and Rotta Natura are among the top producers. Therefor, the aim of the paper is to identify the online marketing strategies used in the promotion of dietary supplements by five leading Romanian companies, selected from the study mentioned before.

2 Literature Review

Porter states that "the Internet can be used by any organization as part of any strategy" [10]. Online marketing or web marketing is the promotion of a brand or business on the internet, increasing website traffic, leads and conversions by using specific tools.

The integration of the internet into business has brought with it important changes in the promotional activities of organisations and the challenges it has produced have been substantial. Digital marketing has enabled companies to expand internationally, to reach other markets and audiences through the various devices that have emerged in the telecommunications sector (phones, tablets, laptops, etc.) [11, p. 81, 12].

Kimiloglu said that this integration can be an evolution of marketing, and the reasons are as clear as can be: "personalization of opportunities, reducing the distance between producers and consumers, convenience, increasing the number of communication channels and facilitating interaction, the volume of information it contains" [13]. A formal definition says that online marketing "refers to the set of activities, institutions and processes by which value is created, communicated and distributed to consumers and other stakeholders via the internet [14, p. 29].

Thanks to huge advances in technology, half of the world's population is now connected to the internet, which has prompted organisations to advertise not only through radio and TV, but also online, with 2016 being the first year that online advertising spending in the US surpassed traditional advertising, television and radio, and 81% of those who bought goods in physical stores first researched them online before buying, according to the authors [14, p. 28] But perhaps the biggest progress achieved by digital commerce is due to the pandemic of Covid-19 [15].

According to Jones, the organisation's website is the core of the internet marketing strategy [16, p. 24, 17]. The requirements for a successful website are responsive performance, ease of navigation, compelling content, user-friendly design and of course search engine optimisation [18, p. 299]. The goal of the marketing strategy achieved through the website is to attract users to generate traffic, keep and encourage them to return to the website, stimulate them to create interaction and complete the process by purchasing the product and analyze the data obtained, which measures how users use the website, to make improvements in its design [14, p. 70].

The tactics used to promote products online are search engine optimization (SEO), search engine advertising, online advertising, affiliate marketing, video marketing, social media, email marketing. The model operationalized through a category grid of specific online marketing activities and tools defined by Otilia Platon in 2015 [14, p. 32], is chosen in this paper to achieve the research objective, namely the identification of online marketing strategies used in the promotion of dietary supplements by Romanian brands. These strategies are the following: (1) online marketing research, (2) search engine marketing, (3) integrated marketing communication through websites and (4) online advertising, (5) public relations, (6) email marketing, (7) social media marketing, (8) permission marketing, (9) affiliate marketing, (10) viral marketing, (11) customer permission marketing [14, p. 32]. After presenting the general dimensions, the units of analysis are described, as these were defined according to a category/coding grid, while the working technique consisted of frequency analysis.

Online marketing research dimension contains the following elements: online survey platforms (e.g., Google Analytics etc.) checking for the presence of cookies on the website, data mining, visual marketing, use of online panels. Search engine marketing section is carried out on search engines, through search engine optimisation (SEO) tools, through database management systems and using the search function of websites. Integrated marketing communication through websites is achieved through websites using cookies and RSS and Atom syndication services and through online advertising using banners, pop-ups and pop-unders, skyscrapers, flash animations and cookies.

The tools used by public relations activities are websites, social media platforms such as blogs, forums and RSS and Atom syndication services. Another activity used in the online marketing strategy is e-mail marketing. This activity uses e-mail, online multimedia and database management systems. Social media marketing uses social networks, blogs and micro-blogs, podcasts, videocasts, forums, news and discussion groups, wikis, online multimedia, virtual communities, virtual worlds, social bookmarking websites and RSS and Atom syndication services.

Permission marketing uses email, online database management systems, automated response systems and again, RSS and Atom syndication services. Affiliate marketing is an activity that uses as tools: websites, email, search engines, search engine optimisation (SEO) tools, social media platforms, where we find: blogs, forums, newsgroups etc., online multimedia, RSS and Atom syndication services and cookies. Viral marketing uses email, social media platforms (social networks, forums, newsgroups, etc.), online multimedia, virtual communities, word-of-mouth. The last dimension that is part of the online marketing strategy is customer permission marketing, which uses tools such as email, online database management systems, autoresponders and RSS and Atom syndication services [14, pp. 32–33]. Thus, the paper aims to identify online marketing strategies as initially defined by Platon in 2015 [14, p. 32] and applied in the Romanian context to the promotion of dietary supplements of Romanian brands.

3 Methodology and Research Approach

The dietary supplement market is very competitive in Romania, so brands need to select the most effective marketing strategies and adapt to trends to attract as many customers as possible while retaining existing ones. Therefore, this paper focuses on the analysis of online marketing strategies used in the promotion of dietary supplements by five leading Romanian companies, selected from the 2020 study [9]. The research question to achieve this objective is: what are the main online marketing strategies used in the promotion of dietary supplements?

To answer the research question, we resorted to the model presented previously [14, p. 32], a model that allowed us to carry out a broad analysis of the strategies used in online marketing that the companies selected in the analysis are carrying out.

The research method used is content analysis. This is a powerful method of analysing how companies promote themselves online [19, 20]. According to Ole R. Holsti, content analysis is "a research technique that allows inferences to be made by systematically and objectively identifying specific features within a text" [21, p. 515]. In the following section, we present the main synthesis results obtained by applying content analysis to the analysis grid presented above.

4 Results

Since in this paper we set out to identify the online marketing strategies used in the promotion of dietary supplements by five leading Romanian companies, we conducted a content analysis of how the companies Alevia, Fares, Dacia Plant, Fiterman Pharma and Herbagetica promote themselves in the online environment and what strategies they use for this purpose.

The first step in this analysis is online marketing research. According to the analysis, all five companies have online search platforms, cookies, data mining (extracting data using platforms such as Google Analytics) and visual marketing. In contrast, none of the companies use online panels, i.e., they do not select individuals to participate in market research studies, (e.g., focus groups, opinion polls, etc.). The analysis shows that four companies: Alevia, Fares, Herbagetica and Dacia Plant promote themselves through search engines, i.e., they use sponsored content, the only company that does not use this strategy is Fiterman Pharma.

However, all five companies use SEO, a search engine optimization tool, database management systems, and have a website search function to make it easier to find products. Furthermore, all five companies have websites, RSS syndication services through the "Subscribe" button and cookies, through which they develop integrated marketing communication. Also, through the websites, the companies have tools for online advertising in the form of banners, but the only company that has cookies for online advertising is Herbagetica. Public relations are carried out through the websites, by Alevia, Fares and Fiterman Pharma, and via social media, by all five dietary supplement companies, where they also have subscription services (RSS). In the next category, email marketing, all five companies send email newsletters, have online multimedia materials and database management systems.

According to research, brand promotion in social media significantly influences consumers' purchase decision, as the study was conducted on the popular social media platform, Instagram [22]. Social media marketing is carried out by each of the five firms, and blogs published on social media by the firms Alevia, Fares and Dacia Plant. Also, in this category, all five producers make podcasts and videocasts and own multimedia materials. Fares and Herbagetica are registered on forums, discussion groups and newsgroups, where they promote their products and initiate discussions about health and the applicability of dietary supplements. Herbagetica is the only manufacturer that is part of a virtual community and is on a social bookmarking site.

Permission marketing refers to sending promotional offers to customers only if they agree to receive them. The five companies send newsletter e-mails to customers after they have given their prior consent. The companies also have database management systems in place. The only company with an automatic reply system is Dacia Plant.

In the Affiliate Marketing section, which is the collaboration between an online shop and a platform or person (e.g., the website www.2performant.com or an influencer) promoting products and sending emails incorporating links to the shop, is carried out by companies Fares, Dacia Plant and Herbagetica. Also, in this category, Fares and Dacia Plant carry out affiliate marketing using search engines, use SEO search engine optimisation tools, collaborate on social media platforms, hold online multimedia material, and offer RSS syndication services via the subscribe button.

Viral marketing is a category of marketing that is not part of the five companies' promotional strategy, and the last category under analysis is customer permission marketing, in which all five companies use e-mail newsletters, RSS subscription services and database management systems.

5 Discussion

As a result of this research, Fares ranks first and maintains its online notoriety, using 72% of valid online marketing strategies. Of course, in addition to marketing strategies, we must remember that Fares has a history of over 90 years of activity on the Romanian market, a history that says a lot about its experience in the field of food supplements, about its passion for making quality products. In second place is Dacia Plant, another company with more than 20 years of presence on the food supplements market. It uses 67% of valid online marketing strategies, according to the theory described.

In third place according to the content analysis is the manufacturer Herbagetica with 61%, followed by Alevia with 54% and in last place by Fiterman Pharma with 50%.

We can see how online marketing tactics and strategies adopted are designed to increase the market visibility of dietary supplement companies, and that companies that develop strategies such as affiliate marketing, association with a virtual community or discussion group, etc., stand to gain.

6 Conclusion

We have approached this topic to provide relevant information to specialists working in the field of online promotion of dietary supplements, the novelty of this paper lies in the research conducted from the perspective of the main actors, dietary supplement manufacturers, namely, how they use online marketing strategies to achieve their goals. We found out which strategies are used by Alevia, Fares, Dacia Plant, Fiterman Pharma and Herbagetica in terms of online marketing and promotion of dietary supplements.

A constant presence in several locations on the internet (e.g., the company's website, social media presence, newsletters, etc.), brings with it, besides brand history, an added notoriety. The content analysis showed that Fares uses 72% of the total online marketing strategies, Dacia Plant uses 67%, Herbagetica 61%, Alevia 54% and Fiterman Pharma 50%. The marketing strategies used to promote products online are nothing more than an adaptation of traditional marketing strategies, to which we add the opportunities created by the online environment, the most important online marketing tool being the company's own website.

In conclusion, we can say that the integration of the Internet into the business environment has brought with it important changes in the way companies promote themselves, and the level of responsibility has increased, as everything is visible on the Internet, the public has the opportunity to express, to send feedback much more quickly, to create content, and the maintenance of a positive image is closely linked to the actions carried out by public relations and marketing departments. The challenges are great, and marketing is forced to constantly evolve, so online promotion strategies should be a priority.

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Which Brand's Posts Drive Customer Engagement? Evidence from Greek Wine Brands' Posts

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Abstract The aim of this work is first to contribute to a deeper understanding on which posts drive consumer engagement through literature review and second to investigate how various firm-determined characteristics of brand's social media posts affect different types of customer engagement on brands' posts, in case of Greek wineries' Facebook brand pages. According to the results informative, rewarding, and relational content promote customer engagement on brand's Posts. Relational content affects customer engagement through the increase of reactions and comments while rewarding content increase the shares and the comments. The results also support that network size matters and that working hours are better time to post. Finally, richness of the brand post increase engagement only in the case of reactions.

Keywords Brand's posts · Customer engagement · Content analysis · Greek wineries' · Social media

1 Introduction

Researchers are trying to understand which factors influence customer engagement, by investigating both consumers' behaviors and willingness to engage with the brand, on one hand and by trying to find some metrics to measure this engagement, on the other hand. The majority of studies indicate that certain post characteristics like post richness, post content, post interactivity, timing and frequency of posts should be taken into account when creating and organizing posts. Most of researchers agree that user's engagement is reflected in the form of liking or disliking a post, commenting to a post or sharing a post to his wall [1] and use the number of likes, number of comments and number of shares as different measures of engagement.

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Although there is a growing interest from the researchers, there are some gaps: Most empirical works try to investigate engagement in case of multinational brands. For smaller businesses, however, managing customer engagement in social media efficiently is even more important since they see social media as convenient and appropriate and need to make the most of their comparatively limited social media marketing resources [2]. Furthermore, only a limited number of works investigate how various firm-determined characteristics of branded social media content affect different types of engagement in specific sectors. However, it is crucial to understand industry-specific engagement [3] because various engagement behaviors have been connected to various businesses, including tourism [4], airlines [5], and wine [6, 7]. Wineries are increasingly adopting social media, but many still don't have the knowledge to use it effectively in their marketing plans [8]. Despite social media's substantial benefits on firms, digital marketing for small and medium enterprises (SMEs) wineries is still challenging.

The goal of this research is to ascertain the various company created content on consumer engagement on Greek wine brand's postings in order to fill the aforementioned gaps. This study satisfies the requirement to understand how SMEs, which make up the majority of European wine companies, should produce their social media content in order to maximize their limited spending [9].

2 Literature Review

The Uses and Gratification approach has been used widely by researchers for studies on social media as the level of involvement, interactivity, bonding of participants and social capital is higher [10]. Researchers try to investigate which types of content influence if and how consumer's engagement with brands on social media platforms. Most studies categorize social media content in informative [11], rewarding [6], entertaining [12], or relational content [6, 13]. Some others classify content according to its emotional characteristics or in terms of Persuasive and non-persuasive, Transactional, Promotional, Interactive, Trendy and Customized, Inspirational, Call to action and Shared or original content [14].

The motivation for obtaining information can be categorized as seeking knowledge, guidance, or opinions exchanging information, and receiving real-time information [15]. However, there is limited empirical evidence [4] that supports a significant positive effect of informational content on customer engagement, while many other studies [12, 16] did not find such an effect. Moreover, in works where engagement is measured both in terms of likes, shares and comments, the results are ambiguous. Rewards like financial incentives, vouchers, and special offers are connected to rewarding content and are meant to draw interest and boost engagement [6]. People are expected to be engaged positively with rewarding posts, however, there is also empirical evidence that support a negative effect [17]. According to [18], entertainment posts are entertaining, amusing, and engaging posts, comical videos, tales, wordplay, and generally creative and inventive content that piqued consumers' attention and prompted them to share it with their peers. Most of previous studies have proved that entertainment is the main driver and result in higher engagement [19]. However, there are several studies that support an insignificant effect [16]. Relational postings are linked to information that promotes conversation by asking and answering questions, offering wishes, celebrating, and mentioning international holidays. Empirical evidence on customer engagement support both positive [16, 20] and negative or no effect [12] of relational content on engagement.

Research suggests that messages with images are richer than text, and videos are more attractive [17, 21]. However, as research has shown that images are even more effective sources of engagement than videos, these two types of information have frequently been included together in one "media richness" category [4]. Another set of variables used by scholars, refer to posts' characteristics such as length of message, time of posting and day of posting. Researchers place a strong emphasis on identifying the most opportune time to post material on social media to enhance customers' desire to engage. The availability of working memory, according to [22], rises in the morning when people are more alert, attentive, and looking for information in electronic surroundings.

Most of researchers agree that user's engagement is reflected by liking or disliking a post, commenting to a post, or sharing a post to his wall and use the number of likes, comments and shares as different measures of engagement [23, 24]. Scholars also use the sum of likes, shares, and comments, either weighted by brand's followers or not. Dolan [6] include dormancy, separation, and destructing in addition to creating, contributing, and consuming. A weighted engagement index is proposed by [25]. A limited number of works investigate how various firm-determined characteristics of branded social media content affect different types of engagement in specific sectors such as financial [11], hospitality [4, 26], education [23], fashion [27], automotive [28]. There is a limited number of works [7, 29] that investigate how various firm-determined characteristics of branded social media content affect different types of engagement in specific sectors and specially in wine sector.

The following hypotheses are formulated:

H1: Informational posts positively influences consumer engagement

H2: Rewarding posts positively influences consumer engagement

H3: Entertaining posts positively influences consumer engagement

H4: Relational posts positively influences consumer engagement

H5: Network size positively influences consumer engagement

H6: Media Richness positively influences consumer engagement

H7: Posts created on workdays result in higher level of consumer engagement

H8: Posts created in working hours result in higher level of consumer engagement.

3 Methodology and Results

Greek wineries' Facebook brand pages were chosen for the purpose of conducting the analysis of this research. According to Szolnoki et al. [30] across wineries in multiple nations, Facebook is by far the most used social media platform. Facebook's market share of social media in Greece is 83.97% [31] and is the most frequented social media adopted by wine marketers [32].

Facebook pages of Greek wineries were analyzed using Next Analytics software. Posts were retrieved daily from January to December of 2019 in order to assure data accuracy and independence from any changing Facebook policies. Number of fans, likes, posts, shares, reactions, links, images, shared stories, videos, comments, post day, and post hour are the major statistics collected for each wine brand page.

We use four dependent variables to measure online engagement on Facebook brand pages: liking, commenting, sharing, and the sum of those three. A post with a lot of likes and shares could mean that its content is interesting, boosting the likelihood that someone will like it and spreading the brand message to more potential customers via the Facebook algorithm. In addition, a post's success or influence can be gauged by the number of comments it receives, as this indicates that readers took the time to voice their thoughts [33]. We selected posts with more than 150 engagements (sum of reaction, shares and comments). A total of 473 posts of 32 wine firms were analyzed. In terms of media elements, according to Nextanalytics data [34], four formats are available: text, photos, videos and shared stories. In our case of 473 posts with the higher engagement, 85.6% are posts with photos, while posts with video are 5.1% and shared stories are 6.76%. According to our data, mean shares per post is 15.3 while mean reaction per post is 295.

In order to assign the content type categories to the posts created by page moderators we performed a qualitative content analysis. Both authors involved in this study reviewed the social media literature to identify pre-existing coding categories for wine brand posts. Keywords, themes, and ideas that seemed to characterize the brand posts were highlighted and discussed. The 473 posts were categorized in four major categories: informative, entertaining, rewarding, and relational. As Informative posts we selected those that were given in form of general information about firm (history, owners, local geographic location, website, open hours, contact information etc.), about specific products (description of products, varieties, their terms of storage and also about harvesting (conditions, characteristics etc.) and cellars conditions. In the category Entertainment we included those posts which were written in a form of word play or slogan, or humorous images and statements. The aim of entertainment posts is to offer some relaxing and interesting content to enjoy their followers, to make them interact [19]. In Rewarding category, we included posts in a form of competitions, contests or prizes to users. Relational posts are associated with content encouraging user participation and interaction, like wishes, celebrations, international days, name days, local events, family and employees' personal interests, hobbies, opinions, achievements, and so on.

From the total 473 posts with more than 150 engagements, informational posts are the most frequently met 56.5%, while relational ranked in the second place with contribution of 20.9%. These were followed by entertaining posts (15.9%), and in the last position rewarding (6.8%). According to the OLS regression results, the model for the consumer engagement on brand's posts measured as the sum of reactions per brand post *i*, shares per brand post *i*, and comments per brand post *i,* is significant as a whole (F-value = 10.41, p-value < 0.001) and explains the variance of the dependent variable reasonably well (adj. $R^2 = 14\%$). Providing information at a wine brand post is marginally significant and positive related to the consumer engagement on brand's posts in support of hypothesis 1 (Table 1). Rewarding content is significant and positive related to brand post engagement, in support of hypothesis 2. Entertaining content is not significantly related to engagement, so we cannot support hypothesis 3. Relational content is significant and positive related to brand post engagement, in support of hypothesis 4. Network size is related positive and significantly to brand post engagement, in support of hypothesis 5. Media richness of a brand post is not found significant related to engagement, which is not in support with hypothesis 6. Posting on workdays is not significantly related to engagement while posting on working hours is significant and positive related to brand post engagement, in support of hypothesis 8.

The models for the engagement measured by the reactions per brand post *i*, the engagement measured by the shares per brand post *i*, and the engagement measured by the comments per brand post *i,* are significant as a whole (*F*-value = 10.35, 13.22, 7.43, respectively, *p*-value < 0.001), and explains the variance of the dependent variable reasonably well (adj. R^2 = 12%-18%). While providing information at a wine brand post has marginally influence related on the engagement, there is no influence in the case where engagement is measured by the number of reactions, shares and comments, separately. Whether a brand post is informative, rewarding or entertaining has no influence on the engagement measured by reactions. Only relational content of a brand post has influence on reactions, in support of hypothesis 4. Rewarding content is significant and positive related to the number of shares and

Table 1 Supported and not supported hypotheses

	B	t-TEST	Significance
H1: Informative content creation → engagement	0.14	(1.62)*	$p < 0.10$
H2: Rewarding content creation → engagement	0.39	(3.39)***	$p < 0.001$
H3: Entertaining content creation → engagement	0.09	(0.91)	$p > 0.10$
H4: Relational content creation → engagement	0.18	(1.95)**	$p < 0.005$
H5: Network size → engagement	0.34	(7.86)***	$p < 0.001$
H6: Media Richness → engagement	0.10	(1.23)	$p > 0.10$
H7: Posts created on workdays → engagement	0.04	(0.62)	$p > 0.10$
H8: Posts created on work hours → engagement	0.10	(1.90)**	$p < 0.005$

*** p-value <0.001, **p-value <0.05, * p-value <0.10

to the number of comments, supporting hypothesis 2. In the case of engagement measured by the number of comments, relational content has significant influence on comments, in support of 4. Network size has influence only in the case of brand post engagement measured by reactions and shares. Richness of the brand post has positive and significant influence on reactions, negative and significant impact on shares and no influence on comments. Finally, posting on working hours is significant and positive related only to number of comments.

4 Discussion and Conclusions

This study provides three contributions. The first is the creation of a research model used in this study which takes into account important elements that have been identified as significant in the literature review. The second is the emphasis given on SMEs instead of multinational brands since effectively managing customer engagement in social media is even more crucial for smaller companies which need to make the most of their relatively smaller social media marketing budgets [2]. Finally, this study's third contribution is the investigation of how various firm-determined characteristics of branded social media content affect different types of measurement of engagement of customer engagement on social media posts in a certain sector, Greek wine sector.

From the managerial perspective, this work offers some important practical implications for managers and marketers especially for wine brands with a small-medium fan base on how to manage their Facebook brand pages. Specifically, this research gives practitioners the first concrete evidence that social media content, particularly rewarded material, and the timing of postings contribute to increase customer involvement. Practically speaking, managers could adopt the strategy of enhancing customer connection by creating and delivering tailored experiences for various consumer engagement and preference segments. Rewarding content is the most consistent and promising variable for an increase in customers' engagement. It seems that rewarding is the way to start a relationship with customers and after that brands should feed and maintain this relationship. Apart from rewarding content, managers should also invest on interesting, rich, and inventive postings. They should also be aware of the difficulties in creating informative, trend-setting content, and entertaining material through key market.

Future researchers should test additional approaches to measuring engagement and, more importantly, novel approaches to linking the engagement index to interactivity and customer satisfaction through a variety of targets. Second, investigations into engagement should focus on the unique characteristics of wine brands, such as brand experience, brand quality, and personality, as well as how these attributes are transmitted via social media. Finally, both researchers and practitioners would greatly benefit from a comparison examination of interaction utilizing more thorough and varied Facebook wineries' brand pages from other nations.

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Motives and Perceptions of Greek Voters in National Elections of 2023

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Abstract The current paper is founded on the statement that voting behaviour is an exercise of consumer behaviour and is modelled by factors such as the motives, the perceptions and the reason of voting. In this sense, the central research aim of the paper is to clarify and analyse the impact that the aforementioned factors might have upon voters' behaviour. Accordingly, the paper provides an appropriate conceptual background and involved collecting of primary data, and thus, it employs a quantitative methodology. More specifically, the research involved a survey through the use of a structured questionnaire with the practice of a 5-point Linkert Scale, which permits assessing the impact of electoral behaviour. Furthermore, the survey was carried out electronically, with the procedure of a convenient sample, with 605 Greek citizens (men and women) with voting right. The responses took place between the 27th of June and the 11th of July 2023, just after the two subsequent Greek electoral contests. The specific circumstance was selected in order to achieve the deliberation of a clear electoral output and therefore, to attain the monitoring of a transparent impact of the electoral behaviour. Apart from the positive timing, an additional reason for which the Greek case has been chosen, is the fact that there is a constructive ground for the specific field. Therefore, the specific research is likely to contribute to the existing research gap. The research demonstrates and measures the electorate impact of the different aspects of voting behaviour. The paper reveals and measures the electoral impact of the motives, the perceptions and the reason of voting. The political arena and those involved may benefit from these results.

Keywords Voters' behaviour · Reason to vote · Voting motives · Voting perceptions · Candidates' political and personal identity

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1 Introduction and Research Context

Voters' electoral preference is described by various aspects, for example: candidate identity, social group, party, etc. [1, 2]. The particular study makes an attempt to investigate how that voting is a practice of consumer behavior and is shaped by factors such as the motives the perceptions and the reason of voting and accordingly to study the influence of those factors upon the voting behaviour of Greek Electorates. In order to accomplish the anticipated research in a suitable and efficient approach, it has been respected as vital to ground on an analytical research approach. Therefore, the subsequent sections propose the research aims and objectives and make an overview to the necessary theoretic background, as well as the data collecting and exploring methods that have been used towards the achievement of the research.

2 Literature Review

2.1 Voting Consumer Behaviour (Consumption)

As it has been reported by previous research [1–4], the electoral preference of voters is described by a variety of aspects, for example the social group identity. Additionally, voters are more or less defenseless to the pressure of aspects for example campaign events, issues, and candidate appeals. Particularly, the perceived governing competence of candidates and political parties often weighs heavily on voters' choices. In a similar manner, O'Cass [5] focuses on applying consumer-behaviour theory to understand voter characteristics and electoral behaviour. Moreover, the previous research suggested that the altering social environment and venturing social trends have their effect upon the function of political communication and are therefore precisely connected to the scope of the current research [6]. In parallel, the modern-day movements and the relations of social change to media change are multi-layered and communal. Over the contemporary sphere, political communication has been responsive (though also contributory) to the following series of exogenous/eternal change. In a similar manner, Papathanassopoulos and Negrine [7] stated that "…Contemporary societies are increasingly faced with situations in which the media have been transformed from mere channels of communication between interested parties into arenas of political engagement, in which the media have been transformed from mere channels of communication between interested parties into arenas of political engagement, in which the media themselves are key actors in the political process…" [7, 8].

In this approach, Muhammad and Hasan [9] examined the prospective psychological and social characteristics come out of vote decision made by voters. The specific study exposed the psychosocial matters such as the political party of candidate, party integrity, party leadership, candidate's education, candidate personality, candidate's race, candidate's socioeconomic status, family head decision, etc. [9]. Furthermore, Campbell et al. [10] indicated the intentions of voting consist of national duty, basic rights, wanting change, basis of view and benefit of country while the reasons not to vote included election duty, non-availability of good leadership, poor integrity, etc.

2.2 Consuming Behaviour Scale

An additional concern relevant to the scope of the particular study is the evaluation of those factors determine the electoral decision. In this specific manner, Muhammad and Hasan [9] consider the development of a scale to estimate and evaluate issues that may possibly characterize psychosocial reasons behind the voting decision in Pakistan. Factor analysis of DVS [9] suggested that opinion of the voter in selecting to direct his or her vote is multidimensional. The elements of DVS are allocated into five aspects. Items loading on aspect I stand for reasons and importance to shape the vote, which involved vote is basic right, vote is way of opinion, vote is responsibility, vote is national duty, vote bring change and vote brings real representative. This dimension was mentioned as Reason to Vote. Aspect II lies under the theme are related with the content of political profile of candidate who contested the election i.e., political party, manifesto, sign and election campaign of the candidate, which influenced the voting decision of the voter in the election. Consequently, it was regarded as Political Identity of Candidate. Aspect III was regarded as Personal Identity of Candidate [10, 11]. Items included in this factor were related to the theme of personal demographics of candidate (i.e., gender, race, socioeconomic status and religion of the candidate) which affect the decision of voter in casting the vote in the election. Michigan Psychosocial Model [10] demonstrated that the personalities of candidates play an important role in voting decision of the voter [12]. Moreover, elements included in the aspect V reveal the Perceptions of Voter concerning candidate who contests the election. Elements of this area shown the perception of the voter i.e., progressive work of candidate, education, integrity, and political experience of candidate which affects the motivation of the voter to cast his/her votes in the election.

3 Methodology

3.1 Problem Statement

The particular study makes an attempt to investigate how that voting is a manner of consumer behavior and is influenced by factors such as the motives the perceptions and the reason of voting and consequently to study the influence of those issues upon the electing behaviour of Cypriot Voters.

Research Context. Within 2023 Greeks called to the polls twice at a circumstance after the deadly train disaster in Tempi and with the price of the basic goods and services of the average Greek household at high. Therefore, in this unfavorable situation, the Greeks were called to vote two times in a short period of time, a fact which certainly did not leave uninfluenced, the electoral behavior and, by extension, the impression of both the pre-election period and the elections themselves. Consequently, the above fact has influenced the research outcome [13].

Research Questions/Hypothesis. According to the above indicative overview, the following specific hypotheses could be distinguished in a way that may enhance the formulations of clear aims and objectives and thus to enable the accomplishment of the proposed research [14]. Hypothesis 1. Reason to Vote as it is shaped both by the psychological factors of the voter, as well as by the environmental electoral factors, is vital in shaping electoral behavior [10].

Hypothesis 2. The political identity and the specific political and ideological characteristics of a candidate is vital to the shaping of voting behavior and thus in making electoral decisions [10]. Hypothesis 3. The personal and the political identity and the personal qualities, values and characteristics of a candidate is important for the determining of electing behavior and therefore in getting electoral choices [10]. Hypothesis 4. The political Perceptions and the electoral behaviour of the voter elements included in the aspect V reveal the Perceptions of Vote concerning candidate who contests the election [10]. Hypothesis 5. Voter Motives affects the motivation of the voter to cast his/her own vote in election) [10].

3.2 Primary Research Design

In order to meet the requirements of the proposed research objectives, it has been considered essential to deploy certain research methods. Accordingly, primary research is the only way through which the organisation could take some answers relevant to its own situation.

Population and Sample of the Survey. In order to be in a position to approach a particular question in a thorough way, it might be necessary to carefully specify the population of the research and clearly identify the sample which represents that population within the actual research process. The survey took place with panhellenic geographical coverage/spread, the research population of the survey were the Greek voters and Sample size of 605 Greek Citizens with voting rights. The sampling took place though the use of convenient sampling, as allowed them to generate a relatively large sample within a rather short period [14]. More specifically, the responses were specified between the 27th of June and the 11th of July 2023, just after the two subsequent electoral contests. The specific scheduling has been chosen, in order to attain the deliberation of a pure voting turnout and thus to attain the monitoring of a transparent impact of the political marketing. Outside the constructive timing, another reason for which the Greek case was selected, is the circumstance that there is an encouraging ground for the specific case study, and the particular study is expected to subsidize to the current research gap by converging on the impact of voting behaviour, upon motives, the perceptions and the reason of voting.

4 Results and Discussion

4.1 Scale of Consuming Behaviour

The survey involved examining Decision to Vote Scale (DVS), developed by [9] was a multidimensional measure to assess the factors affecting the decision to vote of the general population. This scale consisted of 23 items (see Table 1) and had five sub-scales, viz., reasons to vote (6 items), political identity of a candidate (5 items), personal identity of a candidate (4 items), voter's motive (4 items) and voter's perception (4 items).

Reason to Vote—Strengths and Weaknesses. The findings might suggest that the vast majority of the Greek voters considers voting as a fundamental right (4,34), as a way of thinking (4,14), as responsibility (4,36) and as a national duty (4,23). However, there is confusion and a diversity of views regarding the ability of vote to bring change (3,58) and real representation (3,29).

Voting brings representation. Additionally, as it has emerged by the findings, electoral decisions can be considered as a fundamental component of the democratic process. By voting, the members of an electorate determine whom they trust as representatives with the right to decide on their behalf. By voting, the members of a community decide which course of action they will take collectively. In relation to the element of "representation" [17], in the particular case of research, the general outcome, which has derived from the conducted focus group discussions, is that the voter is obliged to vote for people who are guided by the political system and the political party establishment.

Candidates' Personal and Political Identity—Strengths and Weaknesses. The personal identity of candidates records a diversity of mean values among its various elements (2,97; 1,75; 2,6; 3,74;2,87). More specifically, religion of the Candidate (with Mean Value 2,6) appeared to be the element with the least clear statistical picture since for the vast majority of the respondents, this fact might indicate the diversity of the way in which the respondents perceive religion in regard to their wider voting behaviour. Another noteworthy finding is the fact that the campaign of Candidate has been examined both as an element of "Personal" and as an element of "Political Identity", in order to measure the way and the manner in which it is perceived by the voters. Accordingly, the "campaign of candidate as an element of "Personal Identity" concentrates a Mean Value of 2,97 while as an element of the "Political Identity" concentrates only 2,63. This fact might suggest that the campaign of an individual

Table 1 Decision to vote-scale

	REASON	TO VOTE	
		Mean	
	Voting is a fundamental right	**4,34**	
	Voting is a fundamental right	**4,14**	
	Voting is a responsibility	**4,36**	
	Voting is a national duty	**4,23**	
	vote brings change	**3,58**	
	Vote brings representation	**3,29**	
		3,99	
PERSONAI	**ID**	**POLITICAL**	**ID**
	Mean	Mean	
Candidate's election campaign	**2,97**	**3,12**	Candidate's political experience
Candidate's gender	**1,75**	**3,44**	Candidate's political background
Candidate's religion	**2,6**	**2,39**	candidate's pre-election inscriptions
Candidate's education	**3,74**	**2,63**	Candidate's Political Campaign
Candidate's socio-economic situation/status	**2,87**		
	2,786	**2,895**	
VOTERS'	**PERSEPTIONS**	**VOTERS'**	**MOTIVES**
	Mean	Mean	
Candidate's political party	**3,32**	**2,5**	Personal aid given by the candidate
candidate's integrity	**4,22**	**2,95**	Manifesto of the political party
candidate's progressive work	**4,05**	**1,63**	Decision of the parents / relatives
Financial assistance provided by the candidate	**2,32**	**4,42**	Personal decision
	3,4775	**2,875**	

candidate is perceived more as a personal image rather than a political statement. Moreover, in contrast to previous research [5, 9, 10] the specific research replaced the element of candidates race with the element of campaign as an element of personal identity and indicated a marginal impact of "Candidate's political background with a mean value of 3.44.

Voter's Perceptions Strengths and Weaknesses. In regard to voter's perceptions, the element of "political party the candidate", with Mean value of 3,32, a fact that may suggest that the perception and thus the influence of voters in regard to the political parties is diversified according to some certain demographic and ideological characteristics. In a different way the most influencing factor of the specific element, appeared to be the "The integrity of the candidate", with Mean value of 4,22, a fact that reflects the importance given by the voters to the element of Integrity, given the existing situation with the exposure of corruption and scandals amongst state officials. In a similar manner, the given results suggest that "The candidate's progressive work", with a Mean value of 4,05. In a completely reverse manner, "The financial assistance provided by the candidate", with a Mean value of 2,32, that indicates that only a small potion views this as important.

Voter's Motives Strengths and Weaknesses. According to the given results the four elements that examined the voters' motives presented a diversity of statistical images (see Table 1) since each one of them has been considered as a basic factor of voting to a completely different extent.

More specifically, "The personal aid given by the candidate" with a Mean value of 2,5. In a slightly different way "The manifesto of the political party/candidate" with a Mean value of 2,95, Moreover, "The decision of the parents/relatives" with a Mean value of 1,63 appeared to be the least basic/influencing factor. In an entirely opposite manner, "Personal Decision/Opinion" with a Mean value of 4,42, a fact that creates a transparent image of the general voting perceptual map of the respondents. The above results may teel us that the motives of the Greek voters are mainly result of their personal perceptions, rather than exogenous factors. In this respect, the political parties, could explode the particular fact, by giving emphasis to element such as the Integrity and the political background of their candidates, which appear to be more influential upon voters' perceptions.

5 Conclusions and Limitations

According to the discussion points of the aforementioned research, this may reflect the fact that the so called "behavioural Impact" of the Greek voter, is mainly influenced by factors such as candidate's education, integrity and political background. In a relatively similar manner, the variance that was mirrored from the conclusions of the specific research regarding the appreciation of the importance of voting activity and the actual reflection of voting, is align to previous research [9, 15, 17] and indicates that voters' (especially the younger ones, understand the importance of voting; however, their absence of participation to a certain extent is either a result of disapproving the political system, or a result of the general gratitude that their vote will not manage to change the present situation [8]. Another notable finding is that Greek voter receives a higher impact form party and party manifesto, in comparison to the Cypriot voter [15], a fact that could be explained by the different political systems and the existence of a parliamentary system which ingress the significance of parties [16].

Even though the reported research outcomes respond to the accomplishment of formulated aims and objectives and in general lines confirm the basic hypotheses of the project, it can be argued that a number of research limitations have emerged. Moreover, it is beyond the scope of this study to employ in a further extent the findings concerning, "Voters Involvement", "Information Seeking" and "Stability", and therefore the data collected about "Word of Mouth", firstly might not be as representative and secondly might not reflect the actual impact of Word of Mouth upon the Electoral Process [15, 16].

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Views and Motivations of Members of Dance Groups During Their Participation in Traditional Dance Tourist Events

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Abstract Cultural Tourism is one of the fastest growing forms of tourism and its development contributes not only to the economic development of a place but also to the preservation of traditions/demonstration of cultural heritage. One of the areas of cultural tourism that is on the rise is the organization of Dance Events and Festivals and this is because Dance Tourism combines the benefits to the tourism development of a place with the benefits to the physical and mental health of the individual. The present study, using data obtained through a quantitative approach, with a sample of 220 people, captures and analyses the motivations of people who participate in traditional dance learning groups as well as their criteria and attitudes for participation in dance events with tourist content. In addition, the analysis of the survey results provides a first impression of the contribution of dance tourism to the promotion and development of 'tourist destinations.

Keywords Traditional dance · Motivations · Tourism events · Cultural tourism · Dance tourism

1 Introduction

Dance is a non-verbal form of communication, where through movement it offers people the opportunity to express themselves, to teach, to inspire, to have fun and to interact with each other, while it has been found that it can change the mood of people and relieve negative emotions [1].

In addition to the positive effects on the physical and mental health of the individual, traditional dance contributes to the preservation and reproduction of local traditions and the promotion of areas/destinations that attract people to attend or

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participate in dance events. Based on the above, traditional dance has been highlighted as a cultural asset that also has a significant impact on the tourism development of destinations [2].

The purpose of this research is to investigate the motivations for participation in dance groups, the criteria for participation in dance festivals and the factors that shape their tourist choices when participating in dance events with tourist content. The study intends to contribute to a more complete understanding of the phenomenon and at the same time provide dance event organizers with the necessary knowledge to formulate appropriate practices and policies for both the better preparation of dance events and their more effective utilization in the development efforts of tourism destinations.

2 Literature Review

2.1 Cultural Tourism and the Importance of Dance Tourism in Tourism Development

It is observed that in recent years forms of tourism, which have as their unique elements the sea, the sun and relaxation, are losing ground to new forms of tourism that appear in the market aiming either to attract tourists with special interests or to enrich the experience of traditional tourists [3]. In order to maintain and develop the tourism product, especially after the Covid-19 pandemic and the suspension of business operations, it is considered appropriate to create and promote specialized forms of tourism [4].

One of the forms of tourism that is on the rise is Cultural Tourism where it includes trips that are culturally motivated and based on the intention of individuals to visit cultural heritage sites, archaeological sites, actively participate in events, festivals, etc. [5]. According to estimates, it constitutes about 37% of global tourism and is expected to grow continuously at an annual rate of 15% [6]. Part of Cultural Tourism, Dance Tourism seeks to enrich the leisure time of tourists with new—often experiential—cultural experiences from the place they have visited. In this way, visitors gain direct knowledge of the traditions and culture that a destination carries [7]. Dance Tourism can provide an unforgettable tourism experience for the visitor because through cultural exchange, the spirit is uplifted, experiences are created and cultural education is combined with entertainment [8]. In this way, a positive attitude is created in the visitor about the destination and, in addition to cultural development, a competitive tourism advantage is added to the region, contributing socially and economically [6].

During the organization of a dance festival in a region, visitors stay overnight in accommodation according to their budget, have meals in restaurants, organize visits to monuments or museums, participate in group activities and make purchases. All of the above generate significant revenues, create jobs, increase entrepreneurship and stimulate the local economy [9, 10], while contributing to the mixing of locals and guests and create unique experiential experiences [11].

2.2 Traditional Dances and Motivations for Participation

According to the theory, motivation is defined as the internal state that drives an individual to act and/or maintain a particular behavior [12], while motivational performance is inextricably linked to motivation, the process through which an individual will achieve his or her goals. Incentives and the process of motivation are related to the pleasure and satisfaction that one person enjoys through performing an activity and coverage of the needs [13].

The decision of individuals to participate in traditional dance learning groups is influenced by several factors such as: improved health, social recognition, escape from everyday life, etc. [14]. However, the individual factors that determine individuals' decision to participate in dance activities are related to their internal motivation and the expectations/needs they wish to satisfy [15, 16].

Factors such as social appeal, fun, the possibility of making friends, maintaining good health, etc., can influence the participation of members in dance learning groups [17], while two other very important factors are the enjoyment that the person feels (feeling that they are doing an interesting activity) and the feeling that they can become even better at an activity, e.g. by learning new dances. Consequently, the individual is motivated by the fact that he/she will be able to go to a higher level, participate in events and feel an important member of a group [18].

The participation of individuals in tourism activities that focus on active participation in dance festivals and events is intertwined with the fundamental characteristics of traditional dances, such as: continuous entertainment, rhythmic music and the expression of emotions by the dancers. Furthermore, the dance event is combined with tourism and therefore, the individual's desire to participate in the event is due to factors such as the ambition to experience a different environment to gain experience, the desire to visit the event, the desire to be part of a different environment, the desire to be part of a different culture, and the desire to be part of a different culture.

In conclusion, the possibility of gaining new experiences, learning new dances, meeting new people and cultures (e.g., culture, traditions, traditional cuisine, monuments, etc.) are important factors that increase individuals' motivation to make a trip to participate in a dance event [19].

3 Research Methodology

Following on from the above, the primary research focused on the below research objectives:

(a) What is the profile of members participating in traditional dance learning groups?
(b) What are the motivations that lead members to participate in traditional dance learning classes?
(c) How are their attitudes towards travelling for dance purposes shaped?

The methodology of the research chosen is in the category of quantitative research, a structured questionnaire was used and the data were analyzed through the use of the statistical program IBM SPSS 28.

The questionnaire consisted of closed-ended questions and five-point Likert scale questions. 220 people who have been involved in traditional dances responded to the survey, for the collection of the sample stratified sampling was applied and the questionnaire was distributed in both paper and electronic format. Before the main survey was conducted, a pilot test of the questionnaire was carried out-with 15 tests- which led to the necessary—small-scale—adjustments and the answered questionnaires were not counted in the final sample.

4 Results and Discussion

According to our data, most of the survey participants were female (64.1%), and belong to the age group of 26–45 years (44.5%). The majority of the sample belonged to a dance club (81.4%), paid fees for classes at the school (73.2%) and had been involved in traditional dances for 1–5 years (39.5%).

Survey participants stated that they participate in events 2–3 times a year (44.1%), without spending overnight at the event venue (70.5%) and covering their own expenses (67.3%), which are either up to 50€ (61.3%) or between 50 and 100€ (35.9%).) If they do make an overnight stay, it is mainly for one night (91.4%). Finally, people prefer to travel in summer to attend a dance event (51.8%), with spring being the second preferred period (39.5%).

Regarding the motivation to participate in traditional dance classes, the spiritual benefits (Avg. = 3.92, S.D. = 1.136) offered by dance are the strongest motivation, as through dance they relax from the tension of everyday life (Avg. = 3.96, S.D. = 1.156) and entertainment (Avg. = 3.89, S.D. = 1.217), while the second category of motivation is the physical benefits (Avg. = 3.71, S.D. = 1.345). Participants consider very important that participation in dance groups for learning traditional dances offers moments of relaxation and release, as well as increases mental benefits, due to the reduction of stress experienced in their daily life. Similar findings were also found in studies by Filippou et al. [20], Doulias et al. [21] and Rokka et al. [22].

Both the spiritual and physical benefits of dance have been identified as the most important motivating factors for participation in traditional dance learning groups. Dance skills (M.O. = 3.65, T.A. = 0.965) and strengthening relationships (M.O. = 3.39, T.A. = 0.973) were identified as important motivators, but with a lower level of importance. In a study by Efentaki and Philippou [23] however, the creation of friendly relationships emerged as one of the most important factors, while in the study by Doulias et al. [21] it was observed that women expect to cultivate their dance skills and men attach more importance to social interaction. The variation in the importance of motivation is likely to be due to the mixed sample of the study, which includes foreign informants participating in Greek traditional dance learning groups. In this case, the expectation to develop dance skills is considered the most important factor for group participation. Finally, both from the findings of the present study and other research efforts, it was found that recognizability is not considered an important factor for participation in a dance group, due to collective versus individual promotion. It is evident that the importance of the motivation individuals' attributes to participating in dance activities is influenced by demographic factors such as gender, sample origin, experience, etc. [7].

Finally, members of traditional dance groups in order to make a trip to participate in a dance event consider it important that there are good services offered at affordable prices (Avg. = 3.87, S.D. = 0.982), the cost of accommodation is affordable (Avg. = 3.83, S.D. = 1.059), the natural environment (Avg. = 3.74, S.D. = 1.057), ease of access to the location (Avg. = 3.70, S.D. = 0. 972), having attractions/monuments/museums (Avg = 3.63, S.D. = 1.101), and staying close to the dance event location (Avg. = 3.55, S.D. = 1.056). They consider visits to markets and shopping centers as a less important factor (Avg. = 2.79, S.D. = 1.298).

5 Conclusions

The purpose of this study is to investigate the motivations that lead people to participate in traditional dance learning groups and the factors that they consider for their participation in dance festivals that require moving to another destination. These findings can be useful for the promotion of Dance Tourism by the organizers of relevant events and the competent bodies/organizations for the promotion and development of tourist destinations.

In terms of participation motivation, it was found that, spiritual benefits are the most important factor that motivates individuals to participate in traditional dance learning groups, followed by physical benefits. In addition, dance skills and strengthening social relationships were observed to be important motivators but with a lower level of importance.

Traditional dance dancers who travel to participate in dance festivals are found to place a strong emphasis on the overall costs they have to bear. Thus, although they seek to socialize with other dancers, they avoid overnight stays (70.5%). Considering the above, organizers should avoid inviting clubs in remote areas that are not expected to stay overnight at the venue. In addition, traditional dancers carry and pay special attention to cultural values, the organizers should provide them with an overall tourist experience that is part of an enjoyable and new experience influenced by the local tradition of each destination and built within the strict time frame of the dance festival.

The quality-price ratio is also an important factor. Event organisers should take steps to improve this relationship by adopting specific pricing policies for these visitors that will allow them to participate as much as possible, ensuring a return on investment for the destination and its businesses (e.g. mitigating seasonality, enriching tourist experiences, promotion, etc.).

Finally, based on the fact that spring and summer are the desired travel seasons for dancers, dance festivals could be elements to enrich the tourist experience for existing tourists during the summer tourist season, while the tendency of dancers to travel outside the tourist season (e.g. in spring) could contribute as a complementary action to mitigate seasonality.

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The Influence of Social Media Marketing on Consumer Behavior: Evidence from the Greek Market

Stavros Migkos, Androniki Katarachia, Ioannis Antoniadis, and Vaggelis Saprikis

Abstract The role of social media has undoubtedly increased in recent years, both in terms of its use in advertising and digital marketing, influencing consumers to their choices and shaping their buying behavior in many cases. Therefore, it is essential to study their influence on consumer behavior by investigating the factors affecting it. Hence, based on an extant literature review, this study investigates the influence of digital marketing in the modern era and the degree to which it affects individuals' buying behavior. Our research was based on a questionnaire research tool, which was distributed to 418 correspondents with the help of social media, with questions regarding the trends of consumer audiences towards the market and promotion of products through digital marketing, but also researching the degree of influence of consumer behavior on advertisements promoted by these platforms and, in particular, the two years of restrictions due to the Covid-19 pandemic. The results reveal that the influence of digital marketing has increased rapidly through the use of social media platforms and advertising schemes, with the quality of products delivered, convenience, and minimum execution time of purchases in e-commerce. A match between price and quality positively affects consumers' attitudes.

Keywords Consumer behavior · Digital marketing · Social networking · Viral marketing · Purchasing power

1 Introduction

Interpersonal relationships have always been an endogenous need that satisfies the need for interaction and inclusion in a group, and this timeless request is expressed to a greater extent in modern times due to the development of technological means [1] defined social media as the communication system of interaction and participation of members, which, through their networking, creates interpersonal relationships and

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communicates their views and shares experiences, discovering common interests and opinions.

Social media is a convenient means for creating successful marketing campaigns with a budget that is often quite small but still achieves the best result, as with pay-per-click advertising on platforms such as Facebook, which are "geo-targeted", and individuals' reviews spread to a wide crowd in a very short time [2]. On the other hand, e-commerce, according to [3], mainly concerns distribution, purchase, sale, marketing, and customer service through online services such as the Internet and social media, with online commerce offering personalization of the services offered.

2 Literature Review

2.1 Social Media and Marketing

Social media have the following characteristics: the size or range of the media, which means the number of people participating in the social network; the composition of the members, which means the participation of family members or friends in the network and frequency; the degree of frequency of members' interactions with each other [4] and the formation of online communities [5]. According to [6], "social media" are categorized into social media and work media, and specifically, Facebook, YouTube, Instagram, and TikTok are considered social, whereas the most well-known work media is LinkedIn. Apart from these, however, "social media" also includes blogs and media sharing sites, the best known of which are the following categories, "Social news and recommendations," "Microblogging services" and "Blogging systems," as well as the "Wikis" and finally "Social networks" and "Social sharing."

Social media often influence the attitude and behavior of younger people to a very large extent [7], resulting in forming a negative image of themselves, which they cannot cope with and this fills them with a "void" and a feeling of dissatisfaction. Social media is therefore an important asset for businesses, but they must take into account the negative aspects of their use to avoid the risks that lurk [8].

2.2 Consumer Audience and Social Networking Media

Currently, in an economically developed and technologically advanced society, customers have many choices and are competitive in their decisions. First, the consumer tries to find out what products and services they would like to consume and then chooses only those products/services that promise greater utility. After choosing products/services, consumers estimate the available money that they can spend. Finally, they analyze the prevailing prices and decide how much they can consume [9].

Undoubtedly, advertising influences consumer behavior, as well as the direct experience of one product over another [9]. The consumer does not participate actively but passively as an observer of the marketing process, while with new technological means, they shape the purchasing landscape and make decisions [10].

In e-commerce, retailers can develop online systems to provide consumers with information. This information can be digitized and delivered electronically to reduce the costs for both retailers and consumers. Digital consumers have evolved due to the rapid development of technology and digitalization of our time. Therefore, consumers are motivated to consume in an online store and reap benefits from this act, as they save time and money, increase their trust in the company, and desire to buy, reducing the risk of being dissatisfied [11].

2.3 Digital Marketing and Social Media Influence on Consumer Behavior

According to [12], digital marketing enhances the promotion of products and services through digital channels, thus bringing the business into contact with the consumer audience in a personal and cost-effective manner. Digital Marketing includes many techniques and practices that are characteristic of online marketing, meaning that it is a branch of online marketing. It extends beyond online marketing, because it has the potential to include digital advertising and promotion channels through mobile phones. Businesses must follow developments over time and adapt to new digital trends [13]. The main types of digital marketing tools are as follows: Social media marketing [14], Digital content marketing (DCM), Search engine optimization (SEO) [15], Search engine marketing (SEM) [16], Pay-per-click advertising (PPC), Affiliate marketing Email marketing, Social media influencers (SMIs) [17], and innovative Web 3.0 technologies like blockchain [18].

3 Research Methodology

In this study, four basic research hypotheses were developed. The first research hypothesis examined whether there was a correlation between the sample's responses to gender and social media shopping, and more specifically, the purchase of products through Influencer Marketing.

The second research hypothesis includes the examination of the existence, or not, of a correlation between the sample's responses to the scales of "Advertising use and business benefits" and "Substantial utilization of social media in everyday life." This hypothesis was numerically expressed by the existence of a statistically significant positive correlation between the two scales.

The third research hypothesis examines to what extent the answers of the people who participated in the research differ in the third scale (substantial utilization of social media in everyday life) with a dividing point in their answer to question "If companies integrate social media into their marketing, will they achieve better financial results in profits and customer loyalty?" The separation based on the nominal-type variable allows the examination of two distinct groups in terms of the average of their responses to the third scale of the questionnaire.

The fourth research hypothesis describes the generalizability of the sample-measured responses at the population level. Factors that are important to businesses that use social media marketing are discussed. This hypothesis was tested using the univariate χ^2 test. This test was used to examine the present frequency distribution of responses to the second scale of the questionnaire and compare it with the distribution of our choice.

The questionnaire for the quantitative research included four sections and was implemented according to the research questions, aiming to strengthen its validity. These questions were translated and adapted for this study. The questionnaire consisted of 52 main closed-ended questions; six multiple-choice questions investigating the social identity of the sample demographic characteristics, such as gender, age group, educational level, professional status, and family income status; 46 questions, of which 17 were on a five-point Likert scale, 14 were multiple-choice, and 13 were dichotomous YES/NO; and, finally, two grid questions with a five-point Likert scale [19] with sub-questions investigating opinions and attitudes about the basic topic of social media marketing [20].

Convenience sampling was chosen as the data collection method, as it was adopted by researchers when collecting market research data from a conveniently available group of respondents. They also use it when collecting feedback about a specific feature or a newly released product from the sample created [21]. Data were collected directly by completing the questionnaire, which was delivered using Google Forms. The questionnaire was distributed from April 29, 2022, to May 13, 2022. In total, 418 individuals responded to the survey. Apart from filling out instructions, the questionnaire informed participants about its anonymity, and the data gathered was exclusively used for research purposes.

4 Results

4.1 Descriptive Statistics

The main objective of the following descriptive statistics is to present the sample values so that a primary interpretation of the survey results can be made (Table 1).

Table 1 Descriptive demographics (N = 418 respondents)

Gender	
Male	38.04%
Female	61.96%
Age	
18–29	33.49%
30–45	44.50%
46–55	17.22%
56–65	4.07%
66 and above	0.72%
Educational level	
Middle school graduate	1.20%
Highschool graduate	14.80%
Graduate of Vocational Training Institute	2.90%
Bachelor degree	44.30%
Master/Doctorate	36.10%

4.2 Statistical Tests

The first research hypothesis states that customers' gender does not affect purchase frequency because of Influencer Marketing. The above formulation is also the null hypothesis H0. The degree of dependence of these two categorical variables was measured using the $\chi 2$ correlation coefficient. Hypothesis testing was performed to determine whether the correlation between two variables was positive or negative, that is, to clarify whether there was a correlation between the variables. The confidence level for the test was set at 0.05, according to the literature [22]. The Pearson $\chi 2$ test was used to examine whether the two variables were independent. The significance level value is $0.806 > 0.05$; therefore, the null hypothesis is not rejected that the variables are independent and tend to accept that the variables are not related to each other. The main result shows no correlation between customers' gender and purchase frequency owing to Influencer Marketing.

The second research hypothesis is that people who believe that social media ads are useful and have a positive effect on the essential use of social media in everyday life, as well as in business marketing. Testing of this hypothesis was performed using a non-parametric test of correlation between the scales. The non-parametric test was chosen primarily because neither variable may follow a normal distribution. The correlation value between the two scales was high (0.363), and the statistical significance of the test was appropriate ($p = 0.000 < \alpha = 0.05$).

In the third research hypothesis, customers who believe that if businesses integrate social media into their marketing campaigns, they will achieve enhanced profitability and customer loyalty are positive about the meaningful use of social media. The null hypothesis of the present test is equivalent to the following statement: "The mean of the scale of meaningful use of social media in everyday life for the people who answered about the greatest benefits of their use is equal to the mean of the same scale for the people who answered negatively." To investigate this hypothesis, a Student's t-test was performed to compare the means between the two groups. Before this check, the assumption of homoscedasticity between the distributions of the two groups was considered. This assumption can be tested by using Levene's homoscedasticity test.

The homoscedasticity test was positive ($p = 0.266 > \alpha = 0.05$), as its null hypothesis was that homoscedasticity was observed between the two distributions. Therefore, it is assumed with a small reservation that the variances are equal and the hypothesis is valid. Moving on to the comparison check of the averages, the same result as presented for the research sample was recorded. The difference in the averages of the two groups is significant, and the possibility that this difference exists in a wider research population is very high ($p = 0.000 < \alpha = 0.050$). Thus, the null hypothesis is rejected and it can be said that the means are unequal.

The fourth hypothesis states that the research population's customers do not show any clear preference for the factors that are important for a business using social media marketing. The above formulation is also the null hypothesis H0. The frequencies that we would theoretically expect the population to exhibit for the alternative hypothesis not to be true are those of the uniform distribution. The distribution of the responses differed significantly ($p = 0.000 < \alpha = 0.05$) from the theoretically expected uniform distribution. Therefore, the null hypothesis is rejected, and it states that the research population's customers show a clear preference for the factors, as our sample shows a corresponding preference.

The $\chi 2$ test of independence for the variables "make purchases through social media" and "open commercials displayed" gave a $\chi 2$ value of 20.240 and P-value $= 0.000 < \alpha = 0.05$. Therefore, the null hypothesis is rejected, so there is a statistically significant relationship between choosing to open the displayed commercials and whether they ultimately make purchases through social media.

5 Discussion and Conclusion

The literature review focused on findings when the social media platforms were born and matured and the research findings that have already been carried out have proven that social media have undoubtedly evolved their role and are not just about people communicating with each other, but have now dynamically entered the business sector through the promotion of products and services.

At the same time, the exercise of criticism by Internet users is also a business activity, and it has been demonstrated through the literature review that businesses and the consumer public attach enormous importance to comments that are promoted by social media, significantly influencing consumers' buying behavior [23].

This enormous influence of social media has brought the need to study the degree of their impact on consumer behavior, which was also the aim of this research. Quantitative research was conducted by distributing questionnaires through social networking groups to 418 people. Responses were processed using descriptive statistics, hypothesis testing with non-parametric correlation test of variables, t-test between independent groups, $\chi 2$ test, and principal component analysis.

In conclusion, according to the research results, users buy products because of influencer marketing after they react to advertising content messages. Women buy more than men do, because of or through Influencer Marketing. Social media advertising is useful for both respondents and businesses and is utilized in everyday life as well as in business marketing. Integrating business marketing into social media increases profits and customer loyalty. The survey population shows clear preferences for the agents, as the research sample does.

The conclusions are consistent with [24] findings, which "indicate that social networking sites have the greatest potential for information sharing". This may be because social media offers easy ways to publish updates quickly without creating additional annoying ads or other forms of communication. It has also been pointed out that social media ads are useful for both respondents and businesses and are utilized in everyday life as well as in business marketing. To this extent, if businesses integrate social media marketing, they will achieve better financial results in terms of profit and customer loyalty. A significant dependence on the choice of opening displayed commercial ads was also found on whether customers ultimately make purchases through social media [25–27]. These conclusions agree with a series of studies that recognize the value of social media in business marketing, particularly influencer marketing [23, 28–30].

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How Data Mining is Used in Social Media. Key Performance Indicators' Impact on Image Post Data Characteristics for Maximum User Engagement

Dimitris C. Gkikas and Prokopis K. Theodoridis

Abstract Digital marketing strategy has become increasingly popular aiming to increase social media users' engagement, brand awareness, and revenues. The aim of this study is to calculate the organic photo posts' text characteristics such as text readability, hashtags number and characters number. Using data mining classification models, the current study examines whether these characteristics affect organic post user engagement for lifetime post engaged users and lifetime people who have liked a page and engaged with a post. Data were extracted from social media retail business pages. Readability performance metrics (e.g., the post text readability score, the characters' number, and the hashtags' number) are the independent variables. Posts' performances were measured by seven performance metrics, assigned as the depended variables. Data, content characteristics, and performance metrics were extracted from a social platform retail business page. Finally, user engagement was calculated, and posts' performance classification was represented using decision tree (DTs) graphs. The findings reveal how post texts' content characteristics impact performance metrics helping this way the marketers to better form their social media organic strategies, the company to increase impressions, reach and revenues, and the customers to comprehend the post message and engage with the brand.

Keywords Data mining · Text classification · Post readability · Social media · Key performance indicators · User engagement · Online consumer behavior

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1 Introduction

The rapid expansion of the internet has prompted companies to capitalize on social media marketing as a means to enhance profitability and brand recognition, affording marketers the opportunity to derive marketing insights from customer purchasing patterns [1]. Furthermore, it has been projected that the COVID-19 pandemic accelerated the shift to e-commerce by approximately five years, with an estimated nearly 20% growth in e-commerce during the year 2020 [2]. A substantial body of research projects, as revealed through a comprehensive literature review, focuses on examining various metrics related to social media marketing, including impressions, reach, volume of specific keywords and sentiments, social and organic referrals, conversion rates, click-through rates, and user intentions to purchase. These analyses often employ statistical analysis, predictive analytics, text mining, association rules, and clustering techniques [3]. Empirical evidence suggests that user behavior on social media is influenced by multiple factors, such as the nature of the post, the industry sector, content type and meaning, and posting time and day [4]. Moreover, text readability is considered a significant factor impacting user engagement. Scholars contend that writing skills play a fundamental role in conveying thoughts effectively, surpassing the efficacy of oral expression [5]. For assessing text readability, the Flesch-Kincaid readability test is used, which employs a formula to indicate the ease of reading material on a 100-point scale, with higher scores indicating better readability [6, 7]. The aim of this research is to examine a certain aspect of social media posts characteristics in order to reveal how image post characteristics affect users engagement and give decision makers and marketers the opportunity to mitigate risk in decisions.

2 Literature Review

Regarding the readability performance and based on a recent study, the impact of readability on the popularity of social media messages for information sharing was highlighted. The researchers found that users' intention to engage with content could be determined by the initial vocabulary words of a post, rather than solely relying on the average length of 16-word phrases [1]. From other research outcomes it was revealed that "photo" and "link" posts generated less engagement than "status" and "video" posts. Informative posts received more "likes" while competition posts had the lowest number of "likes" [3]. A similar study showed that "photo" posts were the most preferred by users. Additionally, posts made on workdays drove higher comments engagement rates, whereas posts published during peak times had the opposite effect [4]. A significant work utilized regression on cosmetics data and revealed that five Facebook attributes, including "lifetime post total reach," "lifetime post total impressions," "lifetime post consumers," "lifetime post impressions by people who have liked your page," and "lifetime people who have liked your page and engaged with your post," significantly influenced the total interactions of a post, encompassing "comments," "likes," and "shares" [8]. Another study found that Facebook engagement metrics such as "comments," "likes," and "shares," along with the type of content, the month, and the day of publication, had an impact on the "lifetime total organic reach" and "total page likes" of a company's page performance [9]. A similar research attempt conducted a sensitivity analysis and identified content type, particularly "status" posts, as having a considerable impact on user engagement, surpassing the influence of other post types. The date of publication was also found to affect engagement [10]. A significant study reported that "photo" content generated the highest level of user engagement compared to other post types such as "status," "link," or "video" [11]. Recent study found that "photo" posts were more engaging than "text" posts. Furthermore, engagement rates decreased when users encountered content related to discounts, contests, or offers [12]. Facebook has decreased impressions and reach for organic posts [13]. The authors have focused their efforts on examining the impact of organic "photo" posts' text on user engagement highlighting the most important research questions. Considering that posts containing 1–80 characters gain 86% more engagement, they aim to investigate the level of engagement elicited by the texts of "photo" posts, as assessed by their readability score [14]. Lastly, when users like a page on Facebook, they tend to receive more updates or posts from that particular page in their news feed. The current study seeks to discern the differences in the number of impressions and reach between total engaged users and those who liked a page and subsequently engaged with a post [15].

3 Research Methodology

3.1 Data Description

The data utilized in this study was extracted from the Facebook Page Insights of a retail women's fashion store based in Greece, which operates through both physical and online stores. The Facebook page boasts a following of 1800 users, with a total of 1756 "total page likes," 3690 "total posts likes," 473 "average organic post reach," 5985 "average paid post reach," and 23 "average post reactions.". The numbers of reactions per brand for business page posts. These data points were collected during the COVID-19 pandemic, precisely from April 30, 2020, to October 25, 2020. Different size of data would potentially increase (bigger) or decrease (smaller) the accuracy of the final DT classification accuracy.

3.2 Performance Metrics

Facebook metrics can be obtained either through direct exports from Facebook Manager or by performing calculations based on various types of information, including identification, content, categorization, and performance [10]. The character number attribute is classified based on the scale of "0–80", "81–160", "161–240", "241–320", "321–400", "400–480", and "481–560" while hashtags are considered as separate classes based on their number of occurrences [14]. "Reach" denotes the total number of people who see a post, "Impressions" refer to the number of times the post is loaded on the news feed, regardless of whether it was viewed or clicked, and "Engagement" represents user actions on the post [14]. The Flesch–Kincaid Readability score (FKRS) represents text readability score of specific ranges, less than 30 (very difficult to read), from 30 to 49 (difficult to read), from 50 to 59 (fairly difficult to read), from 60 to 69 (easily understood), 70–79 (fairly easy to read), from 80 to 89 (easy to read), equal or more than 90 (very easy to read) [16, 17]. WebFX was used for the FKRS score. Table 1 demonstrates the identified performance metrics [18].

Table 2 shows the post text attribute types, their values ranges and their occurrence.

3.3 Decision Trees Classification

DTs algorithm reads data, separates classes, and assigns values to each class following the rules of "if–then-else" sequences. Datasets consist of attributes, each of which may have properties and multiple instances. DTs comprise nodes representing dataset attributes and branches representing attribute values. The initial node on top represents a super-class, while the leaves represent sub-classes. To evaluate the DTs performance, datasets are divided into training, validation, and testing sets. The algorithm is trained with the largest set of examples (training set) generated by the DTs algorithm, generating a hypothesis, and then calculating the percentage of correctly classified examples in the validation set. The process is repeated while varying the size of the training set. The testing set is used to validate the outcome with entirely new data, preventing overfitting by implementing tree pruning techniques [21, 22].

4 Results and Discussion

Figures 1 and 2 demonstrate how readability affects Facebook performance metrics. In Table 3 Lifetime post, engaged users have a classification accuracy of 71.9%. Lifetime people who have liked the page and engaged with the post have a classification accuracy of 74.1%. WEKA3 sixfold cross-validation pruned DTs J48 classifier was used. Both DTs show that the image post texts with low readability scores tend to achieve higher values of "lifetime total reach", "lifetime total impressions",

Table 1 Performance metrics

Feature	Performance	Type	Source	Description
Post likes	Engagement	Content	Calculated	The number of times a post was liked by Facebook users
Total likes	Engagement	Content	Calculated	The total number of times posts were liked by Facebook users
Lifetime people who have liked the page and engaged with the post (LPLPEP)	Engagement	Content	Calculated	The number of people who have liked your page and clicked anywhere in your posts (unique users)
Lifetime post engaged users (LPEU)	Engagement	Content	Calculated	The number of Unique people who engaged in certain ways with your page post, for example by commenting on, liking, sharing, or clicking upon elements of the post (unique users)
Lifetime post total reaches (LPTR)	Engagement	Content	Calculated	The number of people who had your page's post enter their screen. Posts include statuses, images, links, videos and more (unique users)
Lifetime post total impressions (LPTI)	Awareness	Performance	Facebook	The number of times your Page's post entered a person's screen. Posts include statuses, images, links, videos and more (total count)
Lifetime post impressions by people who have liked the page (LPIPLP)	Awareness	Performance	Facebook	The number of impressions of your page post to people who have liked your page (total count)
Lifetime post reaches by people who have liked the page (LPRPLP)	Awareness	Performance	Facebook	The number of people who saw your page post because they have liked your page (unique users)

"lifetime post engaged users", and "total post user engagement" than those posts texts which are easier to read and comprehend. It appears that Facebook algorithm purposely increases the number of reach and impressions towards users when readability ease tends to increase. The "lifetime people who have liked your page and engaged with your post" exhibited a notably higher engagement rate compared to the "lifetime post engaged users". Individuals who have expressed their interest by liking or following a page are more likely to receive post updates in their news feed as opposed to those who have not engaged in such actions. A correlation between the "impression" performance metrics and the effectiveness of "photo" post text

Table 2 Features labels and occurrences

Attribute	Classes (labels)	Occurrences
Character number	0–80	28
	81–160	64
	161–240	19
	241–320	18
	321–400	3
	401–480	1
	481–560	2
Hashtag number	0	2
	1	31
	2	39
	3	14
	4	5
	5	2
	6	1
	7	1
	8	3
	9	15
	10	9
	11	2
	12	1
	13	2
	14	2
	17	1
	20	1
	21	2
	22	1
	23	1
FKRS	Very difficult	100
	Difficult	19
	Fairly difficult	11
	Fairly easy	1
	Easy	1
	Very easy	3

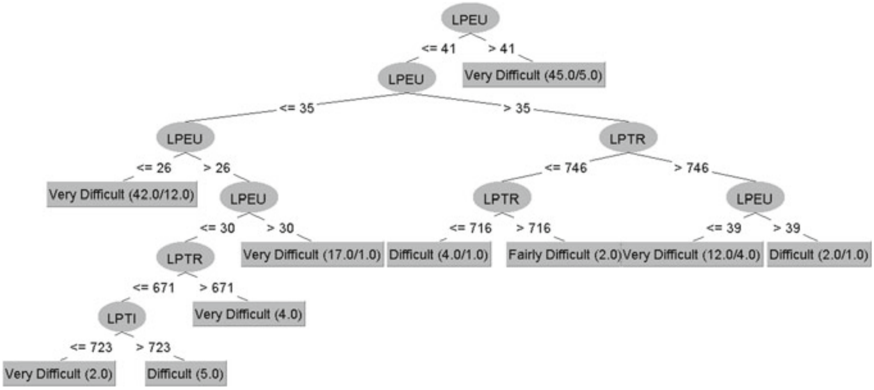

Fig. 1 FKRS classified instances for LPEU induced with DTs

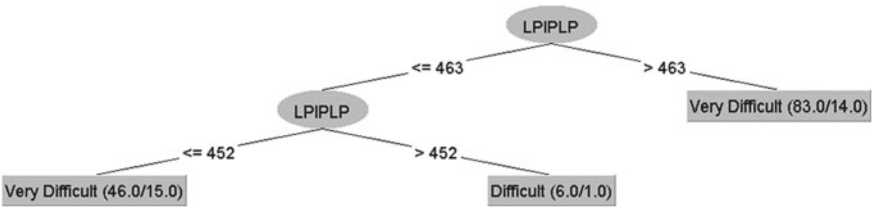

Fig. 2 FKRS classified Instances for LPLPEP induced with DTs

Table 3 Decision trees classification summary for LPEU and LPLPEP

Performance metrics	Classification accuracy
LPEU	71.9% (97/135)
LPLPEP	74.1% (100/135)
LPIPLP	73.0% (99/135)

performance is also revealed (see Figs. 1 and 2). The analysis of Lifetime post total impressions exceeds 723 and Lifetime post impressions by people who have liked the page surpasses 452, classifies "Difficult" text over "Very Difficult" text in 2 out of 3 instances where "impression" metrics are involved in the classification process. Figure 3 shows how the post text characters number affect the key performance indicators with a classification accuracy of 73%.

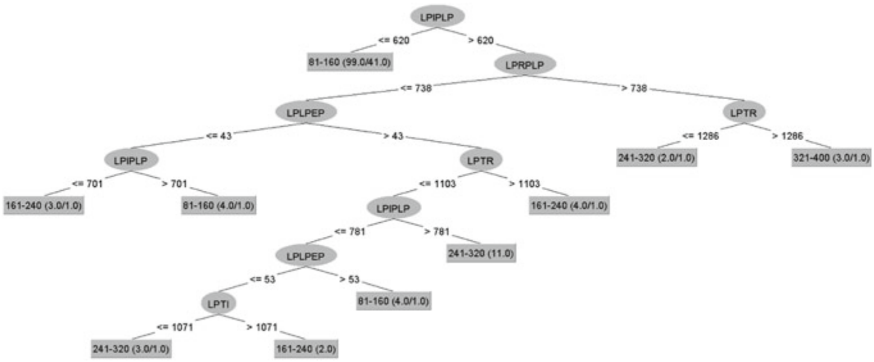

Fig. 3 Character number classified instances for LPIPLP induced with DTs

5 Conclusion and Contribution

The objective of this study is to assist brands in enhancing user engagement for organic posts within the fashion domain. This research provides decision-makers with pertinent information to optimize their social media photo post texts, thereby maximizing user engagement and profits despite the dataset limited size. Employing DTs classification on "photo" posts fashion data, the research reveals that the readability score of "photo" post text does not significantly influence "lifetime post engaged users" and overall performance metrics. There is a noteworthy tendency for it to impact "impression" performance metrics. The instances with the largest numbers of "lifetime post engaged users" and "lifetime post total reach" are associated with "Difficult" and "Very Difficult" texts, thereby indicating that post text readability might not be a substantial performance factor. It is crucial to acknowledge the limitations in the size and origin of the data and the inclusion of social media platforms, indicating the need for further advancements as the current dataset size remains relatively small compared to other research attempts. While aiming to provide suggestions, the authors emphasize the importance of acknowledging human nature and potential indifference, refraining from drawing rules as it would be deemed unethical.

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Work Integration Social Enterprises (WISEs) in Public Sector

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Abstract Work Integration Social Enterprises (WISEs) are one of the leading forms of Social Enterprises in Europe. The analogy of the Public Procurements that Greek Work Integration Social Enterprises (WISEs) acquire on the total monetary resources of the WISE, was connected to the ability of the WISE to develop job positions that are sufficient to keep the employ above the monetary poverty line and bring it closer to the concept of a full-time job. A response rate of 62.50% resulted in primary data from 51.47% of the population of WISEs in Greece. Ordinal Regression Analysis showed that WISEs that relied heavily on Public Procurements had low performance in developing job positions that were sufficient to keep the employee above the monetary poverty line, and low performance in creating job positions that are close to the concept of a full-time job. There is evidence that Greek WISEs should reinvent their entrepreneurial nature and act more as innovative challengers and less as adjustable followers. Policymakers could consider relating the amount of public procurements that a WISE acquires to the open market share of the WISE, at least after the initial state of the WISE's development.

Keywords Work Integration Social Enterprises (WISEs) · Public procurements

1 Introduction

Work Integration Social Enterprises (WISEs) promote the integration of socioeconomically excluded individuals through a productive activity. They are autonomous economic entities that focus on the professional integration of people originating to vulnerable and/or special social groups, who experience serious difficulties in the labour market [1, 2]. Monetary Resources of European WISEs are divided into three main categories: 1. Market Resources, 2. Non-market resources (derived from various public policies in the form of subsidies or indirect support) and 3. Donations [3]. Market Resources come from the sale of goods and/or the provision of services

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in the open market or under contract to public authorities i.e. public procurements. Our research explores the relationship between the analogy of those categories and the performance of the WISE against poverty.

2 WISEs and Public Procurements

The use of public procurements to promote social purposes is a reality in a number of countries worldwide. There are several cases where public procurements were used to enable access to public contracts of economic operators in the social economy [4]. The European Commission plays a significant role by regulating contracts for the provision of products and services to the local public authorities. Although the association between each European welfare state and the organizations of the third sector varies a lot, a traditional relationship does exist [5]. Public authorities are able to privilege social enterprises in order to help them promote their social mission. Although specific rules must be respected there is the possibility of taking into account the social dimensions of social enterprises when conducting public procurements [6].

Encouraging the participation of social enterprises in the public procurement process is an important part of the effort to modernize the EU social policy [7]. Public procurement practice can promote the accomplishment of wider social goals through the engagement of Social Enterprises [8]. Public procurements are a vital resource for social enterprises [9]. Contracts with the public sector often are an attractive suggestion for Social Enterprises. Through those contracts, they can obtain reliable business collaborations and important references [10]. Moreover, public sector contracts offer them a form of business stability, liable product demand, and payment guarantee [11]. The fact that Social Enterprises are by default motivated by a social purpose, helps them in being perceived as a trustworthy provider of public services [12]. Public procurements are used as an instrument to stimulate the increase of Social Enterprises and develop significantly the activities of already established Social Enterprises [7].

Reserved contracts for work integration in countries such as France, Italy, Spain, and Belgium are common. On the other hand, while there are becoming more common in Eastern European countries and in Greece, the estimate of these contracts tends to be below the levels set by the EU Directive [13]. Although the European public procurement law promotes special provisions for Social Enterprises, their participation in the public procurement practice is low [7], which is closely related to institutional arrangements and policy interventions [14, 15]. The development of support mechanisms for the encouragement of the effective participation of Social Enterprises in public sector supply chains is widely recognized as a need [16, 17]. In Greece measures are introduced by the Greek government to provide social enterprises with better access to public service contracts through a tailor-made law, namely the Social Economy and Social Entrepreneurship Law of 2011 and its amendment in 2016 [18, 19] Greek government specified that municipalities and public law entities can directly develop public contracts with Social Enterprises [20].

The efficiency of governments in developing and implementing suitable support measures is debatable [21, 22]. Public schemes often frame their aims in a very narrow way that tends to turn social enterprises into instruments for achieving given goals based on the political agenda [23]. Through unsuccessfully outlined policies or unsuccessful implementation, governments may actually hinder behaviors that are beneficial to social welfare (24). Social Enterprises have also been criticized for posing severe risks to the public sector both financially and culturally, but no systematic evidence has been collected to support these assertions [25]. The contribution of Social Enterprises in the promotion of important socioeconomic community goals has been supported by several studies [26, 27]. It seems to be a systemic impact on economic sustainability, regional development, and innovations, but there is a lack of empirical studies, exploring the conditions in which social enterprises progress [28]. The concept of the hybridity of Social Enterprises needs further exploration through quantitative studies [29]. Urbano et al., call for research that detects how entrepreneurial activity is positively or negatively affected by the relevant institutional policies [30]. In this study, we raise the following question: how does the analogy of Public Procurements on the total monetary resources of the WISE, affects the social performance of the WISE and specifically the performance of the WISE against poverty.

We argue that a high Analogy of Public Procurements on the total monetary resources of the WISE, will have a negative effect on the WISE's performance against Poverty through several different paths. Monetary resources that come from sales under contract to public authorities i.e. public procurements: 1. Have little to do with the recognition of the quality of the products and/or the services provided by the WISE, 2. Are far less flexible and not at all transferable, 3. Originate from a narrow range of customers and are therefore more vulnerable to subjective criteria, 4. Are easily affected by changes in State Policies, 5. Have a strict time plan and a specific deadline and 6. Commit a lot of the WISE's resources to bureaucratic procedures. We hypothesize that:

Hypothesis 1. The Analogy of Public Procurements on the total monetary resources of the WISE, is negatively associated with the WISE's Social Performance against Monetary Poverty.

Hypothesis 2. The Analogy of Public Procurements on the total monetary resources of the WISE, is negatively associated with the WISE's Social Performance against Low Work Intensity.

3 Materials and Methods

3.1 Method

Using a semi-structured questionnaire data were collected for the financial years 2018, 2019 and 2020 from WISEs in Greece. Ordinal Regression Analysis was used to develop two models. One in order to test the hypothesis concerning Monetary Poverty and one in order to test the hypothesis concerning Low Work Intensity.

In the European Union, Monetary Poverty is measured by the indicator 'people at risk of poverty after social transfers'. The indicator measures the share of people with an equivalised disposable income below the at-risk-of-poverty threshold. This is set at 60% of the national median equivalised disposable income after monetary social transfers [31]. In Greece the poverty line is €4917.00 per year for a single-person household [32]. Very low Work Intensity describes the number of people aged 0 to 59 living in households where the adults worked no more than 20% of their potential during the previous year. A full-time employee works 8 h a day for 5 days a week, so something between 2080 and 2120 h per year. Therefore, 20% of a full-time job lies somewhere between 416 and 424 working hours per year. We set the final limit to 422 working hours per year.

Population and Sample. The population of this study is the total of WISEs in Greece i.e. the sum of Limited Liability Social Cooperatives (LLSCs) and Social Cooperative Integration Enterprises (SCIEs). According to General Register on 19.01.2021 the population of WISEs in Greece was 68, i.e. 30 LLSCs and 38 SCIEs. The response rate of the total of the WISEs was 62.50%. Therefore, our study included data from 51.47% of the population of WISEs in Greece.

Variables. We measure a WISE's social performance against poverty in two ways: 1. As the percentage of the total number of employees working in the WISE whose total annual income derived from the WISE is high enough to keep them above the monetary poverty line and 2. The percentage of the total number of employees working in the WISE whose total annual level of employment derived from their connection with the WISE is high enough to keep them above the concept of low work intensity.

Dependent Variable 1: Level of Social Performance Against Monetary Poverty

The variable 'Social Performance against Monetary Poverty' is the percentage of the total number of people who worked in the WISE (for a specific year) whose total annual income derived solely from the WISE, in that specific year, is sufficient to keep them above the poverty line as defined for a single-person household, i.e. over €4917.00 [32].

From the variable 'Social Performance against Monetary Poverty', the ordinal variable 'Level of Social Performance against Monetary Poverty' was computed and entered in the analysis of Ordinal Regression. The variable 'Level of Social Performance against Monetary Poverty' is assigned value '1' when the variable

'Social Performance against Monetary Poverty' ranges between 0.00 and 0.33 (low performance), value '2' when performance ranges between 0.34 and 0.66 (moderate performance), and value '3' when performance ranges from 0.67 to 1.00 (high performance).

Dependent Variable 2: Level of Social Performance Against Low Work Intensity

The variable 'Social Performance against Low Work Intensity' is the percentage of people who worked in the WISE (for a specific year) whose annual work intensity, derived solely from their being employed by the WISE, is sufficient to keep them above the concept of low work intensity for a single person household, i.e. over 20% of the concept of full-time employment, that is over 422 working hours per year.

From the variable 'Social Performance against Low Work Intensity', the ordinal variable 'Level of Social Performance against Low Work Intensity' was computed and entered in the analysis of Ordinal Regression. The variable 'Level of Social Performance against Low Work Intensity' is assigned value '1' when 'Social Performance against Low Work Intensity' ranges between 0.00 and 0.33 (low performance), value '2' when performance ranges between 0.34 and 0.66 (moderate performance), and value '3' when performance ranges from 0.67 to 1.00 (high performance).

Independent Variable: Analogy of Public Procurements.

This is the ratio of the annual monetary resources of the WISE derived from the sales under contract to public authorities, to the total annual monetary resources of the WISE. An observation that has an Analogy of Public Procurements of 0.00 comes from a WISE that had no sales under contract to public authorities in that specific year. An observation that has an Analogy of Public Procurements of 1.00 comes from a WISE that had all its sales derived from contracts to public authorities in that specific year.

4 Results

4.1 Monetary Poverty

Ordinal regression was applied on the dependent variable Level of Social Performance against Monetary Poverty (Table 1). The model included the Analogy of Public Procurements as the predictor variable. Fitting information shows a high level of significance ($p = 0.036$). The assumption of proportional odds was tested by the test of Parallel Lines. The P value is greater than 0.05 ($p = 0.410$), so the main assumption of ordinal regression is checked. Since there is only one predictor variable multicollinearity is not a problem in the regression model. In order to test the independence of observations we used the Durbin-Watson test that produces a test statistic, ranging from 0 to 4, where 2 indicates no autocorrelation. A general guideline is that test statistic values between 1.5 and 2.5 are relatively normal. Values outside this

Table 1 Ordinal regression (PLUM) on the dependent variable level of social performance against monetary poverty ($N = 75$)

	Estimate	Std. error	Wald	Sig.	95% Confidence	
					Lower bound	Upper bound
Analogy of public procurements	− 1.481	0.745	3.958	0.047	− 2.940	− 0.022
Model fitting info. (final χ^2)	4.407			0.036		
Pseudo R^2 (Nagelkerke)	0.073					
Goodness of fit (Pearson χ^2)	95.921			0.454		
Test of parallel lines (Pearson χ^2)	0.680			0.410		

Link function: logit

range might be a cause for concern. Values below 1 or above 3 should definitely raise concerns. Our value was 1.128 relatively close to the normal range. Analogy of Public Procurements showed a significant negative effect on Level of Social Performance against Monetary Poverty. Therefore, H1 is supported.

The ordered log-odds estimate for a 1.00% increase in the Analogy of Public Procurements is −1.481. The odds ratio is 0.227. A 1.00% increase in the Analogy of Public Procurements, will decrease the odds of the WISE resulting in a higher level of Social Performance against Monetary Poverty by 0.227 while the other variables in the model are held constant.

4.2 *Low Work Intensity*

Ordinal regression was applied on the dependent variable Level of Social Performance against Low Work Intensity (Table 2). The model included the Analogy of Public Procurements as the predictor variable. Fitting information shows a high level of significance ($p = 0.016$). The assumption of proportional odds was tested by the test of Parallel Lines. The P value is greater than 0.05 ($p = 0.469$), so the main assumption of ordinal regression is checked. Since there is only one predictor variable multicollinearity is not a problem in the regression model. Durbin-Watson test statistic was 1.332 relatively close to the normal range. Analogy of Public Procurements showed a significant negative effect on Level of Social Performance against Low Work Intensity. Therefore, H2 is supported.

The ordered log-odds estimate for a 1.00% increase in the Analogy of Public Procurements is –1.440. The odds ratio is 0.237. A 1.00% increase in the Analogy of Public Procurements, will decrease the odds of a WISE resulting in a higher level of

Table 2 Ordinal regression (PLUM) on the dependent variable level of social performance against low work intensity ($N = 72$)

	Estimate	Std. error	Wald	Sig.	95% Confidence	
					Lower bound	Upper bound
Analogy of public procurements	− 1.440	0.597	5.817	0.016	− 2.610	− 0.270
Model fitting info. (final χ^2)	5.856			0.016		
Pseudo R^2 (Nagelkerke)	0.088					
Goodness offit (Pearson χ^2)	95.643			0.296		
Test of parallel lines (Pearson χ^2)	0.525			0.469		

Link function: logit

Social Performance against Low Work Intensity by 0.237 while the other variables in the model are held constant.

5 Discussion and Conclusion

A high analogy of public procurements on the total of the monetary resources of Greek WISEs, seems to relate to a low performance of the WISE against poverty. WISEs that over-rely on public procurements develop job positions that are not well paid and are far away from the concept of a full-time job. The Greek authorities should evaluate the connection between the amount of public procurements that a wise acquires to the amount of income that the WISE obtains from the open market. Greek Work Integration Social Enterprises should consider reinventing their entrepreneurial nature and act more as innovative challengers and less as adjustable followers. The amount of public procurements that a WISE acquires probably should be related to the open market share of the WISE, at least after the initial state of the WISE's development.

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Domestic Tourism Preferences of Polish Tourist Services' Market in Light of Contemporary Socio-economic Challenges

Ewa Chomać-Pierzecka and Jacek Stasiak

Abstract The available literature insufficiently explores the themes of socio-economic conditions determining the state of Polish tourism sector. In addition to the COVID-19 pandemic, the war in Ukraine and its economic impact is an important factor creating the contemporary operating reality. Recognising the important role of tourism in the Polish economy and the diagnosed gap in the literature, it was considered reasonable and valuable to scientifically identify the presented issues, with particular emphasis on the national dimension of tourism activity. The aim of this paper is to analyse and evaluate domestic tourists' preferences in the tourism sector in Poland and in particular, in the coastal town of Ustka. A survey was conducted to investigate these preferences. The methodology in terms of detailed research is statistical survey instruments—correlation of variables, logit function model together with odds ratio findings, for the estimation of variables, using PQstat software. Findings point to the significant impact of external environment conditions on the state of the domestic tourism industry in Poland. The key condition negatively affecting the sales of domestic tourism services is the impoverishment of the Polish community, which is a derivative of high inflation caused by the pandemic and reinforced by the armed conflict in Ukraine. Expenditure on travel is significantly reduced in domestic visitors' budgets, the length of journeys is shortened, and the cost of accommodation is optimized. The above, on the one hand, increases flexibility and reduces the cost of travel, while on the other hand, it has a negative impact on the sales value of tourism services of entities running in the explored industry. The results enrich the source material that can be used by decision-makers in designing a marketing strategy for the development of the domestic tourism services sector in Poland.

Keywords Tourism in Poland · Economics of tourism · Consumer preferences

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1 Introduction

The movement of people in geographical space creates the framework for domestic tourism, which is a phenomenon of considerable importance in both the social and economic spheres. The social dimension of travel creates a series of conditions determined by the purpose of the journey, its duration, the complex mode of its travel, the total cost of the venture, or the source of its financing. The economic dimension creates a system of relations and phenomena related to the process of people's movement and their stay during the trip, driving entrepreneurship. The above places domestic tourism among the determinants of territorial development, with a particular focus on geographic spaces that are attractive to tourists, as well as an important determinant in shaping the regions' policy to promote its tourist values. Hence, the identification of the current determinants shaping the propensity to travel is an important topic.

The broad grasping of tourism as a totality of phenomena of displacement together with the system of interaction of the travel subject with the visited environment (socio-cultural, natural) emphasises the particular dimension of this phenomenon in the practice of modern societies, which, through the prism of its cognitive function, brings nations closer together and reinforces globalisation, strongly influencing its development. In this context, the role of tourism recovery efforts in the aftermath of the pandemic is highlighted [1, 2]. It is also important to appropriately model a strategy for the development of the domestic tourism services market and the role of tourism at the level of the national economy, through the creation of goals integrating the socio-economic, political, and cultural dimensions [3], in connection with responding to social expectations in this field [4]. The above was the inspiration for undertaking a research thread, oriented towards the analysis of the influence of economic conditions on the consumer preferences of Polish tourists, creating the state of the domestic tourism services market sector in Poland, in order to enrich the source material that could serve decision-makers in shaping the marketing strategy for the development of the tourism services sector in Poland.

2 Tourism in Light of Socio-economic Conditions in Poland and Worldwide—A Literature Review

The process of spatial mobility of people is driven by many motives. Regardless of the purpose and nature of the social movement, what draws attention is the system of relations, shaped by the network of commercial links in connection with tourists' activities. Hence, the industry is an important dimension of any economy [5], and its stability determines the condition of an important volume of tourism operators and a number of related fields.

Tourism globally is evolving. Socio-economic transformations taking place in the world have created an increase in the volume of tourist traffic. Poland, forming part of the global tourism market, was subject to general trends shaping the service market in question globally. The number of accommodations sold, which is a measure of tourist traffic in Poland, grew successively [6].

Tourism has had a turbulent pandemic period. The 2019–2020 period saw a nearly 74% decline in global tourism activity, shaking the future of 100–120 million jobs, analysis by the World Tourism Organisation [7] confirms. Asia–Pacific (− 84% fewer tourists), as well as the Middle East and Africa region (− 75%), Europe (− 70%), America (− 69%) were the hardest hit by the tourism crisis during this period [7]. In 2020, compared to 2019, the 27 Member States of the European Union saw a 54% decrease in the number of tourists, linked to a 50.9% drop in overnight sales [8]. In Poland, the restriction period came into effect on 14 March 2020, due to the introduction of an epidemic emergency, resulting in a 49% decrease in the number of tourists, associated with a 44% drop in overnight stays sales compared to the previous year [6]. The year 2021 brought a 23% increase in the number of tourists in Poland, associated with a 23% increase in the number of nights provided [9], while the year 2022 already created a 53.5% increase in the number of tourists with a 42.5% increase in the number of nights provided [10]. According to the indications of the World Tourism Organisation, tourism globally has embarked on the path of a stable return to pre-pandemic tourism performance, which justifies a twofold increase in the number of tourists in the first quarter of 2023 compared to the same period last year [7]. Restoring tourism in Poland to the pre-pandemic period [11] has become a significant challenge. Indications for year 2023 reveal an 18.1% increase in the number of tourists and a 12% increase in the number of nights sold in this country in Q1, compared to the same period in the previous year [12]. At the same time, it should be noted that the geopolitical situation, directly related to the ongoing war in Ukraine and its socio-economic consequences, related, inter alia, to the high level of inflation (the average inflation rate in April 2023 was 14.7% y/y [13]) and, consequently, to the impoverishment of society, has a significant impact on the development of the tourism services market in Poland in the period from 2020 to the present.

3 Materials and Methods

The detailed level of research in this paper was oriented towards the analysis and evaluation domestic tourists' preferences in the tourism sector in Poland. The literature signals a significant influence of the economic situation on tourists' choices [3] in Poland, and inflation is an important determinant of these changes [14]. Against this background, the study was designed to test the following hypotheses:

H_1: The economic situation significantly shapes the current consumer preferences of customers of the domestic tourism market in Poland.

H_2: The loss of the value of money over time (inflation) significantly affects consumer choices in the area of the domestic tourism market in Poland.

H_3: The increase in prices of tourism and related services determines the need to optimise the costs of tourism ventures at the national level in Poland.

The paper is based on research and critical analysis of source data, including scientific literature, legal regulations and industry reports (e.g., published by the Central Statistical Office), as well as on the results of a diagnostic survey conducted in direct contact with the respondent, the results of which were analysed in depth with a statistical survey using PQstat software.

The research material consisted of papers published in scientific publications, including those indexed in Scopus and Web of Science databases. The papers in question were published in the period 2007–2023, and were searched using keywords such as "tourism services market", "tourism services market in Poland", "impact of COVID-19 on tourism services market", "impact of inflation on tourism services market in Poland", among others. The review examined the general situation of the tourism services market with reference: the world, and the target country of the research—Poland.

In addition, a survey was conducted between 1 and 3 May 2023 in a coastal town located in northern Poland (Ustka, Słupsk County, Pomeranian Voivodeship). The scope of the survey included a problem strand related to the study of tourists' choices in relation to the domestic tourism services market in light of the current economic situation. The scope of the questionnaire adopted a narrow layout—six questions, including four closed and two open-ended ones, limiting the research spectrum and delimiting the potential of the future space for scientific research. The survey adopted an open and anonymous nature and the sample was convenient (Polish tourists adults). A total of 287 people took part in the survey, with 273 correctly completed questionnaires accepted for analysis. The questionnaire included questions on the assessment of the impact of the current economic situation on tourists' choices of tourism ventures at the national level, as well as their scope.

An important aspect of the analysis of the empirical data is the adoption of a method for their treatment. In this regard, the authors performed an in-depth analysis of the results using a statistical test with findings on the degree of correlation of the variables, and applied a logit function model, together with findings on the odds ratio, for the estimation of the variables. The choice of methodology was determined by the characteristics of the data and the hypotheses established. For the purposes of the study outlined, explanatory and explanatory variables were adopted. The explanatory variable was extracted from the area shaping the state of the tourism services market in Poland in the light of current economic conditions, according to the adopted sample and in relation to the results of the diagnostic survey. It was found that the strongest determinant of the state of the tourism sector in Poland is inflation (explanatory variable Y_1; dichotomic type of attribution: 0–1). This variable assumes a dichotomous character (0—not present, 1—present). The above determinant creates consumer choices; hence three explanatory variables were established in relation to the survey results: X_1—length of stay, X_2—quality of stay (type of accommodation—comfort, range of services), X_3—other expenses related to the stay (catering, recreation, other) – all "X" are numerical type od attribution in scale 1–3).

All explanatory variables shape the level of costs of tourism undertakings, determining tourist traffic and turnover of entities operating in the industry. Against this background, a close relationship emerges between the state of the tourism services market (performance) and consumer preferences, creating interest in the purchase of tourism services and the scale of expenditure for this purpose. The explanatory variables were captured on a scale of 1–3, where 1 indicates a minor influence of the studied factor on the variable, 2 indicates a significant influence and 3 a very significant influence.

The methodological approach adopted for dichotomous and numerical variables was successfully applied by Zastepowski [15], Chomać-Pierzecka [16], among others, based on the logit function notation proposed by Grene [17], or the odds ratio findings approach explained by Stanisz [18]. This dimension of the research was supported by the PQstat software.

The sample of respondents was formed by Polish tourists, staying in a tourist destination during a long weekend in Ustka. The strongest group of respondents was formed by those aged up to 30 years (54.6%), followed by those aged between 31 and 60 years (37.2%) and those aged over 61 years (8.2%). The Pomeranian Voivodeship was represented by 23.7% of the surveyed population, with the remaining 76.3% representing other Polish voivodeships. Respondents' characteristics were not differentiating variables in this study.

4 Results

Poland's tourist attractions encourage tourist activities. Particularly important in terms of assessing the socio-economic condition is its national dimension, providing, among other things, information on the financial condition of Polish society, which strongly creates this dimension of tourist traffic. Hence, our own research was directed at diagnosing the consumer preferences of Polish tourists staying in a tourist destination during a long weekend in the period 1–3.05.2023 in Ustka.

The findings revealed that:

- the vast majority of the surveyed population (64%) confirms the influence of the current political and economic situation on domestic tourism travel decisions, of which 23% indicated the limiting influence of inflation on travel decisions to a very significant degree, 19%—to a significant degree, 37% rather did not signal such an influence, while 21% did not confirm such an influence,
- due to the loss of the value of money over time, of the respondents indicating the influence of the current situation on their travel decisions, 61.14% indicated the necessity to reduce travel expenses—excluding transport and accommodation costs, 26.27% optimised the costs of accommodation, often at the expense of additional services, while 12.57% decided to shorten the length of the trip to ensure the ability to cover the costs of the trip,

- only 8% of respondents indicated that there was no potential need to modify their travel plans (including, among other things, length of stay, accommodation, other expenses) in the near future, with 38% indicating the absolute necessity to do so in light of inflation, and as many as 54% indicating the current need to analyse this thread when making travel decisions.

According to the above, the length of stay, quality of stay and other expenses related to the stay, were assumed to be tourists' choices creating the cost of stay, being a determinant of tourism intensity (variables X_1–X_3), and then these parameters were determined in relation to the influence factor, which inflation was considered to be (variable Y_1). The results of the descriptive statistics for the above categories of variables are presented in Table 1.

The results of the correlation test of the explanatory variables (X_1–X_3) and the explanatory variable (Y_1) indicate homogeneity. The correlation indications take an additive result, with the strongest correlation score being 0.497 for the Y_1–X_3 relationship (Y_1–X_2:0.263; Y_1–X_1:0.164), indicating low correlation strength (collinearity < 0.5).

The results of the logistic regression for the factor Y_1 are presented in Table 2.

The unit distribution of the change in the odds ratio is included in Fig. 1.

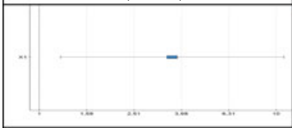
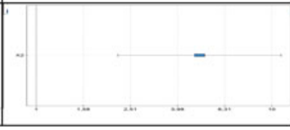
Inflation has the most significant impact on the level of other residence-related expenditure, including, among others, expenditure on food services, recreation, or health. This relationship—expressed in the variables Y_1–X_3—obtained the highest degree of correlation, and also reached the level of highest probability of occurrence compared to the other variables, with an OR score of 12.599 odds. The other variables are influenced by inflation to a slightly more limited extent.

Table 1 Results from descriptive statistics

Variables	Mean	SE	SD	SD^2	Min	Max
Y_1	0.641	0.029	0.480	0.230	0	1
X_1	0.135	0.028	0.477	0.228	0	3
X_2	0.271	0.034	0.568	0.323	0	3
X_3	0.560	0.039	0.645	0.416	0	3

Table 2 Logistic regression model for factor Y_1

Variables	B	error b	− 95% CI	+ 95% CI	Wald stat	OR odds ratio
X1	1.291	0.553	0.206	2.376	5.439	3.638
X2	1.595	0.406	0.799	2.392	15.432	4.932
X3	2.533	0.335	1.875	3.191	57.013	12.599
Pseudo R2	0.615					

The distribution of variables within the $Y_1 : X_1$-X_3		
$Y_1 : X_1$	$Y_1 : X_2$	$Y_1 : X_3$
		

Explanations:
Number line from 1 to 25.12 – logarithmic scale: OR [confidence interval]
95% CI
odds ratio

Fig. 1 Unit distribution of change in odds ratio

5 Discussion and Conclusion

The domestic tourism services sector is an important, long-standing developing area of the Polish economy. An important driving force of its development is the spatial mobility of the population realised at the national level for various purposes and in various forms. Tourist's preferences, growing out of the real availability of services, are important in this field, shaping demand in this area. Hence, the findings of this paper may inform decision-makers in modelling the marketing strategy of the domestic tourism services market in Poland, with particular emphasis on its domestic dimension, in order to support the development of the market in the light of the observed adverse impact of inflation on purchasing decisions of consumers of tourism services in Poland (domestic dimension). It was confirmed that the loss of the value of money over time (inflation) significantly influences tourists' choices in the area of the domestic tourism market in Poland, and the increase in prices of tourism and related services determined by the above implies the need to reduce the costs of tourism ventures, which translates into the need to reduce expenditure. Expenditure on consumption going with tourist activities is reduced the most, but also travel time is shortened and alternatives for cheaper stays are sought, which is generally at the expense of additional services offered by the accommodation base (restaurant offer and spa zone). The findings obtained are only appropriate for a sample of people in the course of tourist ventures and therefore may not be transferable to the general population, yet further research could take place to broaden this research on the Polish domestic tourism. The impact of the current political and economic situation in Poland on decisions regarding domestic tourism ventures is clear. The impact of inflation is assuming a restrictive character on tourists' choices made so far. Plans for tourist's choices in the near future are not clear. In this regard, the need for ad hoc decision-making is emphasised, with an outcome that is right to the current market situation and the affluence of the Polish tourist's wallet. Branding strategies should be initiated to promote the destination internationally to increase the inbound tourism [19, 20].

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The Evaluation Process in the Greek Public Sector in Its Restructuring (Law 4940/2022)

Panagiotis Passas and Dimitrios Stranis

Abstract In the era of post-modernity, which defines an ever-changing global economy, effective governance in public administration and employee skills are crucial parameters for citizens' welfare in European Union member states with soft skills acquiring a prominent role in addressing modern occupational challenges. This study examines the evolution of employee evaluation processes in the Greek public sector, focusing on the institutional and organizational perspectives. It closely examines the evaluation system established by Law 4940/2022. While historical references to employee evaluation exist in Greek legislation since the 1950s, some previous attempts at implementation have been proved mostly unsuccessful. The enactment of Law 4940/2022 marks a notable institutional innovation, introducing a comprehensive evaluation system tied to goal setting and soft skills, part of broader reform efforts for the Greek public sector. The study aims to highlight key aspects of the framework established by Law 4940/2022, trace its evolution, compare it with EU member states' systems and assess its effectiveness. A literature review methodology was adopted. Implications are also discussed.

Keywords Evaluation · Goal setting · Greek Public Administration · Soft skills

1 Introduction and Background of Research: Evaluation Systems in the Public Sector at a Glance

Employee evaluation in the public sector is a crucial practice associated with performance assessment and feedback. Daft [1] emphasizes the link between performance and feedback, aligned with transformational leadership theories. Dessler [2]

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defines evaluation as the assessment of current and past performance, considering the temporal dimension. De Cenzo and Robbins [3] focus on progress and contribution, while Gomez-Mejia et al. [4] highlight identification, measurement, and management of employee performance as pivotal in evaluation processes.

Vaxevanidou and Rekleitis [5] present a comprehensive definition that plays a significant role in decision-making for organizational changes, fair rewards, skill enhancement, feedback provision, and employee empowerment.

As an important aspect of Management, the Human Resources Management (HRM) needs to integrate psychological tools, administrative science techniques, and methods. The HRM's importance, in any organization, stems from recognizing human capital as a vital asset. De Nisi and Griffin [6] outline HRM goals: enhancing productivity, competitiveness, legal compliance, personal and collective development, and achieving organizational objectives.

HRM involves stages such as performance assessment, using measurable standards that guide criteria and target setting. According to Stranis [7], it also underpins the action of an anthropocentric public administration itself, which fosters effective employee management and support, enhancing internal collaboration and mutual trust.

This paper aims to highlight key aspects of the framework established in the Greek public sector by Law 4940/2022, trace its evolution, compare it with EU member states' systems, and assess its effectiveness.

2 Methodology

This paper is a literature review and employed analysis of reports, under keyword search "Evaluation", "Goal Setting", "Greek Public Administration", and "Soft Skills". Due to the relatively short implementation period of the Greek Law and therefore limited quantitative data, a literature review methodology was adopted.

3 Evaluation and the EU Perspective

The evaluation systems in European Union (EU) member states emphasize strategic goal-setting, outcomes measurement, and individual performance appraisal. Evaluation encompasses not only work measurement but also motivation and communication. In this framework, organizational relationships play a strategic role within the administration and HRM in the EU [8, 9].

3.1 The Evaluation Systems in EU Public Administration

According to Staroňová's research [8], performance appraisal is mandatory in thirty out of thirty-one EU evaluation systems surveyed, including that of the European Commission. Austria stands as the only exception without mandatory individual performance appraisal, evaluating based on overall organization results. Sanctions for non-compliance are established in ten (10) EU evaluation systems, impacting promotions, extra benefits, and even causing cessation of administrative duties. Twenty-two EU evaluation systems annually assess public servants' performance, while four alter evaluation frequency for higher-ranking officials or other occasions such as new position posting.

Skill assessment plays a pivotal role in EU evaluation systems, except Lithuania [8]. Results emphasize previous performance and behavior in combination with monitoring goal achievement. However, Greece, Malta, and Portugal differ by focusing on subject knowledge over past performance in their human resource evaluation, contrary to the EU trend. The EU prominent trend involves recommendations for future development and improvement, monitored for goal attainment.

Staroňová's findings also reveal direct supervisors as the primary evaluators, with nearly half of EU evaluation models using this approach. Self-assessment, relying and enhancing the employees' experience-based knowledge of their tasks, has gained traction with 11 EU evaluation systems adopting it [8]. In Greece, however, there are no provisions for self-assessment procedures in Law 4940/2022 [10].

The evaluation process in the public administration of EU member states is subject to several procedural aspects. Public servants often perceive evaluation as subjective and unfair [8]. Therefore, designing evaluation systems must prioritize accuracy, consistency, and rationality to ensure fairness. Participation of the employee in the evaluation procedure fosters ownership and sustainability of the end result, legitimizing the process [8]. Accountability mechanisms play a significant role for evaluators [8].

Feedback obtained from the evaluation process, seems to be essential for evidence-based human resource management [8, 11] since relevant information collected significantly impacts decisions concerning promotions and professional development (25 EU evaluation systems). Information influences administrative decisions within public organizations and the career progression of employees (23 EU evaluation systems). Notably, low-performance information is utilized to determine training needs.

Evaluation results are prominently linked, in the majority of EU evaluation systems, with pecuniary rewards and incentives. However, monetary incentives might not be a feasible practice due to budgetary constraints [8].

4 The Evolutionary Process of Evaluation Systems in the Greek Public Sector During the Post War Period

After the Second World War, public servant evaluation in Greece began with Law 1811/1951 [12], aiming for proper selection, career growth, and work performance. Subsequent efforts introduced concepts like "qualification profile" (Presidential Decree (PD) 611/1977) [13], and democratic evaluation (Law 1400/1983) [14]. PD 581/1984 [15], detailed criteria and interview-based assessment. Law 1943/1991 [16], outlined human resource management. The adoption of PD 318/1992 [17], played a pivotal role, introducing modern evaluation principles that marked the evolution of the process, paving the way for Law 2683/1999 [18], which emphasized meritocracy and performance-based assessment. Laws 3230/2004 [19], 3528/2007 [20], 4024/2011 [21], and 4250/2014 [22], aimed to align Human Resource Management (HRM) and Management by Objectives (MBO) principles with practices. The relevant legislative attempts were largely theoretical, lacking emphasis on practical evaluation applications. Concepts such as goal setting, interviews in the context of the evaluation process as well as a feedback mechanism were not put into practice mainly as a result of resistance by syndicates representing public servants.

The enactment of Law 4369/2016 [23], emerged within the context of structural reforms prompted by the Medium-Term Programs, addressing public skepticism and creditors' demands for enhanced state capabilities, as a low-cost yet high efficiency reform. Aligned with the HRM principles, the Law tried to introduce a holistic framework to evaluate public sector personnel.

5 Employee Evaluation System, Under Greek Law 4940/2022

The main weakness of Law 4369/2016 [23], included the lack of measurable results for goal setting. In this respect, Law 4940/2022 [10] introduced key innovations including a focus on soft skills through individualized development plans, a revised target-setting mechanism linked to Ministries' action plans, a Human Resources development Advisor, as well as monetary incentives for productivity enhancement. The unified skills framework of the Law encompasses nine (9) soft skills: Orientation to the Citizen, Teamwork, Adaptability, Orientation to Results, Organization and Planning, Problem Solving and Creativity, Professionalism and Integrity, Knowledge Management, Leadership.

As far as target-setting is concerned, goals are integrated into the units' objectives based on their responsibilities and further specified at each hierarchical level. Each overarching unit's goals include mandatory targets of its subordinate units, with additional indicators and implementation timelines for each goal.

Emphasizing a participatory approach, the Law incorporates interaction and dialogue during the target-setting phase, with three mandatory meetings between

Supervisor/Assessor and Employee/Assessed along the chain of command, taking place three times a year, which can also be supplemented by optional meetings. In case of disagreement, the Assessor/Supervisor may decide. It should be noted that Law 4940/2022 [10] provides only one Assessor per Employee, compared with Law 4369/2016 [23], which provided two Assessors. In this respect, faster procedures may exist but with less pluralism.

A significant innovation of Law 4940/2022 [10] lies in its emphasis on achieving a “specific goal” for each employee, directly linked to the development of their skills. For employees’ assessment, the traditional scoring system is abolished, shifting focus to crafting skills development plans. The development plans encompass actions deemed suitable to enhance the assessed individual’s skills within the context of their role within the team. Development plans also involve dialogue and feedback between Assessor and Assessed.

The Law also introduces an innovative institution: the Human Resources development Advisor whose competences revolve around the assessment process. This role, however, expands, aiming to ensure effective implementation of public HRM policies and procedures and to provide support to the relevant units. Serving as the link between the General Secretariat for Public Sector Human Resources, placed in the Ministry of the Interior of Greece, and the various public bodies, this visionary institution is yet to be operational.

Law 4940/2022 [10] also introduces an innovative mechanism regarding productivity-based bonuses, in alignment with the global trend of Performance Related Pay (OECD, 2015) [24]. This initiative, however, is selectively applied to specific categories of public employees, whose scope of work is linked to the Unified Government Policy Plan, heavily targeting those involved in the national recovery project ‘Greece 2.0’. Performance goals are also set for judicial employees, employees of various units tasked with strategic planning, and those engaged in the European Economic Area (EEA) Financial Mechanisms. This model establishes a direct connection between compensation and achievement of Unified Government Policy Plan objectives. The Law paves the way for a high-performance employee group, evaluating exceptional achievements in various fields.

5.1 Insights on Law 4940/2022

Despite a short implementation period, there are some remarks to be made regarding the recently introduced provisions.

Firstly, it effectively integrates performance assessment with managerial objectives for heads of units within general directorates. However, as this connection is not extended to low-ranking employees, the onus of motivation is placed solely on managers.

Moreover, the Law introduces a grading system for heads of units, fostering accountability. In contrast, it offers only descriptive criteria for low-ranking employees, potentially shifting the responsibility for motivation back to managers.

Additionally, the Law establishes a positive link between evaluation and productivity-based bonuses, but this benefit applies selectively only to those working in units with financial competences, possibly excluding other hard-working employees.

The integration of soft skills into the assessment process is also noteworthy, in order to gauge employee development accurately and beyond only technical/hard skills.

Despite introduced advantages, challenges still remain, particularly relating to the differentiation in treatment between managers and low ranking employees as well as the restricted scope of productivity-based bonuses. The lacking of provisions for self-assessment is also noteworthy and maybe something to be reevaluated in the future amendments of the Law.

6 Discussion and Conclusion

Effective governance and quality in public administration are crucial parameters for citizens' welfare in EU member states, aiming at advancing employment and development [8]. EU member states have been restructuring public administration evaluation systems with a shift towards holistic management practices.

The implementation of the evaluation framework established by Law 4940/2022 [10] represents an innovative institutional step in Greek public administration. This comprehensive evaluation system aims to transform officials into policy shapers rather than mere executors, enhance efficiency, effectiveness, and safeguard public interest while taking into account employee interests (grade, payroll, mobility, selection of heads of organizational units). Drawing inspiration from European and international best practices, it aligns with goals of optimizing public administration performance. Although not extensively applied yet, initial indications are positive. The Law's architecture has incorporated scientific principles, past system observations, and European practices, making it, in the authors' view, functionally sufficient. To ensure its success, political and administrative leadership should diligently implement the new Law's framework, making necessary tweaks without compromising the long-term reform effort.

To optimize the evaluation processes in Greece, active participation of all personnel stands as the primary consideration. Such participation should transcend formalistic questionnaires; instead, it must strive for a creative and representative participatory assessment procedure. As Dramalioti [25] notes incorporating "stakeholder involvement" would be pivotal. This may be achieved through workshops, information sessions, and seminars. Education provided will contribute to the effective implementation of the Law [25].

Furthermore, self-assessment could enable a holistic evaluation. In this respect, employees could be encouraged to perform a S.W.O.T. analysis, guided by their assessor-mentor, ensuring in this way a more personalized approach. Digital tools also play a vital role; the use of Information and Communication Technologies could lessen administrative burdens, expedite feedback loops and allow for statistical data, corrective measures.

A culture favorable to evaluation across the public sector is deemed essential. An evaluation system that serves as a springboard for a more citizen-centric administration and values employees' strengths, might well win the trust of the so far reluctant public audience. Universities may contribute for the qualification of potential employees with soft skills and online communities at different fields and sectors may contribute for sharing and exchanging of ideas [26–28]. Engaging labor unions is pivotal, in order to convey the evaluation system's true intentions. Political leadership can help to build consensus.

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Corporate Boards and Gender Quotas: A Review of Literature

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Abstract Legislative regulations for gender quotas are increasingly being enacted on the corporate boards in numerous countries. Research focused on this topic since 2003 when Norway passed the first law concerning the composition of board of directors and women's proportion in it. The purpose of this paper is to present a review of the literature on gender quotas applied on corporate boards and their impact in different aspects. Using Scopus database, the authors reviewed a body of studies and analyzed those that demonstrated a correlation with the impact on firm's environmental and social performance, those that demonstrated a diffusion of gender equality across the firm levels and those that focused on individual perceptions. Our results highlight that even though there is a positive impact of gender quotas there is still lack of studies using primary data and addressing the specific research field from non-financial perspective in order to approach deeper the subject. This could be a trigger for future researchers. Also, our findings regarding the benefits of gender diversity in corporate boards can be used to expand efforts to promote gender equality in the workplace.

Keywords Corporate boards · Gender quotas · Corporate governance · Gender diversity

1 Introduction and Background of Research

Over the past two decades, the topic of gender quotas on corporate boards has gained significant research traction, ever since Norway instituted the first law stipulating a gender ratio on boards in 2003 [1]. Numerous countries have enacted policies to address the underrepresentation of women on corporate boards, incorporating both voluntary or mandatory quotas into their corporate governance frameworks [2]. Since the implementation of these quotas, scholarly interest has been piqued regarding the possible effects and changes these quotas might bring in various spheres. While the

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majority of studies explores the correlation between gender quotas and company performance, some delve into the association with corporate social performance, and a smaller subset investigate the implications for workplace policies and female promotions [3–5].

Multiple literature reviews have emphasized the necessity of gender balance on boards for economic advancement and potential corporate benefits. These reviews highlight the substantial contributions of women to both financial and non-financial aspects of corporate performance, even amidst gender-related challenges. Such reviews also propose that policy actions could extend from specific appointment regulations to advancing women's managerial careers, with the effects of board gender composition shaped by both female directors' actions and stakeholder interpretations [6, 7]. A recent review has noted that women considerably contribute to financial and non-financial performance of corporations, despite facing gender-related hindrances to board membership. Influences on the appointment of female directors were classified into four levels: country, firm, social, and individual [8]. Other reviews have suggested that, despite not being a foolproof solution, quotas could represent a significant stride towards achieving better gender balance in the boardroom and broader inclusion of women in leadership positions [9]. However, significant disparities persist in representation, compensation, and promotional opportunities for women, suggesting the need for ongoing research and initiatives focusing on gender equality and inclusion [10]. Another review indicated that board gender diversity has a mixed effect on financial performance, but a positive relationship with internal and social performance, with the relationship being influenced by factors like women's education, professional experience, the firm's innovation strategy, and cultural dimensions such as gender equality, low power distance, and low uncertainty avoidance, which positively influence women's representation in global leadership roles [11].

Reviewing the current studies, it's clear that the majority have targeted firm-level and country-level to examine the subject of corporate board composition and the implications of gender quota legislation [8–10, 12–15]. Additionally, the studies mainly concentrate on the economic aspect of performance of the companies or sectors and how countries worldwide adopt soft or mandatory quotas. The researchers typically employ quantitative methodology using data from databases and other sources [6, 11, 16, 17]. However, there seems to be a gap in the current research field, with a noticeable dearth of studies using interviews and surveys for gathering quantitative and qualitative primary data and even fewer studies using mixed method approaches [7, 18]. Considering these observations, the objective of this paper is to explore any advancements made the past five years with respect to the influence of applying gender quotas in corporate boards, from non-direct viewpoints -such as on a firm's environmental/social performance, the diffusion of gender equality across firm levels, and individual perceptions- and going deeper than just the direct economic implications. Additionally, we intend to highlight those studies that utilize quantitative and qualitative primary data or mixed methodologies.

2 Methodology

According to Tranfield [19] the systematic review consolidates collective knowledge by facilitating theoretical synthesis across various fields and subfields. We follow the guidelines for conducting a systematic review proposed in literature [8, 19, 20]. We aimed to investigate whether any progress has been made the last five years regarding the impact of gender quota application in corporate boards from other indirect perspectives and delve beyond the immediate economic aspect. In order to identify the existence of such studies we devised the following research questions:

RQ1: Apart from the topic of financial performance, which other research themes are addressed in prior literature concerning corporate boards and gender quotas impact?

RQ2: Does prior literature on corporate boards and gender quotas feature studies using quantitative or qualitative primary data or mixed methods?

We chose the Scopus database for collecting our sample studies due to its extensive size, credible standing, and the high quality of its papers. In alignment with our research area, we employed the keywords "corporate and boards" along with "gender and quotas" to assemble the studies for our review. This initial search yielded a sample of 249 papers.

We applied the following criteria to decide if a paper should be included: (1) year range 2018–2023, (2) subject area: business, management, accounting, economics, finance, social sciences, (3) document type: article, (4) language: English. Following these criteria, the sample size was trimmed down to 138 papers. We then reviewed the abstracts and discarded 92 articles that seemed irrelevant based on our search terms (primary quantitative/qualitative research, non-financial approach, individual perceptions) and research questions. Subsequently, we reviewed the full-text articles, and we excluded 12 as we didn't have access to the full-text. We also eliminated 24 articles as they didn't relate to our search terms since they adhered to a quantitative methodology using data from databases and not from surveys or interviews. Eventually, a set of 10 eligible studies remained, which are ready for the next steps of review, data extract and analysis.

3 Analysis and Findings

Table 1 presents the main characteristics of the sample studies based on our research questions. We identify only two studies applied a mixed-methods approach [21, 22] and the rest relied on quantitative methods. In most studies the data collection was sourced from databases. However, one study implemented surveys for data collection [23], while another used a combination of interviews and databases [22] and only one study utilized data gathered from corporate annual reports [21].

Table 1 Main characteristics of the studies

Authors	Research type	Data sources	Themes	Impact
Dalvit et al. [25]	Quantitative	Databases	Trickle-down effect/gender wage, employment gaps	Positive in top firm layers/ limited on lower layers
Kordsachia et al. [30]	Quantitative	Databases	Climate change/ carbon emissions	Positive
Jouber [31]	Quantitative	Databases	CSR	Positive
Masi and Pasi [27]	Quantitative	Databases	Board monitoring tasks	Positive
Mazza et al. [29]	Quantitative	Databases	Board meetings	Positive
Slomka-Golebiowska [28]	Quantitative	Databases	Strategy/ monitoring tasks	Positive
Latura and Weeks [21]	Mixed-methods	Corporate annual reports	Gender equality issues/spill over effect	Positive
Seierstad et al. [22]	Mixed-methods	Databases/ interviews	Equality silo	No progress
Reberioux and Roudaut [26]	Quantitative	Databases	Glass ceiling	No progress
Arnardottir et al. [23]	Quantitative	Surveys	Board dynamics/ performance	Positive

We can categorize the themes addressed in the prior literature concerning corporate boards and gender quotas under a broader thematic grouping such as individual level, organizational level, and societal level [7, 24].

Regarding the individual level, Dalvit et al. [25] show that an increase in female representation in top management positions results in higher employment and reduced wage gaps for women in the upper echelons of the firm but has limited trickle-down effects on lower layers. However, Rebérioux and Roudaut [26] argue that despite these strides, the persistence of discriminatory behaviors and stereotypes restricts female directors from accessing monitoring committee roles and results in lower remuneration compared to male counterparts, indicating the continuation of a "glass ceiling". Concerning the organizational level, De Masi et al. [27] also found that boards with more than 33% women were more effective in monitoring tasks due to the unique knowledge and skills women bring to the table. Another study [28] adds that gender diversity proportionally impacts board task performance in strategy and monitoring, although not in advisory tasks. Other research [29] highlights that mandatory gender quotas could result in a shift in priorities, with increased frequency of internal committee meetings and less overall board meetings. On the other hand [22] found that despite high compliance to the Norwegian board quota policy, it did not result in broader gender equality, suggesting the need for more comprehensive policy interventions. Researchers noted that enforced gender quotas led to more comprehensive discussions and improved decision-making within boards, even changing initial negative attitudes towards quotas among male directors over time [23]. This demonstrates the broader societal impact of gender diversity initiatives beyond just board composition. Research demonstrates several benefits of gender-diverse boards for organizations. Finally relating to the societal level, Kordsachia et al. [30] found a strong correlation between gender diversity on boards and a decrease in corporate carbon emissions, reflecting enhanced environmental risk management. Similarly, Jouber [31] established that having at least three women in top management teams correlates positively with improved Corporate Social Performance. Additionally [21] observed that the introduction of a gender quota law in Italy led to increased corporate attention to gender equality issues even before changes in board composition.

4 Discussion and Future Research

Our findings provide answers to the research questions posed in our study. Regarding the RQ1, it was determined that the most prevalent issues examined were related to economic aspect and then some researchers were interested to explore the connection between gender quotas and environmental concerns, such as carbon emissions and corporate social responsibility. Others focused on matters concerning the board of directors, such as their performance and obligations. Finally, some studies were directed towards understanding the broader promotion of equality, with particular attention to the equitable advancement of women.

Concerning the RQ2, our findings point to the conclusion that current research predominantly relies on quantitative methods, utilizing data primarily from existing databases. There is a noticeable absence of qualitative or mixed-method approaches that employ tools such as interviews and questionnaires. These findings are aligned with the previous reviews [7, 8, 11, 18].

Furthermore, our review noticed that the application of gender quotas in corporate boards have led to changes at the individual, organizational, and societal levels with an overall impression of a positive effect. Our approach paves the way for more in-depth study of the topic, and it could be a possible trigger to shape practices and initiatives at the organizational level and encourage individual actions and attitudes that support gender diversity and equality. Moreover, our study could be useful for the future research especially for those that might focus to employ tools like surveys and interviews, because these tools allow researchers to gather detailed, individual responses and perceptions, getting in-depth understanding of a complex issue like the impact of gender quotas.

5 Conclusions and Limitations

Our review on gender quotas applied on corporate boards, uncovers an overall impression of a positive effect at individual, organizational, and societal levels, such as improved board performance, environmental concerns, broader promotion of equality, but also notes obstacles such as the "glass ceiling". The review identifies a preference for quantitative methods and highlights the need for more qualitative or mixed-method approaches and emphasizes the complexity of the subject, pointing to the need for further exploration and offering valuable direction for scholars, policy framers, and business leaders. The study has several limitations. For collecting our sample articles, we chose one database and the review spanned only the most recent five-year period. Additionally, we limited our collection to papers composed in the English language. Gender quotas are a step in the right direction, real empowerment comes from recognizing and valuing women's unique skills and the journey of women's empowerment begins from educational challenges and culminating in leadership roles, both academia and businesses must prioritize initiatives like skills development, mentorship and inclusive hiring, transcending mere numerical representation [32–34]. Higher education could well put emphasis on issues of equality and inclusion [35–37].

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Evaluation of University Students' Satisfaction from e-Learning During the COVID Pandemic: A Multi-criteria Approach

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Abstract Electronic educational technology for learning is an essential tool towards a knowledge-based society. As technology continuously evolves, our focus will be on the perception of satisfaction from the educational process, which was challenged to quickly switch to distance education in the context of the COVID-19 pandemic. Specifically, this paper examines university business students' satisfaction from e-learning concerning various factors, such as platform reliability, functionality, efficiency, usability and trust. Data were collected by applying a structured questionnaire on a final sample of 368 students from September to October 2021. The results are based on the Multi-criteria Satisfaction Analysis (MUSA) method. The analysis highlighted the vital role of reliability and trust in the applied e-learning platform. Those aspects should be further improved in the future to increase the comfort of using distance learning tools and increase participants' perceived satisfaction in the process.

Keywords First business students · e-Learning satisfaction · MUSA method · Distance learning

1 Introduction

Education, notably higher education, faced a significant challenge during the COVID-19 pandemic, being severely affected, as well as many aspects of economic and social life. This period also represented a significant threat to the higher education sector worldwide, putting us in front of an unexpected but very complex context since physical presence lectures stopped during the pandemic's peak [1]. Higher education institutions focused their technical, organizational, and pedagogical aspects to find quick responses for the transition from traditional to distance learning, to ensure the

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continuity of the educational process, and to provide high-quality education [2, 3], ensuring equity, transparency, and legal certainty in the distance learning process [4].

There is a common understanding that distance learning technologies are still applied and continuously evolving in the post-pandemic era since they offer several benefits, such as improving access to education opportunities for a more significant part of the population, counterbalancing the decreasing university-age population and providing graduates with the capability to respond to labour market requirements. The higher education sector has changed in terms of methods, technology, and content, and the labour market requirements have also changed. Education prepares people to succeed in the labour market. The creation, delivery, and use of information are changing rapidly. To face all the new realities, individuals need experience utilizing new forms of communication, work, or study [5, 6]. The endowment of students with the skills required by the knowledge society combined with pandemic lessons is one of the most significant ways to evaluate the efficiency of higher education.

Under these circumstances, our paper aims to evaluate the perception of satisfaction and comfort in using online tools and examine the impact of the critical aspects involved [7, 8].

2 Theoretical Background

Electronic educational technology for learning is considered the cornerstone of building an inclusive knowledge-based society [9], and the innovative pedagogies supported by the new technologies made the evolution of an alternative instructional method possible. The large-scale use of the Internet has also contributed to its increase during the last decades [10].

Investing in modern educational technologies is critical for institutions, and the most important indicators of assessing the cost-effectiveness of learning are the satisfaction and experience of students [11]. The information and technology infrastructures are the engine of the evolution of distance learning. It has also long been emphasized that the focus should be on creating learning-centred environments supported by technology [12]. The Information and Communication Technology (ICT) tools and digital skills are essential in adapting to distance learning during COVID-19 [13]. Using the interview method, Almaiah et al. [14] identified the main challenges facing distance learning, concluding that they extend beyond the infrastructure issue, including technical, managerial, and course content issues with potential effects on participants' comfort and satisfaction in the educational process. An increase in satisfaction with using distance learning tools could be supported/encouraged by its ability to foster a peer-to-peer learning approach, to support group cohesiveness, trust, and a sense of belonging and community, even if it will have to manage different learning styles and cultural attitudes toward learning [15].

Marek et al. [16] conducted a worldwide survey to explore the teaching staff's experience after moving to distance learning during the COVID-19 pandemic. They found, as expected, that those with experience with distance learning before the pandemic were more comfortable with the short-notice transition decided by the pandemic. Even under these circumstances, a higher workload and stress were experienced compared to traditional face-to-face learning. By contrast, another research [17] found that the transition to distance learning, regardless of existing or not previous experience, required new teaching methods and assignment changes, which may imply a lower expected volume of work for students.

Our paper aims to identify the critical factors affecting the students' satisfaction during e-learning lectures. This is important for moving towards an efficient and inclusive educational system to create a resilient future of education.

3 Materials and Methods

We used a structured questionnaire to assess university students' satisfaction with the e-learning experience. The survey was conducted via simple random sampling during September–October 2021. The final sample was 368 University of West Attica students in Athens, Greece. Students' satisfaction criteria were created using relevant bibliographic sources [18–21]. The satisfaction criteria (variables) were the following:

Platform Reliability: This criterion included questions on platform security and interaction with users. Platform Usability: This criterion included questions on platform easiness of use and learning, user-friendliness and compatibility with various browsers. Platform Functionality: This criterion included chat options, whiteboard and media sharing capabilities. Platform Efficiency: It included options about the speed of various programs, connection speed and stability, frequency of errors. Trust-Empathy: Interaction with professor and fellow students, student motivation to participate in the teaching process.

Concerning the sample demographics, female students were 65% and male students 35%. The average student's age was 23.6 years. Around 65% of the samples were students covering the expected study period (1st–8th semester), while the other 35% exceeded the standard study period of 8 semesters.

The analysis is performed by applying the multi-criteria model MUSA (Multi-criteria Satisfaction Analysis). This approach resembles the ordinal regression method and sets total satisfaction as the dependent variable and the criteria as the explanatory variables. This methodology is extensively analyzed in relevant literature [7, 22, 23]. The method assigns weights to the independent variables according to partial satisfaction in each sub-criterion. Furthermore, the total satisfaction is explained according to the explanatory variables. An action diagram for the criteria is produced, and actions are suggested according to each area [7].

4 Results

The results show a high overall satisfaction of the students from the university e-learning education. Looking at Fig. 1, we see that the total satisfaction amounted to 93.79%.

Concerning the impact of the separate satisfaction criteria on the variable of total satisfaction, according to Fig. 2, the criterion of "Platform Reliability" had the most decisive impact (44.63%), followed by "Empathy-Trust" (19%), the "Platform Usability" (12.8%), the "Platform Efficiency" (11.9%) and finally the "Platform Functionality" (11.67%).

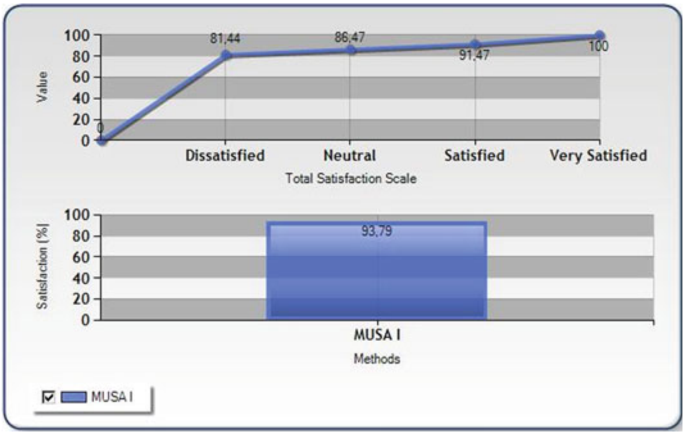

Fig. 1 Satisfaction function

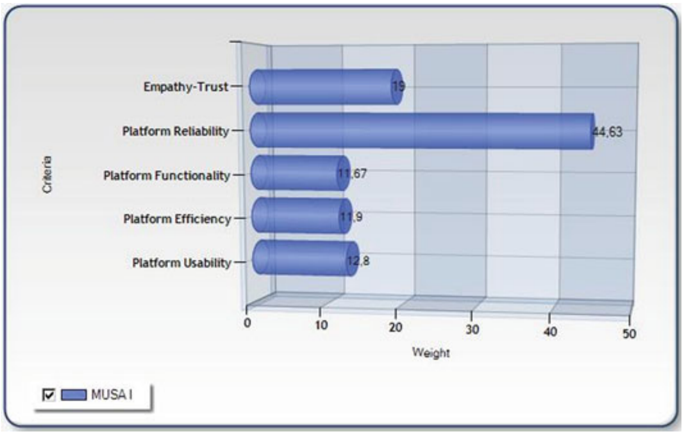

Fig. 2 Satisfaction criteria weights

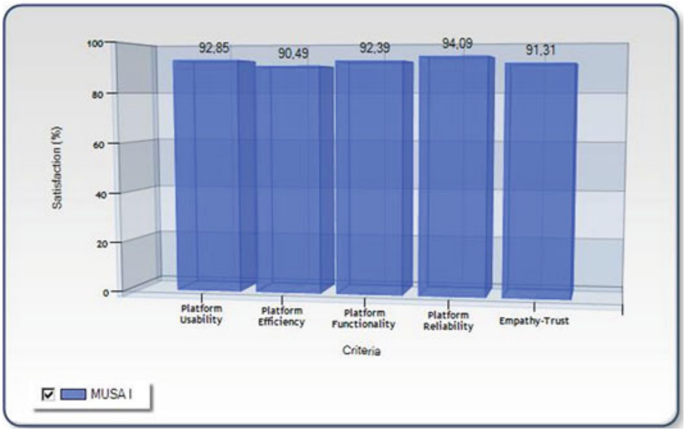

Fig. 3 Students' satisfaction for each of the used criteria

Figure 3 shows that students' satisfaction is high in all five criteria. Specifically, "Platform Reliability" was first with 94.09%, followed by "Platform Usability" with 92.85%, while students were also delighted with the criterion of "Stores Platform Functionality" with 92.39%. On the other hand, "Empathy-Trust" and "Platform Efficiency" had the lowest percentages, which amounted to 91.31% and 90.49%, respectively.

Looking at Fig. 4, we can see that none of the criteria fell in the bottom right area of high importance and low performance. This leads to the conclusion that no important criterion that explains student dissatisfaction exists. Furthermore, the criterion of Platform Reliability is in the leverage opportunity area, so this can be considered the competitive advantage of the e-learning system, which should be further improved and promoted.

5 Discussion and Conclusions

This paper focused on students' satisfaction with the educational process, which was challenged to switch to distance education during the COVID-19 pandemic. The results emphasized the competitive advantages of using e-learning technology in student satisfaction during the educational procedure. Students reported a high level of satisfaction under the five criteria. Moreover, the more critical satisfaction criterion (according to the MUSA method) was found to be that of platform reliability. This is a competitive advantage that the university should prioritize. A similar study [1] found that organization policy is a crucial variable in improving the e-learning experience for students and professors. An e-learning-centered organization policy could further support the platform reliability variable.

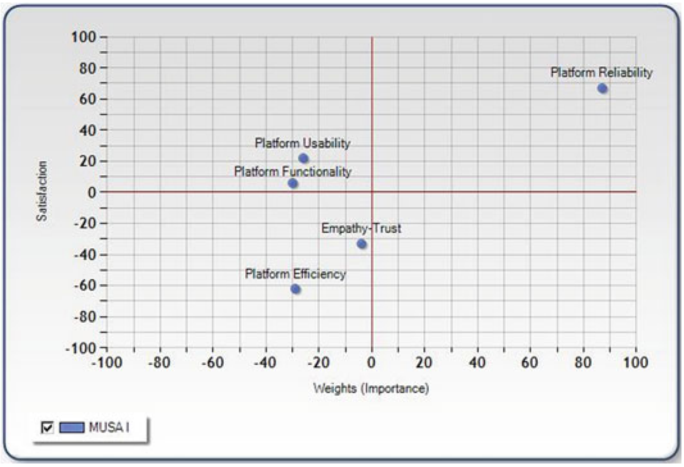

Fig. 4 Action diagram

Furthermore, the criterion of empathy-trust is the second most important. As found in a similar study [6], it is essential that the students gain familiarization and trust in the platform, and this can be achieved by focusing on understanding theoretical concepts through respective exercises. On the other hand, in this case study, the criteria of platform usability and functionality are of low importance and high satisfaction, leading to the fact that the university could transfer sources from those aspects to strengthen the essential satisfaction criteria of platform reliability. In a similar study [24], the authors criticized the claims that educational technologies are a ready-made remedy for the COVID-19 education crisis, stressing that not only digital connectivity is essential but also the ability of people to access and their endowment with skills to use technology effectively and safely to achieve educational goals. These variables are essential for increasing the comfort of using distance learning tools and increasing participants' perceived satisfaction in the process. The improvement of digital skills is also supported by Konig et al. [13].

However, the factors affecting the satisfaction of using distance learning procedures and processes extend beyond the infrastructure issue, including technical and managerial support and course content [14]. Social media platforms and the Internet of things (IoT) may contribute so that online communities with similar interests can be created and innovative communication technologies can be employed in higher education [25–28].

The importance of our study lies in the fact that assessing the potential effect of distance learning and its implications, as well as its benefits, will be the focus of researchers and policymakers in the post-pandemic period to design new coordinates of the educational process considering the experiential situation we have all faced.

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Medical Tourism with Emphasis on Tourism for People with Disabilities in Greece

Maria Rapti, Anastasios Sepetis, and George Pierrakos

Abstract This is a research endeavor aiming to highlight the significance of Medical Tourism with regard to people with disabilities, as is often referred to in the literature and legislative texts. The international approach to the provision of medical tourism services is examined everyday but the tourist policies for people with disabilities, and the position of Greek accessible Tourism need more researcher. The objective of this review is to offer a synthesis of the steps that have been taken and the efforts that have been undertaken in this direction in the Greek medical tourism in relation to disabled people, as far as prospects, imminent benefits, but also any further actions that could take place. The aim is to bring out all the dimensions of the subject both through the literature review and the search for existing implementation methods and best pratices as well as through the research approach and analysis of existing situations, at national and international level.

Keywords Medical tourism · Health tourism · Accessible tourism · Tourism for the disabled

1 Introduction

Medical tourism, alternatively defined as health tourism, is a domain and activity of the field of public health, which is either directly related to it, as in the choice of the individual to receive specific medical services abroad, or indirectly, while visiting another country and the need to receive emergency medical services arises. According to Helmy [1], medical tourism is travel that aims to achieve health and well-being, through appropriate health care which may include medical examinations, surgical and plastic procedures, beauty treatments, restoration and recovery, combined with recreation, entertainment and cultural activities in the visited tourist destination [2–4]. In conclusion, these two terms, health tourism and medical tourism, converge. It is considered that medical tourism is part of health tourism, a new form of covering

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health needs and a new global economic activity, which is in leaps and bounds growth trajectory. Nowadays, the afore-mentioned field is developing rapidly due to the worldwide increasing necessity for medical services of the highest standards in terms of medical technology and financial expenditure. The global medical tourism market size will be valued at $31.91 billion in 2023 and is expected to grow at a compound annual growth rate (CAGR) of 14% during 2023–2027. The adoption of medical tourism will be supported by affordable healthcare and reduced wait time in foreign countries, along with access to quality healthcare and advanced treatments [5]. The annual growth rate of the global medical tourism market is estimated to reach 25–35% [6]. According to a research study prepared by the consulting company Stochasis [7] (2018), for health and medical reasons, in 2017, 108.5 thousand travelers visited Greece, marking an increase for the fifth consecutive year, with the Average Annual Rate of Change (ARR) to equal 4.8% in the period from 2006 to 2017.

During the last decades there has been an increase in the number of people with some form of disability, who seek to receive general or specialized medical services outside the country in which they live. Tourism for the Disabled, or as it is often referred to in the literature "Accessible Tourism", has begun to develop globally and is a specific category of tourism, which aims to cover all people—regardless of age, gender or disability—in terms of the choice of accessible destinations, specialized products and medical services. The World Tourism Organization—WTO, having become aware of the numerical size and the particular requirements, needs and desires, of "accessible tourism" prepared a Special Report on the characteristics of the market and a special manual with the title addressed to tourist destinations for "accessibility" [8]. The total number of people who have declared a serious disability ranges from 110 to 190 million and 80 million of them are European citizens [9]. Also, they use vacation packages that come from Social Security programs and prefer to make their reservations in advance and travel outside the peak season [10].According to Bowtell accessible tourism market is a distinct sector, possessing the capacity for extensive future growth, and thus presents major travel providers with a potentially substantial and lucrative market, generating potential revenues of €88.6 billion by 2025 [11].

Greece undoubtedly has a place and share in the ever-expanding global market of Medical Tourism [12]. According to Geitona and Sarantopoulos [13] medical tourism in Greece has comparative advantages and these advantages provide the possibility of exploiting the opportunities and promoting the country as a medical tourism destination.

2 Methodological Considerations

This article analyzes, the global approach in terms of providing medical tourism to disabled people, as well as the existing position of Greece towards this specific group. Furthermore, it sets out steps and actions that have been taken or need to be taken in the future out to this direction, in relation to the perspectives and the benefits for the Greek economy. To achieve the above objectives basic research systematic peer review of the accessible tourism literature of papers on subjects related to the areas of Social and Legal Sciences and Health Sciences published in Web of Science, Scopus, MEDILE PubMed, Googlescholar, and ProQuest (APA PsycInfo).

3 Medical Tourism and the Disabled People

According to Darcy and Dickson [14] accessible tourism is defined as: "Enabling People" with access requirements including mobility, vision, hearing and cognitive dimensions of access, to function independently and with equity and dignity through the delivery of universally designed products, services and environments. In 2014 the World Tourism Organization (WTO) created an "Accessible Tourism Guide" where it mentioned the obstacles faced by people with disabilities and how Tourism should be organized in the future with the aim of "Access for All" [15]. A significant number of such people choose to combine their holidays with receiving some treatment in a country other than their own, especially in the case where the desired medical services are provided at a significantly lower cost than in their own country. Many people with disabilities who have large incomes will spare no expense to travel to another country in order to receive a treatment that has been considered a medical breakthrough and has been significantly developed in that country with significant benefits for the patient.

Undoubtedly, the demand in the Medical Tourism market from people with disabilities, in other words with special needs, is very high, but is there a necessary and corresponding supply in order to cover it?

The development of accessible tourism and the equal participation of citizens with disabilities in terms of accommodation and activities, has little interest in the market of touristic agents. They recognize the specific category of Medical Tourism as a non—profitable one in order to include service packages for people with disabilities, in their framework of hotel businesses, often citing the high cost of adaptation [16]. Most problems have been observed and highlighted at international level, which act as deterrents for a person with special needs to choose of whether to go to another country for their holidays. Such are the lack of valid and sufficient information on hotel accessibility services, the inadequacy of all adapted rooms and the inadequacy of accessibility infrastructure in rooms and in all hotel facilities [17]. The criteria for the priorities and preferences of people with disabilities, regarding the choice of accommodation, depend on demographic characteristics, the nature of the disability, the degree of autonomy of the person, and the assistive equipment they use. Additionally, important factors, which determine the choices and ultimately the decisions of the PWDs, are undoubtedly the access and receipt of complete and correct information about the existing accessibility infrastructures, as well as the measures taken by the hotel units to serve the needs of the PWDs. Specifically, the accommodation criteria of disabled tourists are based, primarily, on the layout of the room and bathroom and, secondarily, on the common areas of the accommodations [16].

However, destinations and businesses active in medical tourism for people with special needs need to meet other, in addition to technical, specifications, which will concern the accessibility of the services and benefits offered and will be intertwined with the optimization of service to tourists with disabilities, but also the promotion of businesses and destinations. It is required on behalf of all entities that deal with and provide services to people with disabilities, primarily the promotion and advertising (marketing) of them, the provision of detailed information, mainly via the internet, but also competent state entities, regarding the characteristics of the business and the destination and the staff trained to serve the disabled.

Furthermore, travelers around the world are taking a keen interest in virtual tourism. According to an estimate by Market Data Forecast, the Global Virtual Tourism Market was valued at USD 301.5 million in 2021 and is expected to grow at a CAGR of 14.4%. from 2022 to 2030. During the forecast period is expected to reach approximately $ USD 1052 million by 2030 [18]. VR technology can create in the future a virtual environment that will simulate actual medical tourist spots worldwide as well as touristic spots for people with special needs. For instance, VR can help medical tourists with special needs to explore virtually a place before planning a trip. It would allow them to get familiar with the location's culture, know which things they should try, give them a better sense of what to expect, and increase their confidence in their choice. It can also be handy for marketing in the tourism sector and help travel guides attract more visitors. People with disabilities could potentially have the biggest utilization of virtual tourism. However, the success of virtual tourism depends on the acceptance of VR technology [19]. There is a need to recognize disabled travelers as autonomous and independent people who seek to escape from their daily routine, and who require certain specific supports to facilitate their tourist experience. Accessible tourism is valued as a good market opportunity, but its proper development requires greater staff awareness to promote co-creation in tourism, as well as the support of technological systems to create individualized tourist profiles detailing the needs of each person [20].

4 Possibilities for Medical Tourism for the Disabled People in Greece

Medical tourism in Greece, although it could have great potential for development as far as people with disabilities are concerned, however, one could say that it is still in its embryonic form. Larger financial investments are needed in relation to the services provided, infrastructure and access. Special facilities and technological equipment are the most basic condition for serving people with special needs, as well as the creation of tourist packages that will satisfy their own special needs and desires alongside those of their companions [17]. Accessibility is another very important element so that people with special needs can travel more often and more easily. The measures that should be taken concern categories such as means of transport, accommodation, information, staff behavior towards the special needs of medical tourists of this category. The environment that will be the pole of attraction for these individuals is also of particular importance. It should be a comfortable and pleasant environment, with acceptance towards diversity, with appropriate equipment and special treatment. Another factor that significantly affects the attendance of people with special needs in developed tourist destinations is the spatial dimension. Usually, the facilities are built around central cities providing quality medical/hospital care, accessible facilities with specialized services. In Athens, Thessaloniki, Rhodes, Crete there are businesses active in this type of tourism, while abroad, Spain, France and Italy make a significant contribution [21, 22]. Naniopoulosand coauthors [23] have cooperated in the frame of MEDRA project to assess their potential and set up a plan for developing accessible tourism is to develop accessible tourism in two areas of Greece and Turkey. The findings include, amongst others, the identification of needs of tourists with disabilities, and the relevant historical evolution, legislative framework, international good practices, policy-improvement proposals, accessibility assessment in Mersin and Drama, and suggestions for developing accessible infrastructure together with the training of stakeholders. Furthermore. the project results defend that the Greece although made a lot of progress regarding the issues of disability and accessibility still is not on the same level as many European countries, while Turkey has a lot to learn in order to deal with accessibility from a holistic point of view. Kasimati and Ioakeimidis research for accessible tourism product of Greece results show that, is not entirely satisfactory. Therefore, demand for accessible tourism in Greece remains low, as the Greek tourist destinations lack the appropriate infrastructure and easy access to public transport; and second the dynamics and size of the accessible tourist market is not fully understood by the Greek tourist industry [24].

4.1 Barriers and Good Practices in Greece

According to Avgoulas Evangelo [25], ESAMEA Confederation of Persons with Disabilities today focuses mainly on actions concerning the health and financial security of the disabled (disability pensions, benefits). Another factor that creates difficulties in developing business activities related to Medical Tourism and PWDs is that the medical industry in Greece follows the medical model of approaching disability and not the social one. Public rehabilitation centers have major deficiencies in infrastructure, technology and are still understaffed. Private centers, on the other hand, although they have the infrastructure, do not always have the necessary certifications that they should and the quality of their services is not always proportional to their high financial costs. Another parameter that discredits our country as a Medical Tourism destination for the Disabled is the Greek athletes of the Paralympic games, who go to centers in Germany for their rehabilitation.

The correct and systematic organization of medical tourism for the disabled in the future may contribute to the strengthening of local economies and the national economy in general. The possibilities and perspectives that are opened must be based on coordinated actions to improve the attractiveness of the destination, the creation of new building infrastructures and the development of modern medical tourism services for the disabled, with the consequence of establishing Greek cities and towns as an ideal and friendly destination for that particular group of people. In 2021, Komotini received a European distinction for its accessibility by winning the award: “Special mention for the city that treated accessibility as an opportunity” at the European Accessible Cities Awards 2021 (Access City Award). The Access City Award recognizes a city’s ability and efforts to become more accessible in order to improve the quality of life of its population and ensure that everyone—regardless of age, mobility or ability—has equal access to the urban environment. Cities such as Komotini are a great example of how a specific place can develop into a medical tourism destination in general and for the disabled in particular, by doing the self-evident initially, i.e. by creating or developing the infrastructure and conditions in public spaces, making them easily accessible by PWDs and thereby improving their standard of living. The entrepreneurs of a city should also start to realize that when their businesses such as hotels, dining and entertainment venues become accessible to all, they make more profit and at the same time enhance their social image.

5 Discussion and Conclusion

According to the WTO, for there to be a change in the mindset and the way of providing services for PWDs, laws and regulations should first be changed so that there is no discrimination regarding the access of PWDs to facilities, products and services, training of the respective staff involved with the specific group of people [26]. Based on the above data, it is demonstrated that Greece is slowly following international trends. The interest in the equal access of people with disabilities in all areas of social life and their easy access to specific medical services, mainly rehabilitation, is mainly theoretical and often ends up in proposals, debates and even sterile confrontations, which do not end in a positive result and do not promote the further development of medical tourism for the disabled in our country. Medical Tourism in our country could attract patients of all ages and income levels, who are in need of hospital care. Patients in need of medical monitoring and the creation of an appropriate atmosphere for recovery and rejuvenation of the body, but also from the existence of a multitude of activities to occupy themselves and their families and companions during their free time. But in order to have the right specifications, the stay should always be determined by the seriousness of the situation and the client’s health problem. Parameters such as diet (a specific diet is recommended which the patient usually follows), movement (depends on the severity of the condition), but also activities, which may be directly related to a wide range of activities, such as treatments and prevention, using modern or traditional techniques and services, also play a catalytic role.

Based on what was mentioned, in relation to the development and promotion of medical tourism, it is considered important for people with special needs to fulfill the following conditions:

- Partnership of the agencies and taking initiatives in order to carry out the necessary processes to promote medical tourism, in general, to vulnerable groups of our fellow human beings—the disabled—and to raise awareness in society.
- Legislative framework, which concerns the appropriate formulation of the legislation, so that the personal medical confidentiality of the patients is guaranteed.
- A transport network that is enhanced by informing transport providers and resulting in patient convenience.
- Organization and management of standards-tools of high specifications, as well as obtaining international certification that is an indication of the organizations' commitment.
- Training of public and private service employees (public transport workers, hospitality service providers, health professionals, etc.) to respond to the needs of patients-tourists with special- Transformation of each city that will be a Medical Tourism destination into a friendly community. This possibility concerns both the level of planning and service provision, as well as the friendly design of cities and spaces that welcome tourists and patient's needs.
- Virtual reality (VR) can also be very useful in the industry of medical tourism in terms of visiting far-away places virtually and helping medical tourists to improve their actual experience when they get there.

However, in order to realize the vision of accessible tourism and to expand Medical Tourism for the Disabled, cooperation is required between the various involved persons and tourism agencies, so that people with disabilities and special needs can enjoy tourism products, services and the resources, since they will be designed for everyone. After all, considering the Preamble of the United Nations Convention on Persons with Disabilities, the importance of disability inclusion is absolutely necessary for sustainable development to take place.

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Business Education in Incubators and Its Impact on Start-Ups

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Abstract Entrepreneurship education programs have gained popularity in the last 20 years as they have the potential to encourage entrepreneurial abilities and mindsets. Despite the increasing number of these programs offered worldwide, their effectiveness remains to be determined. Research has produced mixed outcomes, and there needs to be a consensus on the definition of entrepreneurship education in incubators or the outcomes of such courses. The perception of business incubators has evolved to become supportive settings for new business ventures and aspiring entrepreneurs. They are considered the future training grounds for entrepreneurship and experimental hubs for learning. Nevertheless, the degree to which they enhance business performance is debatable, and research into their outcomes needs to be more varied and largely inconclusive. The research methodology employed in this study is quantitative and involves a questionnaire. The sample consists of 112 start-ups and visionary entrepreneurs that have participated in entrepreneurship education programs offered by the incubators in Greece, and 21 business incubators. The results of the study show that entrepreneurship education programs have the potential to enhance specific skills and attitudes in participants that could be advantageous in the long run. While the research does not provide conclusive evidence, it does demonstrate promising correlations. Therefore, although business incubator-based entrepreneurship education programs in Greece may not immediately impact start-ups, they could be advantageous in the future.

Keywords Start-Ups · New entrepreneurs · Entrepreneurship education · Business incubators

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1 Introduction

Entrepreneurship education programs have gained popularity in the last 20 years as they have the potential to leverage entrepreneurial abilities and skills. Despite the increasing number of these programs offered worldwide, their effectiveness remains to be determined. Research has produced mixed outcomes, [1, 2] and there is need to have a common ground of understanding on what entrepreneurship education is and what to expect from it.

Business incubators has evolved to become supportive institutions for new business ventures visionary entrepreneurs, providing the training grounds for entrepreneurship and experimentation. Nevertheless, the degree to which they enhance their participant's business performance is an open issue for research.

The study aims to understand the impact of the incubators' entrepreneurship education programs on start-ups and young entrepreneurs in Greece while shedding light on how Greek incubators deliver those educational programs.

2 Theoretical Background

Business education is considered a determining factor of business success that is directly related to creating start-ups and regional development and growth [3, 4]. Generally, entrepreneurship education is about teaching individuals to recognize opportunities and take action in a value-creation process [5].

Understanding the fundamentals of entrepreneurship education theories and their application is quite challenging [6, 7] due to the complex nature of business processes and attitudes and motivations concerning entrepreneurship.

The review of a variety of entrepreneurship educational programs showed that some share the same exciting ideas and insights, but on the whole, entrepreneurship education research still has enormous gaps. Also, the impact of entrepreneurship education still needs to be better understood [8].

GEM's Annual Report on Entrepreneurship in Greece 2020–2021 [9] highlights some valuable insights into the Greek business ecosystem while reviewing business activity for 2021.

For the Greek economy, the years since 2008 have been challenging. Two significant crises (the Economic Recession and COVID-19) significantly disrupted Greek entrepreneurship, as shown by the drop in Total Early-Stage Business Activity (Total Early stage—Entrepreneurial Activity—TEA) after each event, lasting at least two years before recovery.

The Greek business macro-environment remains worse than most European "innovative countries" in many pillars. There are many obstacles to a healthier entrepreneurial activity in Greece, like the need for a flexible set of national policies for entrepreneurship. Significant obstacles still need to be overcome, including the difficulty of financing a Start-up, high market entry barriers and cultural issues concerning entrepreneurship.

Therefore, as shown in relevant studies, entrepreneurship education should be about learning entrepreneurial attitudes and skills, such as managing change and applying new technologies and innovation [10–12].

As has been underlined by researchers in the field [13], entrepreneurship teachers must recognize the need to apply a different teaching method.

According to this approach, entrepreneurship can be approached as a project-based learning and other constructivist teaching methods and not that much as traditional learning methods. Nevertheless, there is an excellent use of traditional models in business education, as they are subject to institutional pressures [14].

Business incubation is a set of processes activated when there is a demand by a visionary team or person for support while turning their idea to a start-up. This usually involves several steps designed in the best way to support early-stage entrepreneurs in order to turn their ideas into a value-added process via a viable business model [15]. A Business Incubator, usually a not-for-profit company, delivers services to future entrepreneurs. It may be a privately owned institution or a public one and even part of a university [16].

3 Methodology

3.1 Research Questions

The research questions of the survey are the following:

How are entrepreneurship education programs implemented in business incubator environments?

How do the incubators' entrepreneurship education programs impact start-ups and young entrepreneurs in Greece?

3.2 Sample and Sample Strategy

Given that the research process consists of collecting, processing and analyzing information, both from the participants' perspective (start-ups) and the characteristics of the training programs for entrepreneurship, two different samples of respondents were created.

According to a recent survey of the organization diaNEOsis, there are approximately 70 active incubators, accelerators and start-up technology centres in Greece [17].

Thus, the research population comprises 70 directors- managers of business incubators responsible for the respective entrepreneurship programs offered. The questionnaires for the incubators were set-up on line using Google Forms and send as link via email to the 70 active incubators. Twenty-one managers finally responded and completed the online questionnaire.

On the other hand, the number of registered start-ups operating in Greece is estimated to be 1500 [15], while it is estimated that approximately 1/3 of them (500 companies) have participated in an entrepreneurship program through some business incubation structure.

The questionnaires for the Start-ups were set-up on line using Google Forms and sent as link via email to the start-ups that have concluded an incubation program. The start-ups were indicated by the incubators. The final survey sample is 112 start-ups.

3.3 Data Collection Method

Two different questionnaires were structured. As already explained, the first was addressed to business incubator managers, and the second was sent to start-ups that have concluded an incubation program.

GDPR was followed during the research process. All respondents were informed of the confidential nature of their data and that the information collected would be used only for this particular study [18].

3.4 Data Analysis Methods

Data analysis was performed using the software package for statistical analysis, SPSS. The Interquartile Range presents the spread of the data, and the normality (or skewness) is shown using the Median.

4 Key Findings and Analysis

4.1 Results from the Incubators' Responses

The results in this section are from the 21 incubator managers.

The primary source of incubator funding is from private funds and sponsors (46%), while 15% of funding comes from other regional and national authorities. Finally, 16% of the funding comes from EU grants.

Most incubators (78%) stated that the cost per participant (start-up) is €10,000 or less. The unit costs ranging from €10,000 and above is around 11%.

The incubator companies stated that the advisors of the entrepreneurship programs are professionals, business consultants, businesses and educators. Advisors may also be companies acting as trainers in their educational programs.

Regarding the training method, one-on-one counselling and entrepreneurship workshops are the primary way of delivering training. Online training as a learning method still needs to be popular in Greece despite the progress made through the pandemic in 2021–2022.

Most incubators can host up to 20 start-ups, while larger capacity incubators (11% of the incubators) can host more. Greek incubators have a limited capacity to support a more significant number of start-ups.

Regarding comprehensive services, mentoring, networking services and consulting on business planning are the top services incubators offer in Greece. Services related to counselling employability are less popular.

4.2 Results from the Participants' Responses

The results of this section come from the responses of 112 start-ups after completion of the incubation training program.

The survey results have shown that men have the most significant percentage of participation in business training programs. In contrast, women make up 37% of all participants. This finding may suggest that women entrepreneurship in Greece should be strengthened.

Regarding the participants' education level, 48% of them hold a postgraduate degree or a PhD.

Most (around 80%) stated that they have high self-confidence, persistence and teamwork ability. Opinions differ on risk-taking, which is their least developed skill.

Most respondents agreed that their entrepreneurship education programs helped improve their effectiveness, proactiveness, focus on control, certainty management, and self-confidence (Median = 4).

Furthermore, although most participants reported that the training programs helped them improve their overall entrepreneurship mentality (Median = 4), responses varied very much, so an accurate conclusion cannot be drawn.

Nevertheless, most participants agreed that the programs helped them improve their knowledge of marketing skills, business plan development, finance, strategy skills, developing business networks and connecting theory with practice (Median = 4). The program's contribution to improving professional skills, marketing plans, and general business knowledge could not be estimated as the responses varied (Median = 4).

Finally, the least developed skills were product management skills, accounting, production cost calculation, and product pricing (Median = 3).

Business creation and networking skills are the only areas boosted by the programs (Median = 4); the programs did not help them improve their employability, income and savings (Median = 3).

5 Discussion and Conclusions

The study aims to understand the impact on start-ups and young entrepreneurs in Greece of the incubators' education programs on entrepreneurship, while shedding light on how Greek incubators deliver those educational programs.

We can summarize the main findings and suggestions as follows: Online learning, as a method of education, still needs to become popular in Greece despite its increase during the COVID-19 pandemic.

Greek incubators need more capacity to support more start-ups and young entrepreneurs. In the entrepreneurship education programs of the incubators in Greece, the frequency of courses delivered is considered insufficient (considering the duration of the programs).

Since most participants are men, it is suggested that women's entrepreneurship in Greece should be strengthened with actions and policies that promote and facilitate women's entrepreneurial initiatives. The majority of participants have business experience of 5 years or less, which shows that most of them are in the initial stages of their careers.

Concerning the first research question, the results have shown a big difference between the entrepreneurship training programs offered by the incubators in Greece, especially in terms of their curriculum and business logic model. Some education programs are directly focused on the venture capital process and business angels to ensure financial help for the participants. Others focus on finding partnerships with universities and research institutions while accessing technological assistance and scientific equipment. It is also shown that the duration of business training programs varies considerably. Some companies act as trainers in the incubation programs, which may indicate a trend towards more project-based and real-life business learning. The participant's skills play a critical role in the way entrepreneurship education programs are delivered. More personalized learning is the most widely effective method. In terms of the curriculum of the business programs, many critical entrepreneurial skills are provided. Marketing and sales and general business knowledge are the primary skills gained, followed by entrepreneurship and theory, networking and strategy skills. On the other hand, accounting and costing are poorly provided by those programs. Additionally, in terms of services provided, mentoring, networking, and consulting businesses are the top services offered by incubators in Greece.

Concerning the second research question, the survey results provide mixed evidence about the impact of entrepreneurship education programs. However, there are many promising indications that these programs contribute to the entrepreneurial mindset and skills of the participants. There needs to be more evidence that those education programs impact the performance of start-ups. Entrepreneurial mindset findings further support entrepreneurship education programs' ability to enhance participants' efficacy, proactivity and sense of control, risk-taking, and self-confidence. In addition, the results show significant, positive and significant importance of some social elements of the participants with the educational programs (e.g., business network formation). As responses varied, the common ground could not be reached on improving professional skills, product placement and marketing research and plans, and general product management skills. Regarding the entrepreneurial status of the participants, entrepreneurship education and the performance of start-ups (in terms of employment, profit and savings) do not have a direct connection. Higher education and entrepreneurship may be a common challenge for economic growth [19].

Although some of the findings are conflicting, and the evidence shows that incubators' entrepreneurship training programs in Greece do not transform start-ups in the short term, many promising indications were found. Entrepreneurship training programs have the potential to enhance participants' skills and attitudes, which can be a good base for their personal and professional development over time.

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Amateur Athletes and Adoption of Smartwatches. Perceptions of Usage, Ease of Use and the Role of Virtual Community Emersion

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Abstract The Internet of Things (IoT) is a network of connected devices and sensors communicating and exchanging data through the Internet. Wearable technologies are a popular application of IoT and can potentially affect users' lifestyles, health, well-being, behaviors, and decisions. Smartwatches are the most popular type of wearable device among athletes. We are interested in the factors influencing the adoption of smart devices which monitor and track sports and fitness activities. Our data was based on a convenient sample of 128 amateur runners and we performed descriptive statistics and regression analysis. We applied the theoretical model of Technology Acceptance and empirical results reveal that perceived usefulness, perceived ease of use, and smartwatch health indications, are notable antecedents of someone's decision to adopt a smart device. Sport wearable companies may get insights from this research about significant factors of smartwatch adoption and products to help athletes enhance their performance.

Keywords Wearable technology · Technology Acceptance Model · Technology adoption · Smartwatch · Wearable health monitors · Amateur runners

1 Introduction

The Internet of Things (IoT) has contributed significantly to the formation of people's everyday life by facilitating it. Wearable technology is based on IoT applications and refers to smart hearable devices, smart watches, smart clothing smart patches, and smart implantables. Smart devices use biosensors to collect medical data such as heart rate and abnormal heart rhythms, blood pressure, sleeping patterns, glucose meters, and fitness trackers. By 2024 the forecast for wearable devices will reach 109 billion dollars [1, 2]. Sports wearables account for 50% of the unit sales in

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the global market. The study aims to identify and explain the mechanism leading to consumers' acceptance of sports wearables. The extant literature has yet to cover this field [3, 4]. This study examines the factors inhibiting and the factors contributing to the adoption of smartwatches. Research on wearable devices is focused mainly on smartwatches adoption, but few studies explore the adoption of smartwatches by amateur athletes who are also interested in their health [4].

2 Theoretical Foundation and Literature Review

Wearable devices are autonomous and they track physiological indicators in order to understand individuals' habits and improve their physical activity levels. Such devices are the smartwatches, biosensors, activity trackers or wristbands. A smartwatch serves mostly as a satellite device which will gather useful data through a wireless Bluetooth connection. The access to information is faster, more accurate and also convenient when the use of the smartphone is not practical [2]. Smartwatch technology allows ubiquity, mobility, time and location independence, and also it incorporates context awareness [3]. Sport wearables indications allows users to improve their strategy and their performance, to observe their physical condition and preventing them from getting injured. Users benefit from the usage on fitness from continuous usage for long periods of time and that affects the quality of their life [4]. To provide a theoretical framework for our research we used a well-established model of Technology Acceptance Theory (TAM) [5]. Davis theorized TAM as a mechanism to explain and predict users' acceptance of information and communication technologies and applications. TAM has proven to be an extremely robust model in its application to a wide variety of technologies such as sports wearables, sensors, smartwatch, smart health devices, wrist worn wearables [1, 4, 6–10].

2.1 Technology Acceptance Model

In the digital era, new technologies are developing constantly, and various theoretical models are proposed to explain and predict the adoption process. One of the most extensively applied is the theoretical model "Technology Acceptance Model" [11]. TAM is a popular model used to explain and predict the adoption of technologies in many organizations and cultural contexts; it is based on the Theory of Reasoned Action and Planned Behavior [12], but Davis [5] indulged in innovation adoption at the working environment. He posits that perceived ease of use and perceived usefulness are the main psychological constructs of predicting the intention to use a technology [2, 6, 13, 14]. Venkatesh and Davis in 2000, proposed an extension of TAM and new determinants of perceived usefulness were proposed: subjective norm, image, job relevance, output quality, result demonstrability. They also proposed new mediators of ease of use: experience and voluntariness [15, 16]. Perceived ease of use is defined as "the degree to which the prospective user expects the target system to be free of effort" [17]. Perceived usefulness is defined as the user's "subjective probability that using a specific application system will increase his or her job performance within an organizational context" [15]. TAM model is appropriate to explore users' perceptions on smartwatch adoption.

2.2 Using Wearable Technology Devices in Running

Wearable devices promote health and safety in physical activities, positive lifestyles, and preventing injuries while training [3]. Running has become a prevalent outdoor activity with a high participation rate by amateurs. Smart devices data can help runners to adjust their rate of training, take different routes or change their exercising behavior. In that way a user becomes aware of his overall performance almost instantly. Runners' performance benefits from the visualization of smartwatch indications, and they feel more motivated and supported in their training [5] indicating if their goals have been achieved. They share their digitally codified results with friends or coaches. Users' virtual interactions and information sharing on social media is an extra motivation to accomplish training goals [9]. The acceptance of wearable devices differs among sociodemographic characteristics of users, such as gender, age, income, and culture [16, 18]. Kim and Chiu [4] explored gender differences among sports wearable users and identified adoption differences regarding their usage. They resulted that gender moderated the relationship between PU and intention to use [4]. The costs of acquiring a smart device affects the decision to adopt [19]. The non-monetary costs [13] includes time consumption, and psychological costs, including inner conflict, discomfort, anxiety, or mental fatigue [13, 20]. We define smartwatch anxiety as the degree of discomfort a user suffers when using a smartwatch. A user with high anxiety levels is less likely to adopt a smart health device as easy to use [21].

2.3 Participation at a Virtual Community

Information and communication technologies and broad participation in social media allow people to become co-creators in the communication process [22]. The interactions and the social ties between the members characterize a community. These communities consist of people, a common purpose, and similar policies, and they are using computers or smart devices. According to Koh et al. [22], a virtual community comprises members sharing information and knowledge for mutual learning and providing solutions. A virtual community uses a platform to share common interests to support and exchange information considered unbiased [23, 24]. Online communities develop relationships towards value co-creation, and they build trust and commitment between members. They interact in cyberspace and establish social relationships through repeated contact. They share feelings of belonging to the group, sense need-fulfillment, express an emotional connection with other members, and feel that they may influence other members. Members tend to exhibit addictive behavior via online daily communication. Thus, "the construct of immersion is adopted as an emergent property of the virtual community" [22]. Being a member of a running athletic community influence members' perceptions [24]. Thus, we examine whether athletes' participation at a virtual community of runners influences their perceptions of adopting a smart device.

3 Methodology

A survey was performed through an online sports magazine specializing in running addressed to amateur runners. The magazine posted a questionnaire at its web page. The questionnaire was based on previously validated TAM studies [25, 26] and received 128 responses in 15 days. Prior to the announcement of the questionnaire, a pilot study was performed on 20 athletes. Participants chose the degree of satisfaction or importance of each question in the questionnaire according to their feelings and cognition on a five-point Likert scale anchored by 1: strongly disagree, and 5: strongly agree. Descriptive statistical analysis was conducted on survey data through SPSS22.0. The reliability test results with Cronbach's α showed that the measurement had strong internal consistency (Cronbach's $\alpha > 0.7$). In order to compare samples across demographic groups or perceptions we performed inferential tests such as ANOVA and t-test analyses. Multivariate analysis (factor analysis and regression analysis) to create variable composites from the original attributes and obtain a small number of variables that explain most of the variances along attributes. Then we applied the derived factor scores in multiple regression analysis. Regression analysis indicated a model to the adoption of the device. Based on literature we propose the following hypotheses: H1: PEOU, PU, anxiety, intention to use, and community participation in using smartwatches differ by the training frequency of the amateur runner [27]. H2: PEOU, PU, anxiety, intention to use, and community participation in using smartwatches differ between genders [4]. H3: PEOU, PU, anxiety, intention to use, and community participation in using smartwatches differ between different age groups of amateur runners [16].

4 Results

The sample consisted of 26.6% females and 73.4% males, of which 42% declare to be aged between 35 and 50 years old and 29% are male married with children while the 14% of women are singles. A large percentage of the male participants had a university degree as their highest level of education (78%). A percentage of 35% of male participants and 44% of female participants had family income between 10.000

and 20.000 euros. Amateur athletes used their smartwatch to check health indicators: Heart beats (71%), monitoring sleep habits (13.3%) level of organization exhaustion (6.2%). The 8.8% of female athletes use to observe their menstrual cycle using their smart watch. 50% of male athletes used to train four to five times per week while 32% of female athletes used to training once a week.

To assess the measurement model, we examine the loadings, the average variance extracted (AVE), Cronbach's α, the composite reliability (CR), following the guidelines of Hair et al. [28]. The Kaiser–Meyer–Olkin Measure of Sampling Adequacy (KMO) is 0.854 higher than the threshold of 0.60 indicating the appropriateness of factor analysis and the Barlett's Test of Sphericity, is $\chi^2 = 1961$; $p < 0.001$ supported the decision. Principal Component Analysis and orthogonal Rotation with Varimax method resulted in a five-factor solution representing 63.96% of total variance. Factor loadings for items range between 0.530 and 0.910 which are considered high (Table 1). All measures present internal consistency reliability as Cronbach's α coefficients are surpassing 0.7 and the values of CR exceeded the criterion of 0.60 [29, 30] the five factors were labeled based on the core variables: Perceived Ease of Use, Perceived Usefulness, Intention to Use, Participation in Online Community, and Anxiety.

The impact of personal characteristics upon the five factors influencing the adoption of smart devices is examined, by using inferential statistics (t-tests and ANOVA tests). According to these tests: H1: PEOU, PU, anxiety, intention to use and community participation using smartwatches differ by the frequency of training. Equal variances assumed the hypothesis of relationship between PU and frequency of workout is supported [$F(4, 4782) = 5.453$, $p = 0.00 < 0.01$] and indicates differences among the means of groups of athletes and the frequency of their training. Athletes who used a smartwatch and trained four or five times per week (mean = 0.3495366) indicated a higher perception of the perceived usefulness of the smartwatch relative to users who trained once a week (mean = − 0.3566247). H2: PEOU, PU, anxiety, intention to use and community participation using smartwatches differ between genders. Independent t-tests were employed to seek the differences between male ($n = 94$) and female ($n = 4$) users. Compared to female consumers, male users reported lower anxiety towards using a smartwatch. Equal variances assumed the hypothesis of differences between genders and anxiety using the smartwatches is supported [$F(126, 1614) = 0.958$ $p = 0.001 < 0.00$], women are more anxious than men (mean female = 0.46 and mean male = 0.166). H3: PEOU, PU, anxiety, intention to use and community participation using smartwatches differ between different age groups. Equal variances assumed the hypothesis of relationship between PU and age groups is supported [$F(4, 6.124) = 7349$, $p = 0.00 < 0.01$] and indicates differences among the means of age groups of athletes. Athletes at the age group of (18–24) have lower perception (mean = − 1.2723) of the perceived usefulness of a smartwatch relative to athletes at the age group of (35–50) years old (mean = 0.3666). According to the regression model: adjusted $R^2 = 0.694$ ($F = 96.905$, $p < 0.01$). The model explains that almost 70% of the independent variables affect the intention to use a smartwatch. Specifically, Intention = 4.227 + 0.868 PU + 0.151PEOU + 0.90 HEALTH INDICATORS. The intention to use a smartwatch is

Table 1 Internal variability and convergent validity

Construct	Item	Cronbach's α	Factor loading	Composite reliability (> 0.6)	Average variance extracted (> 0.5)
Perceived ease of use	PE1	0.859	0.768	0.859	0.505
	PE2		0.759		
	PE3		0.732		
	PE4		0.720		
	PE5		0.675		
	PE6		0.598		
Perceived usefulness	PU1	0.844	0.725	0.752	0.493
	PU2		0.697		
	PU3		0.563		
	PU4		0.562		
	PU5		0.520		
Intention to continue to use	IU1	0.814	0.815	0.798	0.552
	IU2		0.767		
	IU3		0.671		
	IU4		0.600		
	IU5		0.545		
Online community	OC1	0.870	0.832	0.857	0.540
	OC2		0.804		
	OC3		0.747		
	OC4		0.717		
	OC5		0.621		
	OC6		0.511		
	OC7		0.563		
	OC8		0.530		
	AX1	0.912	0.910	0.903	0.823
	AX2		0.905		

positively related to the perceptions of easiness and usefulness but it is also related to the health indicators the runner checks.

5 Discussion and Conclusion

This research examines the factors contributing to user acceptance of smartwatches by amateur athletes who use smart devices to monitor their physical performance during training sessions. Results did not support anxiety or technology discomfort as a significant factor influencing amateur runners' behavioral intentions. The participation in a virtual community did not influence their perceptions on smartwatch usage. Findings showed that perceived ease of use and perceived usefulness are important factors in predicting the usage of smartwatches. Athletes are also interested in the health indicators presented which is a significant factor in their intention. A study on amateur runners and the possibility of suffering cardiac problems resulted that intense and enduring exercise like running a Marathon race may result in medical disfunctions [27]. Intense and frequent training affects the users' perceptions of smartwatches. They use smart device data to measure overall fitness rehabilitation of injuries, avoiding overexertion, and assigning training proposals based on individual performance. Findings need to be confirmed by further evidence from other sports given the differences in values and sports. Further research should include the collection and analysis of longitudinal data and other variables that affect smart device adoption such as compatibility, innovativeness, aesthetic image etc. to better explain the mechanisms behind the adoption/usage of a new wearable technology.

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The Creation of a Language Teaching Organisation (LTO): The Case of NSPLlab Under the Spectrum of Strategic Marketing

Nektarios S. Pavlou

Abstract The topic of this paper is the establishment and growth of a small Language Teaching Organisation (LTO) in Greece. In the present case study, we will explore the creation of a small personal LTO, named NSPLlab, and the prospects of its development through the lenses of Strategic Marketing (SM) after having reviewed the existing literature. In the modern world, the creation of a business entails a thorough consideration of several factors for the venture at hand to be seen as successful. At the same time, the educational aspect of the business can possibly cause a series of strategic alterations to the various existing managerial models and theories along with any practices used in a business framework. The integration of SM in the organisational effectiveness of an LTO could provide valuable insight for any LTO stakeholder, as well as contribute to the already established knowledge by the research conducted in the fields of SM strategies focusing on the development and operation of an LTO. The study aims mainly to constitute a comprehensive analysis of the operational parameters of such a business, while creating a healthily run educational entity and developing a lifelong educational culture to the customers-students. Having under scrupulous investigation the challenges faced by the managerial authority and the values at stake, in order to provide a model designed based on the idea of ethical leadership, we will try to give a possible plan or, in other words, a list of tips for any stakeholder to utilize while aiming to successful development not only of the LTO as a business venture itself, but also of a supportive and engaging environment in which the manager and any staff employed in the future in the LTO could thrive.

Keywords Strategic marketing · Language teaching organisation · Language education · Greece · English as a foreign language · Foreign language school · Lifelong learning culture

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1 Introduction and Background of Research

The importance of foreign language learning has always been known especially in the relations between countries and now, more than ever, its necessity is predominant. Although there is a well-established opinion about the predominance of the English language in the world, it has proven to be nothing less than a fallacy. According to David Graddol [1] "monoglot English graduates face a bleak economic future as qualified multilingual youngsters from other countries [who] are proving to have a competitive advantage over their British counterparts in global companies and organisations".

The foreign language teaching industry is increasing its works worldwide. Thus, the background of the language teaching industry in Greece along with the realisation of the concept of an LTO and its importance in education need to be considered. In Greece, there has always been an interest in learning foreign languages due to the size of the country and its need for exterior social, political and financial relationships. Slowly, language education evolved into an industry and a working force needed to allow it to be established as such. Foreign language industry includes teachers, people in administration, authors, publishers, books vendors. As the years passed the little schools became educational organisations not only because of their size but mainly of their complex structure and the needs of the market. The concept of a Language Teaching Organisation (LTO) is now utilised to refer to the humble foreign languages' schools of the past denoting the extensive forms and necessities of the modern educational tendencies. Typically, LTOs, according to Richards and Schmidt [2], offer courses designed to teach languages and they cater learners from a wide range of backgrounds including school students, university students, professionals and anyone who is interested in honing their language skills in a language. Their form can vary so we have language schools, online language learning platforms or private tutors. Nevertheless, there is an actual need of a comprehensive approach on how to establish the business and make it grow. It is due to the development of the modern world and the constant changes in the market, that the LTOs need to be established as entities and their growth is mandatory so that they adjust to the novelties seen in education and the needs of the market.

The aim of this paper is to trace the way of creating an LTO from scratch, especially when it comes to the use of SM principles, based on the case of the creation of the NSPLlab. A key point to be considered in the function of an LTO, though, is the mandatory interplay between educational aspects and managerial models especially because an LTO disposes of a dual nature: it is both an organization carrying educational values and a business comprising all the financial processes leading from its creation to its functionality and its future on-going development.

2 Strategic Marketing and Its Role in LTO Growth

2.1 Defining Strategic Marketing in the Context of LTOs

The importance of SM for educational institutions of any size is currently visualised as indispensable. SM exists because people have a need or a desire to get hold of a product or be offered a service. Marketing used to be thought as a variety of actions implemented to whichever venture that included the merchandise of products or services while the term of meta-marketing has been introduced concerning any kind of business, product, personality, location or objective.

So, we have reached the point of using SM in all kinds of business; thus, it would be unreasonable not to be utilised in the field of education in general and more specifically in foreign language education, sector which flourishes in almost every corner of the planet thanks to the interconnectivity among the peoples. The main reason why SM tends to be indispensable is the need of the LTOs to proliferate and expand their productivity in an effective way. Tailoring marketing strategies to the language teaching sector could have certain restrictions in order for an LTO to be successful in the business world. Taking care of the needs and the desires of the consumer can be quite challenging since being successful in a language examination depends on many parameters. Teacher and student work separately and together, each in their own special role. The teacher creates and delivers the classes, and the student pays attention to the classes and studies the material given. Long-term needs of the consumers and the society should be thought when creating the fundaments of the students' future employee's profile, that is, the necessary skills and certificates on their CVs. Another significant parameter is the ethical decisions made in managing an LTO, in which sometimes the educational value should be put over the financial profit of the business. This is why the relation between teacher and client should be characterised by clarity and ethics.

2.2 Market Analysis and Positioning

The first step in SM is to identify the target audience and their preferences. In this case, the target audience is everyone who needs for any reason, personal or societal, to learn a foreign language. They tend to prefer the procedure to be short and the result to be obvious quickly. Competition in the Greek language education market is ferocious since the service of foreign languages' education is highly demanded since English is a language taught even from the kindergarten—in primary school in 2010, in kindergarten in 2021 [3]. Most children nowadays learn at least one foreign language and there are others who learn two or even more. Let alone the case of life-long education in which many individuals who already form part of the working force of the market need to develop their expertise in different languages or they simply try to reinforce their CV for their professional ascension or change of sector.

Thus, the development of the sector of foreign language education demands for more people to engage to relevant professions. Therefore, positioning aims to include 'the creation of a unique and compelling identity for the LTO in the minds of the target audience' [4].

2.3 Branding and Communication Strategies

One very important step in the success of a business is the crafting of a compelling brand identity. As Aaker [5] defines it, branding involves the creation of a distinctive identity, that is a name, a logo, and a visual representation of the LTO's values and promises. Choosing the appropriate communication channels to reach the target audience of this specific business is of great importance, especially when it comes to its expansion to new products, that is new services (Facebook, Instagram, Local Guide-directory, mouth-to-mouth). There is a variety of techniques and strategies that can be utilised to enhance the SM plan of the LTO as presented by Chaffey & Ellis-Chadwick [6]. Social media marketing, content marketing, email, search engine optimization (SEO) are some of these strategies which could reach more students.

2.4 Growth Strategies

Expanding course offerings based on market demand is one step that we always take. For example, due to the new state regulations about public language education, mentioned beforehand, there is an ascending demand for courses for nursery school students. Exploring partnerships with schools, businesses, and organizations is another important step. Collaborations can be held in a variety of ways. Get in contact with big businesses who might need the foreign language education for their employees for in-house classes delivery. The aim of this paper is to present the steps initiated for the creation of an LTO following the marketing strategies presented.

3 Methodological Considerations

This research employed literature review search where keywords, like "LTO", "foreign language education", "foreign language school", "Strategic Marketing", were searched in well-known databases such as Google Scholar, Research Gate, Academia and in the online libraries of the Hellenic American University's online library, and the Paris University of Nanterre, where we had access at the time. By using the literature review we traced the path for a better conception of the creation of our LTO based on state-of-the-art terminology and tools. Since September of 2018, we have studied and implemented, sometimes by trial and error, all the strategies stated above to establish our LTO in a more sustainable way. And this is what we present here as a case study of the foundation and growth of a small LTO located on an island in Greece: the NSPLlab.

4 Detailed Account of the Creation and Foundation of NSPLlab

In September 2018, we created an LTO on the island of Aegina. It is a small, home-run business. The bedrock service offered in the NSPLlab is the teaching of three highly demanded foreign languages in the Greek market: English, French and Spanish. Candidates, who are locals of all ages (children—4 years old- and adults), are prepared for all kind of language exams offered in Greece for all levels. There is also an offer in classes and advisory services for university entry in Greece and abroad, for instance, France.

NSPLlab is totally centralised, as seen in White et al. [7], due to its small size, since it is smaller than the private language schools that exist at Aegina or in Greece, where the managers are teachers of English, but they also hire one or more teachers to work for them. Nonetheless, there is only one person who works for NSPLlab for the moment being. Therefore, we have been assigned with a variety of roles: we are the Manager, controlling the totality of the works and the director of studies choosing the right material. We are the Human Resources Manager, since we are the one who decides what certificates are necessary to add to our CV so as to be the best teacher possibly for our students. We hold the finances of the business, being an Accountancy Certificate holder, but we have also hired an external accountant to advise us when needed. We are a secretary and an organiser. And, last and most important of all, we teach and prepare our students for any kind of exams they need or wish to take. In a nutshell, we have all the responsibility of the LTO, and decisions are made purely by one person as seen in Drucker [8]. Although, during its first year of operation, we did not want to advertise our work or many people to be aware of its existence due to personal reasons and lack of self-confidence. But in the second year we left the vision of our little LTO be communicated to the public through a variety of marketing-oriented activities explained in this article. The success of NSPLlab is depicted to the results it has so far and are mainly based on the number of the effective: We started our LTO just having 10 students from my private classes from previous years to reach the 45 students in the beginning of the 6th year. Number which oscillated throughout the years, with students enrolling themselves even in the middle of the school year or others attaining their goals.

5 Challenges in the Foundation and the Management of the LTO

The creation of the brand name is of our inspiration, and it was completed last year with the help of a graphic designer (Yellowfish). In this case, we tried to establish a unique brand name, difficult to copy, using the initials of the owner's full name: Nektarios Stylianou Pavlou Language lab (NSPLlab) which, we believe, is a lot catchier than simply "Foreign Language School Nektarios Pavlou", which name we had rejected from the beginning. The identity of the LTO is also consisted of the creator's profile, his qualifications and qualities. So, the logo was created based mainly on the educational character of the LTO and that is why we used an owl, the bird of wisdom, but in a modern visualisation in blue and gold colours to present the feeling of responsibility and seriousness under the umbrella of the roof of a building, thus the roof with the golden flag on top, representing the roof of a school. There is also the caption under the simple logo "Linguarum gratia", meaning in Latin "For the sake of languages", since the teaching of foreign languages is what we do and plurilingualism is what we support.

Since social media play a primordial role in our society, we decided to create profiles for our LTO in all the most frequently used media by the locals, that is: Facebook, Instagram, Tik Tok.

Although due to time limitations our presence is not frequent, nevertheless, we used the theory of Chaffey and Smith [9], for social media and online advertising to reach potential customers. Furthermore, every time we create a post, we try to create valuable content, education-oriented so as to establish our expertise, according to the work of Pulizzi and Barrett [10]. Firstly, we created a Facebook page that has, at the moment, 404 likes and 409 followers. Secondly, we uploaded the LTO's Instagram profile which has 203 followers and Tik Tok with 60 followers although we have no posts so far, since adding material to the newsfeed is time-consuming. Thirdly, during the first lockdown we created a closed Facebook group only for our students and their parents where we asked them to react with a comment on the different activities, articles, quotes, movies, or other material we posted there, so that they practice the language they learn and for the parents to see that continuous learning takes place, as well, outside the classroom, conventional or virtual it might be.

As the LTO widens its horizons, we could invest on digital Marketing as well. Emphasizing on the educational value of our LTO, we created marketing material presenting our offered services such as small groups of students—no more than four—private tutoring, guiding future university students—choice, registration, and tutoring –, deblocking adults who could not learn a foreign language when they were younger. We communicate a variety of extracurricular activities we organise, always focusing on their educational aspect, like Christmas or Halloween parties with board games and extra copies with ludicrous activities (crosswords, etc.), movie afternoons with popcorn and lots of material ready for the students to work before, while and after they have watched the movie (e.g. worksheets—fill in the gap—with easy recipes the students can prepare before the movie and enjoy while watching), outings in archaeological sites like Paliachora with an on-site tour in English and a picnic with homemade burritos and other delicacies from the different cultures' languages we teach. The cultural insight is more than important in language education, as Barski & Barker [11] prove in their study on intercultural competence development.

Furthermore, expanding the geographic range of the LTO's works and developing an online presence by creating my LTO's web page (nspllab.com) [12] which is to go online by the end of this year offering introductory courses to anyone who has an internet connection and has been enrolled.

Every business venture or every research have their limitations. When it comes to Management theory, since everything is governed by one person, we have chosen for the integrative managerial model described by White [7]. This has offered us the opportunity to let the different models interact or be changed when we feel it is necessary, complimenting each other and get the best of all of them in tangible results.

Nevertheless, having in mind that an LTO cannot rely purely on the personal value, a great deal of hard work is being delivered in order to achieve the necessary outcomes in the form of the students to be successful in the exams [13]. Therefore, as the LTO grows, the manager should let go some of their responsibilities and adopt a less centralistic profile mainly due to lack of time or lack of expertise in certain domains.

Unfortunately, there were also certain challenges faced during the initial stages of the establishment of NSPLlab that we should consider and avoid on the way. The most important is the lack of capitals so that we ameliorate and get the premises of our future school ready according to the specifications of the Greek Ministry of Education. Finally, as a new teacher and school owner we have to face the competition of all the existed private language schools, owned by people who base their clientele and their good reputation mainly on the support of their relatives and friends, since we are talking about a small community.

As a matter of fact, if we want to see our venture to flourish in the future, we need, as soon as it is possible, to hire more qualified staff, to communicate to them our principles and the ideas that they need to become as good teachers as possible according to our style of teaching and our educational values and beliefs. Moreover, another challenge we had to overcome was the administrative process which comprised the necessary paperwork for the legal foundation of our LTO. Apart from the license one needs from the Greek Ministry of Education, as a self-employed, we also had to register at the Tax Office, the Single-Payer Social Security Fund (EΦKA) and the Chamber of Commerce. Close to our SWOT Analysis, the salient opportunity or objective of this LTO is to expand, by changing its legal form from private tutoring to a private language school. This would help expand the educational offer in other fields that we have been trained for but now time doesn't allow us to offer. This will give our students the opportunity to attend to a series of speeches delivered in-house by exquisite university professors or other specialists.

6 Conclusion

Overall, language education is evolving frenetically, according to the needs and demands of the modern societies. Language schools should also evolve and keep things up to date. Despite any challenges or limitations along the way of creating an LTO from scratch, the procedure is revitalising and challenging in a constructive way. Apparently, in the nowadays market, LTOs, as business ventures, should take into serious consideration not only the Marketing strategies of commercialisation and cover the financial needs of its clientele but also Strategic Marketing, which caters for the future needs of their clients, revolutionising the education methodologies and use strategies to bring in tangible results both financially speaking and in the building of a sustainable reputation (branding). It is our firm belief that all LTO stakeholders should implement the aforementioned strategies and principles taken from reviewing the existing literature so that their future ventures flourish. Online communities can be created as is the case with other products and services for sharing ideas among people with similar interests [14–18]. The positioning of NSPLlab in the market is to be considered as a successful venture since its functioning for five consecutive years cannot be proved wrong. Its unique selling propositions along with the good personal reputation the teaching effective possesses render it as a good example for other LTOs.

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Reaching Organization Productivity and Innovation Through Customer Satisfaction: The Case Study of Greek Mobile Market

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Abstract The telecommunication industry has been for decades one of the most innovative business sectors, not only in terms of technologies but moreover in terms of organizational changes and services provided. Especially mobile market has been the field of implementation for new strategies regarding customer satisfaction and business productivity. This research aims to enlight the relationship between customer satisfaction and business productivity in the Greek mobile market. A quantitative methodology and actual data about mobile services usage were adopted to evaluate customers' satisfaction. Moreover, a series of productivity and customers' satisfaction indexes were used to confirm research hypotheses. Results indicate that market penetration plays crucial role, by providing interconnection with other users through the same mobile network. Proposed research provides evidence about why, in the current digital era, social media as a means of interconnection between end—users seem to constantly play more and more significant role in their daily communication.

Keywords Service sector · Telecommunication industry · Customer satisfaction · Organizational innovation · Organizational productivity · Digital business

1 Introduction

Telecommunication industry as a whole and mobile market especially are characterized by intense competition [1], leading operators to invest time and resources on customer satisfaction and innovation as a mean to retain their own customers and to open new market segments [2]. For example, telecom operators invest on developing their own pay–TV platforms and broadcasting content, while there exist a series of innovative services such as utility payments, digital insurances and mobile money [3]. Regardless these innovations, customers' satisfaction and their loyalty is

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an issue under dispute, since service companies don't seem know how to take advantage from the above—mentioned innovations [4]. Such a situation is more severe in innovation—oriented industries such as telecommunications industry [5], where a late respond on implementing service innovation can decrease customer satisfaction and consequently organizational productivity [4].

Existing literature provides evidence that globalization of trade and economic activity, made innovation an essential parameter for customers' satisfaction and loyalty, since they are constantly searching for increased added—value from products and services [6]. Innovative firms (a) can adapt their products/services faster to global changes, (b) can provide superior value from improved products/services or develop new ones, (c) can reach more efficiently customers' needs and (d) can reach higher productivity [2, 7]. All these take place not only because it is important to gain new customers [8], but moreover it is even more significant to maintain existing ones by providing tailoring—made solutions to their needs [9].

As far as how Greek mobile operators can develop innovative solutions in order to increase customers' satisfaction and their productivity as well, existing research [10–12] has highlighted at least five possible sources of innovation, namely: (a) technological innovation, (b) service offerings and packages, (c) digital transformation, (d) internet of things and connected services, (e) partnerships and ecosystems.

Current research investigates the interrelationship between customer satisfaction, organization productivity and innovation in the Greek mobile market, aiming to provide valuable insights for mobile operators to enhance their strategies and improve their performance. Its contribution lies on approaching most significant services offered from an innovation point of view, rather than only a customers' satisfaction measure.

2 Literature Review

Even though several studies put emphasis on the relationship between customer satisfaction and organization productivity, authors concentrated in how this relationship is formatted in telecommunication industry and mobile markets, in order to better suit proposed results with existing research. Gruca and Rego [13] research in the telecommunication market, revealed that satisfied customers were more likely to adopt and advocate for innovative telecommunication services. Verhoef et al. [14] proposed that satisfied and loyal customers generate higher revenues but moreover contribute valuable feedback and suggestions for product and service improvements, thereby enhancing organizational productivity and innovation. Moreover, according to existing literature customer satisfaction plays a crucial role in driving customer loyalty, business performance, innovation, and collaboration within digital business ecosystems. Understanding and managing customer satisfaction is essential for achieving sustained success in the rapidly evolving digital landscape. Research interest starts from the early 2000 when Hennig-Thurau et al. [15] highlighted that customer satisfaction positively influences customer loyalty, repurchase behavior, and positive word-of-mouth recommendations. Moreover, they pointed that digital businesses need to prioritize customer satisfaction to foster customer retention and business growth. Another study, conducted by Cachero-Martínez and Vázquez-Casielles [16] revealed that higher levels of customer satisfaction led to increased customer loyalty, higher sales, and improved financial performance for digital businesses. The study underlined the importance of customer satisfaction in driving organizational success in the digital domain. Literature has been highly enriched in the last years, since researchers from different fields contributed to digital business framework, by studying aspects of the relationship between organization productivity, innovation through customer satisfaction. Such aspects include human factor [17], collaboration [18], technical capablities [19] and innovation capabilities [20]. These aspects when studied in digital business environment are related with organizational productivity and customer satisfaction, since they are related with digital transformation and digital innovation [21]. This paper aims to enrich existing evidence by studying Greek telecom industry.

3 Methodology

A quantitative research design was employed to gather and analyze data related to customer satisfaction and mobile services usage in the Greek mobile market. A structured questionnaire was administered electronically to a convenient sample of mobile users covering aspects of customer satisfaction, perceived value, and usage behavior. The sample was chosen randomly and reached electronically via emails, while the emails were given voluntary by the users themselves. A total of 6968 questionnaires were collected providing a large enough sample to extract valuable information.

In order to develop the questionnaire, a bibliographical research was conducted, based on similar researches form various sectors [22–24]. In order to measure satisfaction a series of characteristics are evaluated, involving satisfaction from: products/services (existing), network (in terms of coverage, speed etc.), stores (physical places to reach services and after–sales services), human resources (support from firms' staff physically or remotely), customer services (in terms of complaints, time needed to support, understanding about customers' needs, etc.), prices (services' cost), online services/webpage (information provided online and online services. All above—mentioned characteristics can include an innovation, that provides high added—value to customers, increasing their satisfaction and consequently their loyalty.

Productivity and customer satisfaction indexes were calculated based on real data from mobile operators' performance metrics. These data included: total number of active subscribers, total number of prepaid cards, total number of contracts and total number of subscribers. All above—mentioned productivity measures are related with types of subscribers. In order to further evaluate results, an alternative series or productivity measures was gathered as well, including mainly "usage" measures and from subscribers' perspective only new mobile connections were included. This alternative series of productivity measures included: mobile market penetration, average time using voice services, total number of messages sent, average number of messages sent per user, total number of outgoing talk minutes, total minutes of network usage, number of new mobile connections.

The relationship between measures of satisfaction and productivity measures (of both types) was examined by using Spearman's rank correlation coefficient and Linear Regression as well. A multicriteria satisfaction analysis (MUSA method) was used to measure customer satisfaction. The method is ordinal–regression-based approach used for the assessment of a set of collective satisfaction functions so that the global satisfaction criterion becomes as consistent as possible with customers' judgments.

4 Results and Discussion

Results provide evidence about how customers' satisfaction is cultivated in Greek mobile market, where innovation exists and how organizational productivity is affected. Table 1 presents how customers' satisfaction is interrelated with productivity measures related with the total numbers of various categories of subscribers/subscriptions. Results indicate positive relationship with all four categories indicating a strong network effect. The more subscribers/subscriptions exist in the same network, the more the customers' satisfaction, while it should be mentioned that the strongest positive relationship is between customers' satisfaction and the total number of subscribers. This is mainly related with existing preferential tariffs when a subscriber is contacting with users of the same network. That is why families or friends, and business co-partners often select to be in the same network. Service Offerings and Packages seem to be an innovation that lies behind the lines since mobile operators seem to redevelop their packages in order to provide higher added—value to their customers when it comes to such network effects. However, it should be noted that proposed result are not statistically significant.

The above—mentioned results are supported when the level of analysis come to the various subcategories of customers' satisfaction (Table 2). Network has the strongest positive relationship with productivity measures, even though positive correlations exist with human resources and customer services as well (even though

Table 1 Productivity measures and total customers' satisfaction

	Total number of active subscribers	Total number of prepaid cards	Total number of contracts	Total number of subscribers
Customers' satisfaction	0.282	0.361	0.107	0.436

**Correlation is Significant at 0.01 Level / *Correlation is Significant at 0.05 Level

weaker). Stores seam to play a negative role to customers' satisfaction most probably because online services replaced physical presence as an important factor for users.

Moreover, products/services and prices as well have a mixed result since negative and positive impact is balanced, indicating that Greek mobile market, operators have many similarities as far as products/services and prices (offers and packages) are concerned. Competition is mainly concentrating in network coverage and supplementary services, while differentiation in the above–mentioned categories is negligible. Finally, it should be noted that online services/webpage seem to mainly affect positive subscribers indicating a change from physical presence to online/distant services.

Results are supported even when the alternative productivity measures are used (Table 3). All measures are positive, and mobile market's penetration is the strongest and positive parameter when it comes to customers' satisfaction. In contrast with the previous results, mobile market's penetration has a statistically significant impact on customers' satisfaction. All other productivity measures have lower positive effect (and not statistically significant) while the second strongest measure is the number of new mobile connections, supporting the network effect already mentioned.

Table 2 Productivity measures and subcategories of customers' satisfaction

	Total number of active subscribers	Total number of prepaid cards	Total number of contracts	Total number of subscribers
Products/services	0.014	– 0.054	– 0.029	0.061
Network	0.421	0.321	0.500	0.279
Stores	– 0.011	– 0.071	– 0.018	– 0.061
Human resources	0.325	0.339	0.200	0.407
Customer services	0.364	0.300	0.157	0.346
Prices	– 0.036	– 0.018	– 0.125	0.029
Online services/ webpage	0.196	0.061	0.164	– 0.046

**Correlation is Significant at 0.01 Level / *Correlation is Significant at 0.05 Level

Table 3 Alternative productivity measures and total customers' satisfaction

	Mobile market penetration	Average time using voice services	Total number of messages sent	Average number of messages sent per user	Total number of outgoing talk minutes	Total minutes of network usage	Number of new mobile connections
Customers' satisfaction	0.728**	0.122	0.154	0.296	0.100	0.086	0.393

**Correlation is Significant at 0.01 Level / *Correlation is Significant at 0.05 Level

Table 4 provides evidence about how subscribers' alternative productivity measures interrelate with the various subcategories of customers' satisfaction. Results indicate the existence of three statistically significant relationships, all related with the "Network". Namely, Network has statistically significant and positive correlations with: (a) total number of messages sent, (b) total number of outgoing talk minutes and (c) total minutes of network usage. All these productivity measures are related with network since the network effect is of high importance in Greek mobile market.

Moreover, network is the only characteristic on customers' satisfaction that is positively related with all the proposed productivity measures. All the rest characteristics have both positive and negative effects. Products and services, even though having such a mixed result, have mainly a positive effect on market's penetration, indicating a high significance. Following previous studies, that is an indicator that a higher involvement of customers to the design and improvement of products/services, can affect innovation, customers' satisfaction and finally organizational productivity. Finally, service quality, expressed by (a) Human resources and (b) Customer services, has a positive effect on productivity measures (even if not in all cases) indicating that service quality is an innovation source since it creates a unique mixture of intangible assets such as organizational culture, leadership etc. [10, 12, 25]. Results for human resources support evidence that the parameter is significant for change management and innovation [26].

Table 4 Alternative productivity measures and subcategories of customers' satisfaction

	Mobile market penetration	Average time using voice services	Total number of messages sent	Average number of messages sent per user	Total number of outgoing talk minutes	Total minutes of network usage	Number of new mobile connections
Products/ services	0.297	– 0.079	0.163	– 0.09	0.086	0.064	– 0.05
Network	0.222	0.284	0.561*	0.411	0.532*	0.529*	0.171
Stores	0.074	– 0.091	– 0.013	0.023	– 0.054	– 0.061	0.046
Human resources	– 0.054	0.299	0.218	0.093	0.207	0.186	0.193
Customer services	0.341	– 0.14	– 0.002	– 0.228	0.046	0.036	0.046
Prices	0.061	– 0.038	– 0.159	0.009	– 0.161	– 0.118	– 0.296
Online services/ webpage	– 0.346	0.224	0.052	0.161	0.121	0.114	– 0.089

**Correlation is Significant at 0.01 Level / *Correlation is Significant at 0.05 Level

5 Conclusions

Results presented are consistent with similar research on telecommunication market. For example, as far as Products/Services are concerned, involving customers in the design and improvement can lead to higher levels of customer satisfaction and consequently in increased customer loyalty, reduced churn rates, and improved organizational productivity, supporting existing research [27]. Moreover, results indicate that service quality plays a significant role as well. Results support the idea [28] that by improving service quality and addressing customer needs and preferences, mobile operators can achieve higher levels of customer satisfaction, leading to increased customer loyalty and stimulating innovation with-in the organization. Research provides evidence about a strong network effect in Greek mobile market. The more subscribers exist in a network, the more satisfied the customers are and more loyal to their operator, leading to increased productivity and supporting the idea that is more expensive for operators to gain new customers than to retain existing ones [11]. That explains why Greek operators mainly innovate in terms of Service Offerings/Packages, since providing lower tariffs when communicating inside the same network, can provide a higher added value to their subscribers. Finally results indicate a relationship between organization productivity and telecoms' tension to mainly innovate in terms of customers' satisfaction, supporting the idea that agile methodologies are related with future strategic management in digital business [29].

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Examination of Individual Preferences for Safety and Security in Airports. A Choice Modelling Experiment

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Abstract There is an increasing concern for safety and security in an aviation context, due to heightened terrorism threats and other security scares recently. The paper aims to evaluate the factors affecting visitors' preferences for alternative policy initiatives in the field of security and safety in an aviation context. The paper makes use of stated choice experiments to evaluate individual preferences. This paper presents the findings from a homogeneous preference specification of a stated preferences discrete choice modelling experiment. The empirical findings indicate that they hold positive and statistically significant preferences for a wider disclosure of security related information, while at the same time; they do not mind longer waiting times in order to go through security checks. This is certainly opposite to our initial hypotheses. Finally, respondents expressed negative and statistically significant preferences for higher prices (security surcharges). In other words, they do not want to pay for higher security and safety measures at an aviation context. The paper offers interesting recommendations to decision-makers, managers and practitioners in the aviation field.

Keywords Choice modelling · Homogeneous preferences · Airports · Safety

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1 Introduction

Peripheral island tourism destinations rely significantly for their development on airport infrastructure. For the majority of cases, airports are the only gateway these destinations have with the rest of the world. At the same time, airports are the first attribute of the destination actual visitors' encounter and the last thing that would shape their post-trip memories of the destination [1, 2]. As a result, airports play a pivotal role in shaping the safety standards and profile of the destination to actual and potential visitors [3, 4].

The aim of the paper is twofold. First, to identify the key policy initiatives, and their configurations, that influence visitors' preferences between different security and safety scenarios at an airport context. Aligned with this aim is the intention to calculate marginal willingness to pay (MWtP) estimates for specific aspects of safety and security policy initiatives. Second, the paper aims to provide a number of potential policy recommendations to policy makers, practitioners and airport managers. Since, security and safety are now major aspects of visitors' perceived satisfaction at a destination, such policy recommendations could serve as potential feedback for securing a competitive advantage for the destination [3].

2 Literature Review

The linkage between airport infrastructure and safety issues has started to emerge very prominently in the literature lately due to the covid-19 pandemic [13], the resulting revenge travel fad [12] and the heightened concern for terrorist attacks and incidents [10]. Thus, safety and security nowadays is considered as a competitive feature of the destination [10].

The significance of individual preferences for evaluating different safety and security scenarios at an airport context is also depicted in the abundance of studies appearing in the literature in the last few years. More specifically, the first effort to establish a connection between individual preferences and safety/security within a transportation setting was by Rizzi and Ortuzar [9]. Albeit not focusing on an aviation setting and not using a SPDCM approach, yet it was the first effort to direct attention towards a preference-based safety/security policy formulation. Leo and Lawler [5] were the first ones to actually examine passengers' perceptions about safety technology at an airport setting.

From there onwards, Robinson et al. [8] and Potoglou et al. [7], Veisten et al. [11], and Patil et al. [6] were critical at providing the impetus for the emergence of other like-minded studies in the field. At the same time, [3] provided the theoretical justification for the use of preference-based methodological instruments for the examination of aviation security at a wider scale. More recently, [4] have also explored the interplay between airport security and individual preferences.

3 Research Methods

3.1 Research Methodology

The current paper makes use of stated preferences discrete choice modelling (SPDCM) methods to evaluate individual preferences for alternative/future policy configurations regarding safety and security at an international mass tourism island airport/destination in Greece. The SPDCM experiment was based around a survey based questionnaire. Considering the fact that airports are a major factor on visitors' perceived satisfaction levels [2], and that safety perceptions are deemed as a competitive advantage nowadays ([4, 10]), SPDCM facilitates capturing and measuring respondents' preferences for safety and security at airports.

Research Methods. The current study collected empirical data from a SPDCM experiment conducted during the summer months of 2021. The study was conducted in person, following all the hygienic protocols that were in place due to the covid-19 pandemic at the time across Europe. Data was collected over a sample of 500 individual respondents (tourists) travelling to Crete for holiday purposes. Respondents were selected through convenience sampling. They were approached during their stay in Crete (the sample was collected from all four prefectures of the island), as well as from the airport during their departure from Crete (airport departure lounges). For the purposes of the analysis, a binary logit was estimated.

The dependent variable in our study involved asking individual participants to state their preferred setting when traveling by air (i.e., the most preferred airport setting from a security/safety perspective). What is more, each alternative setting was described in terms of seven (7) product or policy attributes, all related to safety and security processes within an airport. These policy attributes included the 'type of security personnel at the airport' (qualitative approach), the 'type of CCTV cameras at the airport', the 'security processes' at the airport, the 'time required for a passenger to go through security checks', the 'number of visible security personnel at the airport', 'who has access to information collected at the airport', and finally a 'security surcharge (equivalent to the price coefficient). The process of selecting the attributes and their respective levels was informed by focus group discussions, and a small qualitative study that included various stakeholders (citizens, industry experts, as well as academics in the field).

Furthermore, each one of the abovementioned seven policy attributes was described based on four (4) levels or configurations. For example, the 'type of security personnel at the airport' attribute is described in terms of 'airport security personnel (status quo, or base)', 'airport police department personnel', 'undercover police department personnel', and 'military personnel'. Random configurations of levels across all seven attributes differentiated one airport setting over another in a given choice scenario. Each choice scenario was generated randomly through a main—effects routine in SAS. The random generation of choice scenarios through the experimental design ensured that each scenario would appear only once in the whole choice experiment and that it would facilitate the trade—off between different

Table 1 Example of a SPDCM experiment

	Option A	Option B	Option C
People	Airport police dept. personnel	Airport security personnel	I would choose neither of the two options
Technology	No cameras	Smart cameras	
Security Process	Random pat—downs of people and luggage	Random pat—downs of people and luggage	
Time to security checks	10 min to go through security checks	5 min to go through security checks	
Number of security personnel	15 people	20 people	
Access to information	Disclosure of information to airport police departments only	Disclosure of information to all EU police departments	
Security surcharge	A surcharge of 1.50 €	A surcharge of 2.00 €	

attributes and their configurations. Table 1 presents a SPDCM (choice) experiment faced by a participant.

4 Empirical Findings

4.1 Descriptive Analysis

Table 2 summarizes the samples socio-demographic profile. There is an even distribution between males and females in our sample, whereas there is a clear majority of late middle aged (46–65) respondents. More than half in the sample are married and in full time employment. As expected, the overwhelming majority of respondents were travelling either with their partner, or with the family (and kids). Finally, the majority of them originated from either Germany or the UK, and their reported net income was in the mid to high end range.

Econometric Analysis. The empirical findings from the stated preferences discrete choice modelling (SPDCM) experiment are summarized in Table 3. Table 3 presents the beta coefficients from the homogeneous preference specification. First, one could observe the negative and statistically significant ‘price’ coefficient. For the purposes of the choice experiment, the security surcharge takes up the price role in the SPDCM experiment, primarily in order to assist in the derivation of the marginal willingness to pay (WTP) estimates later on. The negative and statistically significant ‘price’ coefficient aligns with standard microeconomics theory. From this perspective, it also acts as a sign of internal validity for the SPDCM experiment.

Table 2 Sample's socio-demographic profile

Sample characteristics	(%)
Gender	
Male	50
Female	50
Age	
< 25	14.60
26–45	33.80
46–65	39.60
< 65	12.00
Family status	
Single	28.80
Married	57.80
Other	13.40
Occupational status	
In full time employment	58.00
In part time employment	13.40
Retired	15.40
Other	13.20
Travelling party	
Travelling Alone	14.80
Travelling with friend/Partner	41.80
Travelling with family (and Children)	25.40
Travelling with a group of friends	18.00
Country of permanent residence	
United Kingdom	14.20
Germany	25.20
France	12.00
Netherlands	10.40
Other	45.20
Annual Income after tax €	
Up to 10,000.00	11.80
10,000.01–20,000.00	15.80
20,000.01–40,000.00	26.80
40,000.01–60,000.00	24.00
> 60,000.00	21.60

Table 3 Beta Coefficients and marginal WtP estimates from the SPDCM experiment

Attributes	Attribute Levels	Betas	MWTP
	ASC (Alternative Specific Constant)	−0.700 (0.001)*	
People	Airport security personnel		
	Airport police department	0.248 (0.020)**	1.37
	Undercover police personnel	0.189 (0.039)**	1.04
	Military personnel	– 0.369 (0.000)*	– 2.03
Technology	Standard CCTV cameras		
	No cameras	– 0.725 (0.000)*	– 4.00
	Smart Cameras	0.153 (0.148)	0.84
	Cameras capturing Biometric info	0.213 (0.043)**	1.17
Security process	Passengers to go through metal detectors in random		
	Random pat—down of people and luggage	0.089 (0.418)	0.49
	European passenger recording system	0.149 0.177)	0.82
	Personal biometrics card	0.198 (0.070)***	1.09
Time to security checks	5 min to go through security checks		
	No delays	0.158 (0.142)	0.87
	10 min to go through security checks	0.085 (0.434)	0.46
	15 min to go through security checks	0.234 (0.034)**	1.29
Number of security personnel	10 persons		
	5 persons	0.167 (0.028)**	0.92
	15 persons	0.289 (0.008)**	1.59
	20 persons	0.118 (0.284)	0.65
Access to information	Disclose information to airport policy depts only		
	Disclose information to police depts in Greece	0.156 (0.441)	0.86
	Disclose information to all EU police depts	0.141 (0.200)	0.77
	Disclose information to all police depts worldwide	0.201 (0.041)**	1.10
Security surcharge	Price coefficient (Security Surcharge)	– 0.181 (0.044)**	
N		1500 (500 *3)	
Likelihood ratio test		– 801.562	

* = Significant at 1% level of stat. significance, ** = Significant at 5% level of stat. significance, *** = Significant at 10% level of stat. significance

The empirical findings in Table 3 also indicate that "people" attribute, referring to the type of security personnel patrolling the airport seems to be extremely important for passengers/international visitors. In other words, a qualitative aspect of security seems to be particularly relevant on respondents' preference patterns. Hence, in both cases where the police is assigned the patrolling of the airport (as part of the airport police department, or as undercover agents), visitors expressed positive and st. significant preferences. On the contrary, when the military is assigned the same role, then visitors expressed negative and st. significant preferences. In other words, respondents tend to perceive the presence of the armed forces in airports as (probably) an unwanted escalation that causes concern and distress among passengers.

The findings on Table 3 also indicate that respondents hold quite strong preferences regarding technology used in airport security. They exhibit negative and st. significant preferences for no cameras (a deterioration from the status quo) and at the same time, positive and st. significant preferences for cameras capturing personal biometrics information. These two points could be taken to imply that travelers are particularly sensitive about their security at airports nowadays, and the absence of cameras is perceived by many as a backtrack for their personal security. Briefly, the majority perceives that no cameras at all would pose a serious threat to their security at an airport. What is more, the estimated parameters indicate that respondents prefer CCTV cameras with advanced features (ability to capture bio information, over standard CCTV cameras. This is a finding supported in other studies as well [6].

On the other hand, respondents expressed positive and st. significant preferences for both a 50% decrease in personnel, as well as a 50% increase in personnel numbers in airports. Combined these findings may be an indication of heterogeneity in the sample. This is something that would have to be investigated at a later stage.

Finally, respondents expressed positive and st. significant preferences for both personal biometrics cards as a security measure/process at the station, and the disclosure of relevant information to all police departments worldwide. Compared to the status quo (random selection of passengers to go through metal detectors), respondents were very positive towards personal biometrics cards, hence they feel more comfortable with a substantial tightness regarding security processes at the station. At the same time, they also feel very strongly regarding the wider disclosure of information regarding suspicious passengers to all police departments worldwide. This finding could potentially have significant policy implications regarding the trade—off between security and privacy of individual passengers.

5 Policy Implications

The analysis of the empirical findings from the homogeneous preference specification indicates that respondents strong very positive and st. significant preferences for the type of CCTC cameras at an airport. They oppose any possible policy deterioration (no cameras) and at the same time, they support CCTV technology that would capture individual passengers' biometric information. At the same time, they are also very positive towards security processes that record passengers' biometric information. This is due to the higher degree of familiarity with this process, since, frequent flyers already have already registered their biometric information at a similar card [11]. Hence, familiarity and exposure seems to exert a strong influence on individual preferences. Combined the abovementioned findings indicate that visitors are very positive towards the initiation of technologies and processes that proceed much deeper into personal privacy issues, in order to enjoy greater levels of security. Second, the empirical findings would suggest that there is an apparent uniformity of opinions regarding qualitative aspects surrounding security personnel, but not so much regarding quantitative aspects of security personnel at airports. Thus, one major takeaway point from this is the high likelihood of preference heterogeneity in our sample that may call for further examination of individual preferences for safety at greater depth.

6 Conclusions

The paper adopts a bottom-up approach to evaluate individual preferences for alternative policy initiatives within an aviation context. In particular, the analysis utilizes a stated preferences discrete choice modelling experiment to evaluate respondents' preferences for various aviation scenarios with different safety and security attributes. Data was collected through a survey-based instrument on a sample of 500 individuals and was analyzed using a binary logit model.

Assuming homogeneous preference specification in the model, overall, the empirical results indicate that respondents exhibit much lower inhibitions regarding the trade—off between privacy and security/safety when travelling. In particular, in the majority of cases, respondents were in favor of policy initiatives that would greater levels of security, but would diminish their individual privacy levels. This finding is contrary to the reported findings in the literature. At the same time, the empirical results indicate that preference heterogeneity could be introduced in the model (in order) to account for different preferences across individuals.

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The Contribution of Education to the Creation of Tax Awareness and Compliance

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Abstract Global effort takes place by governments to tackle low levels of tax awareness, compliance and ethics and a big number of researchers examine the relationship among tax education, tax compliance and tax ethos. The purpose of this study is to examine the relationship between education, tax awareness among young people and students' perceptions of tax education. Tax compliance is a critical aspect of a well-ordered and developed society and tax ethos plays an important role in the creation of individuals' tax behavior. The study highlights the role of tax education and its influence on tax compliance and tax ethics. The authors conducted a pilot quantitative study involving 52 students from Greek Universities that is part of a bigger research. Results showed lack of effective tax education and is presented the need for targeted interventions to improve tax education, awareness and compliance of young people in Greece. This study provides valuable insights for the relationship between education and tax awareness that may benefit the government to understand the importance and effectiveness of tax education, for citizens at Greece to acquire tax awareness and compliance.

Keywords Taxation · Tax awareness · Tax compliance · Tax morale · Tax evasion · Tax ethic · Education · University · Taxpayers · Students · School

1 Introduction

The last years many countries have attempted to raise tax awareness by targeting the wider population, while others have placed particular emphasis on education and awareness of young people. OECD publication "Building Tax Culture, Compliance and Citizenship" provides 28 developing country initiatives for taxpayer education [1]. Tax awareness among young people is identified as being of paramount importance and an important objective of their education programs. The intentions are to

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cultivate tax awareness and tax ethics among young people, before the new generation enters the labor market.

The purpose of this study is to examine students' views on their education and to what extent it contributed to their tax knowledge. Through the synthesis of the literature, recommendations for changes that could be incorporated into the Greek educa-tion system will be made. Actions that have been taken in other EU Member States and worldwide, aiming at cultivating tax awareness and preventing the general negative attitude of citizens towards taxation, are presented. The aim of this paper is to examine the exposure of the participants to the Greek tax regime, as well as their approaches on this.

2 Literature Review and Theoretical Framework

2.1 Tax Compliance

The issue of tax compliance is very old. Describing the recorded patterns of tax compliance and finding ways to reduce it is a dominant concern of governments around the world. Tax compliance issues can be viewed as a problem of public finance, law enforcement, organizational design, labor supply, ethics, or a combination of all of these [2]. Voluntary tax compliance is the willingness of individuals to comply with tax laws without any additional enforcement [3]. Tax compliance is defined as the ability and willingness of taxpayers to comply with tax laws, to declare the correct income and to pay their taxes on time.

2.2 Factors Affecting Tax Compliance

Factors that have been considered important in explaining tax compliance are the level of real income, the tax rate, tax benefits, tax audit, audit probabilities, fines and penalties [4]. There are also many non-economic factors that influence the level of tax compliance. These factors include willingness to pay for public benefits, public education, tax ethos, tax information, etc. The publication of tax information can be an important determinant of tax compliance, as it communicates to taxpayers' accurate data on tax evasion. However, there is little empirical evidence on whether or not tax information publication has an effect on the level of tax compliance.

Statistics on tax evasion have been published in most developed countries. There are three tax items under the public communication system which are: personal income tax, corporate income tax and inheritance tax [5].

2.3 Tax Evasion

Tax evasion is a concern for governments around the world. Taxpayers' decisions to comply or evade tax are influenced by many factors, but this does not mean that all taxpayers are affected in the same way by these factors. Tax ethics is a parameter that can explain taxpayers' tax evasion behaviour. Studies incorporate variables and models that do not rely on the economic-rational decision model to explain why taxpayers comply, and more studies analyze international databases to examine differences and similarities across countries. Below are some different models and variables which include:

1. country-level measures of economic well-being, such as gross national product GDP per capita and inflation and employment trends [6]
2. country-level measures of public expenditure, such as general government expenditure [7]
3. individual-level variables such as religiosity, trust in government and tax ethos [8]
4. the exchange relationship between citizens and government in terms of what citizens pay versus what they receive [9].

The relationship between tax ethics and tax evasion has also been investigated. The results show a strong negative relationship between tax morale and tax evasion—as tax morale decreases, tax evasion increases. Factors associated with tax ethos have been analyzed and the results are somewhat consistent across countries [8]. Tax evasion occurs when taxpayers do not pay their expected share of taxes and do not comply with the applicable tax rules and regulations. Many studies analyze the relationship between a variety of variables and tax compliance. Most of the variables used in the analyses are individual-level variables (e.g., age, type of employment, gender, marital status, religiousness, trust in government).

Research [10] shows that tax evasion is negatively correlated with tax ethic and with measures of national governance and institutional quality. These variables help to determine the exchange relationship that taxpayers experience with their governments. All of these influence taxpayers' beliefs, values and behaviour. At this research examine what factors drive at tax evasion and what actions help the governments to decrease this.

2.4 Tax Ethics

Tax ethics is the intrinsic incentive to pay taxes. It represents the willingness or ethical conviction of the taxpayer to pay taxes. Although tax ethics is internally motivated, it is influenced by the external world [11].

Tax ethics can be seen as a set of underlying incentives for tax compliance. The five categories of mechanisms are: i. intrinsic incentives, which can be viewed as an additional term in the utility function that increases with the amount of tax the individual decides to pay; ii. reciprocity, in which an additional utility term for paying taxes depends in some way on the individual's relationship with the state; iii. social influences, in which the additional utility term for paying taxes depends on the views or behaviours of other individuals, iv. long-term cultural factors that may influence the willingness to pay taxes and v. information imperfections where, for example, individuals may misperceive the likelihood of being identified as tax evaders [12].

The tax ethos differs significantly and systematically between countries (United States and Western Europe) because countries have different levels of political and economic institutional quality and structure [13].

Each country has its own national tax culture and defines it as the set of all interacting formal and informal institutions associated with the national tax system and its practical implementation and are historically embedded in the country's culture. These studies show that tax culture influences taxpayer behaviour [14].

Investigation [15] find that improvement in socio-economic conditions and the level and quality of public services increased the tax ethos of Spanish people.

Tax ethics is influenced by multi-components and part of tax ethics is inherited from one's parents/relatives. It is found that the tax ethos of second-generation Americans is mainly and significantly influenced by the country of origin of their ancestors [16]. In this research, factors that can lead taxpayers to tax cultivation are examined.

2.5 Education and Tax Compliance

According to research [17], education can reinforce norms that are positively associated with tax compliance, such as honesty, morality, national pride, concern for others and fairness. This is in line with the objective of taxpayer education proposed by the Organization for Economic Co-operation and Development [18].

The most effective provider of formal tax education should be schools and universities. Through them systematically structured and standardized tax knowledge can be disseminated [19]. Increasingly, there is a demand to educate students for the principles of their country's tax system. It is considered that educating students about taxation will enable them to have basic knowledge and make informed decisions about their tax affairs. Increasing the level of taxpayers' knowledge about taxes will result in an increase in the level of the country's tax compliance rate and ultimately lead to an overall in-crease in government revenue [20].

Lack of understanding of tax laws causes non-compliance with tax laws or tax evasion, which later results in the government losing revenue and not being able to pro-vide basic social services to citizens [21].

What is known about the impact of education on tax compliance comes from student questionnaires. The limitations of these studies are that they have been based either on a limited number of student questionnaires or on country-specific surveys. Regarding the results obtained from studies based on student questionnaires [22] analyze the responses of 157 students from two universities, one in the US and the other in Hong Kong. They observe a negative relationship between educational attainment and tax compliance. Study [23] compare surveys of students from six countries and obtain mixed results on the relationship between education and tax compliance. In Brazil, Russia and China, individuals with low levels of education are more opposed to tax evasion, while in India and the US, individuals with higher levels of education show higher tax ethics. In contrast, in Germany, it is people with a medium level of education who show the lowest levels of tax compliance.

The Netherland [23] survey showed that among the 2951 respondents the probability of committing tax fraud increases with years of education. Studies that identify a positive relationship between education and tax morale are i. [24] analyses the relationship between direct democracy and tax ethics for Switzerland, ii. [25] investigation of the relationship between patriotism and tax ethics and iii. [26] examination of the effect of tax ethics on tax compliance for US and Turkey. This paper aims to examine how the education help the taxpayers to get tax compliance.

3 Research Methodology

In this paper the method that was followed is the quantitative method, using SPSS statistical method with questionnaire distribution. It involves the utilization and analysis of numerical data using specific statistical techniques to answer questions such as who, how much, what, where, when, how many and how [27]. Describe quantitative research methods as the explanation of an issue or phenomenon through the collection of data in numerical form and analysis using mathematical methods. This study examines the effectiveness of the Greek education system in shaping the tax consciousness of citizens. For the purpose of this pilot study, the group to be analyzed is undergraduate students and a questionnaire was used for data collection.

We aimed to assess the participants' exposure to the Greek tax regime and their respective attitudes towards it. In this way, the survey sought to ascertain whether participants would consider formal tax education, during their secondary education, useful or applicable to their future obligations as taxpayers.

Based on the literature review, the research questions on which this study is based are presented below: What is tax compliance? What factors affect tax compliance? What is tax evasion and what factors drive at tax evasion? What is tax ethics and how can tax ethics be cultivated? Can tax compliance be formed through education? How does education shape tax awareness? Also, based on the quantitative research that was conducted, the following research questions are presented: What are the students' views in relation to the tax knowledge they have received during their education? Is the education system effective in terms of forming tax-conscious citizens? Finally, based on the findings: What changes in the education system could contribute to improving the tax awareness of citizens?

The survey questionnaire consisted of 25 questions (Likert scale), which was selected based on their ability to address the following components:

- Personal and demographic information,
- Previous exposure to tax education as provided during the participants' secondary schooling,
- Knowledge of taxation and related attitudes toward tax compliance,
- Perception on the introduction of compulsory tax education in the secondary school curriculum in Greece,
- Perceived areas of importance in financial literacy,
- Students' beliefs about the Greek tax system.

The participants in the research were 52 students from different universities in Greece. The sample consisted of male and female students aged 18 to 27 years and over, representing a range of demographic characteristics. The participation was voluntary.

4 Results

Descriptive statistical analysis was conducted to summarize and describe the demographic characteristics of the participants, as well as their level of tax knowledge, their perception of the Greek tax system and other relevant variables.

Percentages of responses for each gender category were calculated. The genders are roughly evenly distributed (27 males and 25 females). The majority were Male (51.9%), with 48.1% as Female.

Response rates were analysed for each age category (18–22, 23–27, 28 and over). Most participants were in the 18–22 age category, representing 82.7% of the sample. A smaller percentage of participants were in the 23–27 age category (15.4%) and only one participant (1.9%) was in the 28 and over age category.

The response rates for each category of marital status (Married, Unmarried, Divorced) were examined. All participants reported that they were unmarried.

The percentages of responses for each citizenship category were calculated. The majority of participants (88.5%) were Greek citizens (46 participants), while 11.5% indicated that they were not Greek citizens (6 participants).

The distribution of responses on current employment status was analysed. Participants reported 40.4% "not currently working", 21.2% "Occasional employment", 23.1% "Part-time employment" and 15.4% "Full-time employment".

Percentages of responses for each year of graduation were examined. The sample had an average graduation year of 2019, with a standard deviation of 1,429. The most common graduation year was 2019, representing 34.6% of the co-participants. Other graduation years included 2016 (7.7%), 2017 (7.7%), 2018 (3.8%), 2020 (34.6%), 2021 (7.7%), and 2022 (3.8%). The range of graduation years was from 2016 to 2022.

The majority of students (88.5%) stating that their school did not provide courses or educational programs that explained the purpose of taxation. Respondents were asked to select courses related to taxation from a list of options. The results are as follows:

According to the table above, the most frequently reported courses related to taxation were accounting (53.8%), mathematics (38.5%) and principles of economic theory (48.1%). However, a significant percentage of participants (23.1%) reported that none of the reported courses were related to taxation (Table 1).

The results presented in Table 2 illustrate the distribution of knowledge levels among respondents at graduation in various tax-related areas. Regarding the level of knowledge in the area of "Purpose of Taxation in Society" 23.1% of the sample have "Very Poor" level of knowledge, 30.8% "Poor", while 28.8% indicated "Moderate" level. A smaller percentage of people, 15.4%, chose "Good" and only 1.9% achieved an "Excellent" level of knowledge.

When assessing "General understanding of tax obligations", the respondents reported 32.7% "Very Poor" level of knowledge, 34.6% "Poor". The "Moderate" level of knowledge was 26.9% and only 5.8% claimed to have "Good" level.

Table 1 Frequency and percentages of courses related to taxation

Category of course	Frequency	Percentage (%)
Accounting	28	53.8
History	2	3.8
Household Economy	12	23.1
Humanities and Social Sciences	1	1.9
Mathematics	20	38.5
Principles of Economic Theory	25	48.1
Social and Civic Education	15	28.8
None of the above	12	23.1

Table 2 Knowledge level when you leave the school

Knowledge level	Purpose of taxation in society (%)	General understanding of tax obligations (%)	Where to get help with tax obligations (%)	How to complete tax declaration (%)	How to understand a clearance note (%)
Very Poor	23.1	32.7	25	48.1	51.9
Poor	30.8	34.6	26.9	30.8	26.9
Moderate	28.8	26.9	42.3	17.3	13.5
Good	15.4	5.8	1.9	–	3.8
Excellent	1.9	–	3.8	3.8	3.8
Total	100	100	100	100	100

Regarding knowledge in the area of "Where to get help with tax obligations", 25% of respondents reported "Very poor" level, 26.9% "Poor", 42.3% reported "Moderate", a small percentage 1.9% chose "Good" and 3.8% reported an "Excellent" level of knowledge.

Respondents' knowledge of "How to complete a tax return" revealed that 48.1% had "Very poor" level, 30.8% were "Poor" category, 17.3% showed "Medium", no data available for the "Good" and 3.8% of respondents indicated that they possessed an "Excellent" level of knowledge.

Finally, the question "How to understand a clearance note", the majority of respondents (51.9%) reported "Very poor" level of knowledge, 26.9% "Poor", 13.5% "Moderate", while 3.8% indicated "Good" and "Excellent" level of knowledge.

Overall, the results depicted in Table 2 highlight a significant knowledge gap among respondents at graduation on various aspects of taxation. The majority of individuals demonstrated "Poor" or "Very Poor" levels of knowledge in all areas assessed, highlighting the need for improved education and awareness of tax issues.

From Table 3 can be understood that among the participants, 28.8% mentioned that a family member helped them in filing their first income tax declaration, 7.7% stated that they filled it by themselves, 32.7% stated that they had not filed tax declaration, while 30.8% asked for help from tax adviser or accountant.

Participants were asked if they had gained additional tax knowledge since graduating from school, where 69.2% responded "Yes" and 30.8% "No". Multiple sets of responses were defined, categorizing the sources into six options: attending tax seminars, personal study, relatives/friends, searching tax websites, university and workplace. The results showed that attending tax seminars was reported by 2.6% of the participants, while personal study 10.5%. The majority of participants (68.4%) reported that they gained additional tax knowledge from relatives or friends. Also searching to websites 13.2%, University 15.8% and workplace by 39.5% of participants.

Question to the participants whether they thought it would be beneficial to receive tax knowledge during school revealed that out of 52 participants, 3.8% answered "No", while the majority (96.2%) answered "Yes".

When asked whether participants believe that students should know the Greek tax system in order to understand their rights as taxpayers when they start working, 3.8% of participants answered "No", while the majority (96.2%) answered "Yes".

Table 3 Assistance for submission first income tax declaration

Assistance Provider	Frequency	Percentage (%)
Member of the family	15	28.8
I filled it by myself	4	7.7
I have not submitted tax declaration	17	32.7
Tax adviser/accountant	16	30.8
Total	52	100

Asking the participants if they believe that students need to know about the Greek tax system, in order to understand how taxes contribute to society, all 52 participants (100%) answered "Yes" (Table 4).

On the introduction of educational programs in schools. This question explored six different statements related to the impact and necessity of such programs.

Regarding the statement "The introduction of educational programs in schools will contribute positively to fostering tax awareness among today's students and later active citizens", the majority of participants (51.9%) expressed their agreement, 28.8% agree a little with this statement, while 3.8% slightly disagreed and 15.4% said they did not know.

Concerning the statement "The introduction of educational programs in schools is necessary", a significant number of participants (50.0%) agreed with this perception, 36.5% agreed a little, 5.8% totally disagree, 3.8% disagreed a little, while some respondents (3.8%) said they did not know.

For the statement "The introduction of educational programs in schools does not make sense", the majority of participants (55.8%) totally disagreed, 26.9% disagreed a little, 7.7% agree a little, 5.8% agree and a small fraction (3.8%) said they did not know.

Regarding the statement "The introduction of educational programs in schools will not have the desired results", a significant number of participants (34.6%) disagreed a little, 19.2% totally disagree, 21.2% agree a little, 11.5% expressed agreement and 13.5% said they did not know.

In relation to the statement "The introduction of educational programs in schools is a positive initiative", a significant majority of respondents (65.4%) agreed with

Table 4 Introduction of educational programs at schools

	…will contribute positively to the cultivation of tax awareness among today's students and future active citizens	…is necessary	…does not make sense	… will not have the desired results	…is a positive initiative	…can set the basis for students to become familiar with concepts and situations they will face in the future
I totally disagree	–	5.8	55.8	19.2	1.9	1.9
I disagree a little	3.8	3.8	26.9	34.6	–	3.8
I agree a little	28.8	36.5	7.7	21.2	30.8	32.7
Agree	51.9	50.0	5.8	11.5	65.4	61.5
I don't know	15.4	3.8	3.8	13.5	1.9	–

this statement, 30.8% agree a little, while only a small percentage totally disagree 1.9% and respectively said they did not know.

Finally, concerning the statement "The introduction of educational programmes in schools can lay the foundations for students to become familiar with concepts and situations they will face in the future", the majority of participants (61.5%) expressed agreement, a significant percentage (32.7%) agree a little, while a smaller percentage (3.8%) disagree a little and 1.9% totally disagreed.

5 Conclusions

This study provides valuable insights into the formation of tax awareness among young people in Greece, their level of tax compliance and their perceptions of the Greek tax system.

An important finding is the lack of tax education in secondary schools, as indicated by the majority of participants who reported the absence of courses or educational programs explaining the purpose of taxation. This highlights a gap in tax education in secondary education in Greece. In addition, participants' knowledge levels at school graduation were generally low in various areas related to taxation, highlighting the need for improved tax education and awareness among young people.

In terms of tax compliance, a significant proportion of participants sought help from family members or tax professionals when filing their first income tax declaration. Only a small percentage of them said they completed it themselves, and among these participants, the majority were not confident in their ability to do it correctly. This underlines the need to provide adequate support and guidance to young people in meeting their tax obligations.

Gaining additional tax knowledge since graduating from school was reported by the majority of participants, with informal sources such as relatives, friends, the workplace and personal study being the most common. All these findings underscore the importance of tax education.

The study suggests the need for targeted interventions to improve tax education, awareness and compliance among young people in Greece. Education plays a crucial role in shaping tax compliance. By providing individuals and businesses with the necessary knowledge and understanding of tax laws, rights and responsibilities, education can promote tax compliance. It helps individuals understand the importance of complying with tax laws, the consequences of non-compliance and the benefits of a well-functioning tax system.

A limitation of this research is the research sample of 52 students. The sample size is relatively small, which may limit the generalizability of the findings. Also, the use of self-reported data is subject to potential biases and inaccuracies. Despite these limitations, the study provides valuable insights into the relationship between secondary education and tax awareness among young people in Greece.

Based on the findings of the survey, there are several possible suggestions for further research and consideration. Future research with a larger and more diverse sample is recommended to validate and extend these findings, considering other factors that may influence participants' knowledge levels. By including participants from various demographic backgrounds, socio-economic situations and educational levels, the study may provide a more comprehensive understanding of tax awareness and attitudes towards the tax system at Greece.

The comparison of findings from the Greek tax system with the tax systems of other countries can provide valuable insights into cross-cultural differences in tax awareness and compliance. Conducting a comparative analysis will involve examining tax education practices, levels of tax compliance and perceptions of the tax system among young people in different countries.

Supplementing quantitative data with qualitative research methods can provide a deeper understanding of the factors that influence tax awareness and behaviours. Conducting interviews or surveys with open-ended questions can capture participants' views, experiences and suggestions for improving tax education. These qualitative data can help reveal factors that may not be captured through quantitative analysis alone. Universities may contribute for the qualification of potential employees [28–30].

By pursuing these future research directions, a more nuanced understanding of tax compliance and education among young people in Greece can be achieved. These suggestions can contribute to the development of evidence-based policy and educational interventions aimed at improving tax literacy, promoting tax compliance and promoting a fair and transparent tax system in Greece and possibly in other countries.

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Social Problems and Innovative Solutions: Social Entrepreneurship in Brasov County, Romania

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Abstract In a complex world there are various conditions for the generation of a vast palette of social problems, which alter the quality of life for individuals, communities and society. For these problems, the solutions are designed by decisional factors (international, national or local ones) or they are emerging in a bottom-up manner (created by actors in civil society), or a combination of them. This paper aims to explore the linkage between social problems, social innovation and social entrepreneurship, with focus on Romanian context. Social entrepreneurship is a way to find new solutions to complex social problems and a generator of sustainable development of the communities and society at large. Aspects related to the macro-social framework of the social economy in Romania are highlighted. Then, the focus is on a local community, in order to describe some of its challenges and investigate mechanisms to solve these social problems. Using case studies, the paper draws on the experiences of entrepreneurs or intrapreneurs who have succeeded in developing or growing social enterprises. The exploration of their experience intends to clarify what works, and can be seen as a model of good practice.

Keywords Social Problems · Social Innovation · Social Entrepreneurship · Social Enterprises

1 Introduction

Sustainable development involves an activity upheld by projects for the present that will support the community in the future. The main three pillars of sustainable development are: social sustainability, economic sustainability and environmental sustainability [1]. Hence, human, economic and natural capital should all be taken into consideration in each action or decision, in order to overcome the severe problems and challenges, to achieve responsible and sustainable development of that community. Appropriate decisions to achieve sustainable development goals can be

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made either from top down by decisional factors (international, national or local ones) or from the bottom up (through responsible daily choices made by citizens or organizations).

2 Theoretical Framework

Social reality can be analyzed and explained from different perspectives. In the case of social problems, the main frameworks of theoretical analysis on the basis of which they can be defined and explained are symbolic interactionism, functionalism and conflict theory [2]. A more specific approach for understanding social problems is self-determination theory, which suggests that all humans have three basic psychological need (autonomy, competence, and relatedness), that contribute to growth and development [3]. Modern social assistance regards the clients as partners in the change process, being interested in their empowerment. In this context, the existence/the absence of a professional environment generate important consequences in a vulnerable person's life: co-workers, managers, organizational culture can promote or get in the way of this person's strivings to grow, by the extent to which they support a person's basic psychological needs, and contribute to the social integration.

Nonprofit organizations provide certain basic goods and social services (such as education, vocational training, social interactions, and health care) that society believes the market alone will not adequately provide [4]. In a qualitative research carried out with social workers from nonprofit organizations [2], we discovered main problems that Brasov County is facing: poverty, school dropout, lack of education, lack of interest for work, juvenile delinquency, domestic violence, the prejudices of employers towards the candidates who are part of vulnerable or risk groups, etc. According to article 6 letter p) of the Social Assistance Law from Romania, the vulnerable group designates persons or families who are at risk of losing their ability to meet daily living needs due to illness, disability, poverty, drug or alcohol addiction or other situations which lead to economic and social vulnerability [5]. These groups are more exposed to experience either a single type of social problem or a mix of them.

In a world where everything changes in a blink of eye, the field of approaching social problems have left no chance but to catch up. The logic of innovation in dealing with social problems is quite simple: knowledge drives innovation, innovation drives productivity; productivity drives economic growth; economic growth drives sustainable complex development. Social innovation is the act of creating new solutions (products, services, business models, industries, or processes) that simultaneously satisfies the social need and enhances the capacity of society to act [6]. And social entrepreneurship is an important context and source of social innovation.

In Romania, the field of social economy is regulated by Law no. 219/2015, with subsequent amendments and additions [7]. Social economy contributes to the development of local communities, the creation of jobs, the involvement of people belonging to vulnerable groups, in social and/or economic activities, facilitating their access to community resources and services. The social enterprises develop a sustainable business model, in order to attain one or more of the 17 sustainable goals developed by the UN; they implement an innovative business models creating social change. Business entrepreneurs are focused on the profit gained by satisfying the needs of their customers to extend the influence of their business to an even greater number of people, while social entrepreneurs, on the other hand, focus on the wellbeing of people and the development of the community they are part of.

3 Methodology

In the current research, the case study method was used to illustrate good practice models in the initiation and development of social economy activities in two organizations from the city of Brasov. According to the typology proposed by Stake [8], the case studies carried out can be considered intrinsic (which aim to understand and investigate a particular case as thoroughly as possible; the cases are chosen because they represent interest in themselves, through their particularities) and instrumental (the chosen cases are used as a tool, being chosen because we expect them to help us in understanding how to create sustainable business models for social development).

The selection of the organizations, presented in the following section as models of good practice in the social economy sector, was made using the following criteria: to be active in Brasov County; to have a legal form that allows the running of social economy activities according to the law; to actually carry out economic activities having as employees or as beneficiaries persons from vulnerable groups; to have notoriety in the community. In Brasov County, in 2023, there are 138 social enterprises, according to "The single record register of social enterprises", published by the National Employment Agency [9]. After they were qualified based on the criteria, the first randomly selected organization from this list is Ophori Cosmetics SRL [10]—the only social enterprise for insertion in Brasov County and an authorized protected unit, in the production of cosmetics. The second randomly selected organization is Agapedia Romania Foundation [11], which is a well-known organization in the local community, being involved in different networks, projects and partnerships, with a consistent experience in offering social services and educational programs.

In the analysis of each organization, both empirical data, as well as social documents have been used. For the data collected directly from the field, we conducted individual, semi-structured interviews, with one person from the management team of each organization (with B.D., the administrator from Ophori, and with L.G., the executive director from Agapedia). The research instrument was the interview guide, which included the following topics of discussion: the emergence of the social business idea and the motivation for its implementation, stages in the development of the social economy activity, challenges, solutions and lessons learned, results and successes achieved, plans for future. The analysis of the data thus collected was carried out using thematic coding. The method of collecting and analyzing social documents have also been used, which involves searching, identifying, collecting already existing documents and carrying out a content analysis.

Both organizations presented as case studies in the present paper agree to have their names published. This agreement was obtained during the conversations with their representatives.

4 Models of Good Practice in Social Economy from Brasov City

OPHORI—HANDMADE COSMETICS is a laboratory that produces sustainable handmade cosmetics. Their entire production staff is made up of people with disabilities. As a social enterprise for insertion, the company reinvests the entire profit back in the community, directly by creating and adapting jobs for vulnerable people and providing support services to these people. The mission of the protected unit OPHORI is to create jobs for people with disabilities, to support their transformation from the status of socially assisted persons to autonomous ones, but also to adapt these jobs to be competitive on the market and full of satisfaction for employees [10]. The management team also plans to improve some manufacturing processes so that they can be undertaken by people with a wider range of disabilities. B.D., which is a social entrepreneur, co-founder and the administrator of the OPHORI, shares that each step in the development of the company required various forms of financing. In the first stage of a small occupational therapy workshop, they was financed by donations and small private projects. In the next phase, OPHORI was developed as a social enterprise within the financing program "Social Enterprises Accelerator", implemented by the "Alături de Voi" (ADV) Romania Foundation in partnership with Fonduri-Structurale.ro, co-financed by the European Social Fund.

The promotion of the social enterprise mission and their handmade products is carried out in online environment, on several platforms, among which can be mentioned: their own website, Facebook, Instagram, LinkedIn, YouTube, Pinterest, Romanian online trading platform eMAG, platform BINE PRIMIT (for selling products made by social entrepreneurs, nonprofit organizations or initiatives with social and environmental impact in Romania), Etsy and so on. And they also participate in local fairs, where they interact directly with potential clients OPHORI have the same issues as other businesses, especially in production: the lack of providers in the area, price increases for raw materials, competition etc., as the interviewed administrator explains. Specifically, one of the biggest difficulties consists in higher production costs compared to the competition: "all people in production have disabilities and a work capacity reduced to at least half. This brings higher costs because fewer products can be made in a set period of time. At the same time, the accompanying measures needed for professional integration come with additional costs" (B.D.). Another issue is represented by the negative mentality of the general public regarding the quality of products manufactured by people with disabilities. Disability is often associated with low quality "we often encounter people who do not trust the Ophori products because they were manufactured by adults with disabilities. Even if the products are appreciated now, we think the local and national market is not ready to purchase products from enterprises such as Ophori" (B.D.).

Among the constraints of a social enterprise, the administrator of OPHORI mentioned: achieving social impact (hiring people with disabilities and selling all products in recyclable packaging); yearly reporting (they have to present a social activity report to the institution that authorities them—The County Employment Agency), allotting at least 90% of the profit to the social cause (which "can take several forms such as creating new jobs, adapting them, offering counseling services for employees etc."), ensuring equitable salary levels to combat the maneuver of "hiring cheap labor but having big salaries for owners" ("within Ophori there can be no salary differences greater than 1 to 8 between the smallest and the highest salary") (B.D.).

Some of the company's achievements are: (a) OPHORI is the first social enterprise for insertion in Brasov County and the only laboratory of personal care, cleaning and aromatic products, handmade by people with disabilities in Romania; (b) among the companies in Brasov with CAEN code 2042 (manufacture of perfumes and cosmetic products), in 2021 OPHORI COSMETICS ranked on 1st place regarding the number of employees and 2nd regarding the income; "The revenues obtained were used for the creation and adaptation of jobs for people with disabilities in their laboratory, as well as in the workshops held in partnership with local NGOs for vulnerable people"; (c) increasing the number of products: "from 5 in 2021 to 25 at the end of 2022, and we will develop at least 5 more by the end of 2023" (B.D.); (d) very satisfied staff and a maximum retention rate at work. Furthermore, Bogdan Dimciu, the administrator of the company, has been mapped on Ashoka Changemaker Map of 2022 and obtained the distinction of being one of the top social innovators of a private organization [12].

Emphasizing the specifics of running a social enterprise, the interviewed administrator of the OPHORI company considers that the management of an social enterprise for insertion requires a lot of sacrifice, patience and resilience ("to face the challenges and risks that are much greater than a classic economic company"), and the willingness to learn permanently ("without knowledge it is very easy to go from wanting to help to doing more harm, especially by hiring people who have long wanted a job, only to be fired in a few months because the business is not sustainable or their performance is not as expected by entrepreneurs") (B.D.). All the difficulties mentioned before, combined with a lack of support from the state, means that "managing a social enterprise of insertion is very difficult, a reason for the small number of them", underlines the administrator (B.D.). The main challenge has always been related to financial flow: "As a business started from scratch, each stage of development had different needs, but all could be solved by the presence of financial resources" (B.D.).

As future plans, the OPHORI team intends to focus on innovating their sales methods (for example, opening a physical store that allows direct interaction with potential customers, and that contributes to the creation of new jobs for people with disabilities), their promoting strategy for reaching new customers, "because the more we sell, the greater the social impact will be" (B.D.). The social enterprise OPHORI benefited from support from the community, materialized in different forms: partnership with Ana Spa Poiana Brasov, a part of Ana Hotels (their involvement consists in purchasing spa products, with the aim of creating new jobs for these special people); recurrent purchases from loyal customers who support the social mission of the company; the involvement of people from the community in the process of new product development.

AGAPEDIA Foundation Romania is a non-profit organization, which was established in 1995; it has over 25 years of experience in the development of social, medical and educational services for socially marginalized people. Their mission is to improve the quality of life for children and families in difficulty, to contribute to the development of the child protection system and to create effective social and medical services [11]. Recently, a growing number of nonprofit organizations have sought additional income. Through business practices, non-profit organizations have the opportunity to obtain additional resources from the exploitation of products/services from their activities, which can lead to self-sustainability and financial autonomy [4]. This is also the case of AGAPEDIA Foundation Romania, who noticed that after Romania entered the EU, donations from abroad began to decrease. For the sustainability of its mission, AGAPEDIA Foundation Romania carries out economic activities, under the generic name "Agapedia Social Bizz". The income from the economic activities contributes to the support of the educational program dedicated to children with reduced medical and educational opportunities from the partner schools [11].

The economic activities carried out currently by the foundation are the following: (a) renting a room for tourist accommodation "Cozy Room AGAPEDIA", (b) renting a hall for events, in the Agapedia attic, (c) renting an office room. Cozy Room AGAPEDIA is a space for rent, furnished and specially equipped for tourists who want to explore Brasov and its surroundings. The room for rent for tourists is located in the attic of the Agapedia house, the current headquarters of the Agapedia Romania foundation. The location is in the central area of Brasov, a 15-min walk from the historic center. Having a separate entrance with access to the garden and the parking space, the room has its own bathroom, toiletries, towels, mini fridge, kettle, coffee machine. The parking space in the yard and the garden are available to tourists. Reservations are made through the Airbnb and Booking platforms [11]. On Booking Platform, Cozy Room AGAPEDIA has 27 reviews, obtaining a high overall score of 9.4 (superb accommodation). Among the most appreciated elements found in the tourists' reviews are: the warm welcome, friendly and helpful staff, impeccable cleanliness, access to the garden, tranquility, the welcome gift, the proximity to the city center. From the interview conducted with the executive director of the foundation, it emerged that the beginnings of the design of this economic activity are already approximately 9 years old: "The idea of renting a room for tourist accommodation came to us around 2014–2015. We first started through the Airbnb platform, then we started collaborating with the Booking platform" (L.G.). The motivation for starting this type of economic activity is represented by the desire to support the socio-educational activities that they provided at that time. The main aspects taken into account in the design of the room for hosting tourists were: "First of all, we wanted to see what the conditions are to register on the Airbnb platform, what type of furniture is suitable and how we can use the space, what other accommodation spaces are in the area, what are the prices charged for a similar space" (L.G.). The whole team got involved in this process: "Everyone had something to do and it gave us great pleasure when we had the first guests" (L.G.). Every beginning has also some challenges. Those who manage this room for accommodation felt their lack of experience in the tourist field, encountered some discontent from tourists and difficulties in making check in and check out: "At the beginning, we encountered some claims or even complaints from some tourists, opinions that we tried to take into account and adapt according to their request, as we had no experience in the field at the beginning of this activity", says the executive manager (L.G.). Over time, they discovered that this type of economic activity requires personnel dedicated only to these attributions, in order not to interfere with the basic socio-educational activities of the foundation: "If we want the economic activity to work very well, we need personnel who can effectively organize and carry out only this aspect in the organization" (L.G.), according to the executive manager. In 2021, Cozy Room Agapedia hosted tourists for 137 nights. The next year, in 2022, they hosted tourists for 94 nights of accommodation, and for 3 months, it was home for a volunteer from Thailand, recording a total of 186 nights of accommodation [11]. They also offer for renting the event hall in the attic—which has an area of 77 m^2, 2 toilets and 1 buffet for serving snacks, being ideal for creative activities, educational workshops, courses, conferences, meetings, workshops; equipped with video projector, projection screen, flipchart, paper, markers—and an office room, suitable as counseling office; one-on-one sessions; individual office (furnished, equipped with Wi-Fi, printer, copier).

The sources of income obtained by AGAPEDIA Foundation Romania in 2022 and their share of the total are distributed as follows: Agapedia Germany 50%, EU Funds 36.3%, Economic activities 12.8%, Donations, sponsorships 0.8% [11]. In 2021, the revenues from economic activities were at a higher level: "all the income obtained from the economic activities represents a percentage of 23% of the total income" (L.G.), states the executive director of the foundation. The future plans related to economic activity in Agapedia assume the continuation of the rental of the available spaces (attic, offices, garden, the Cozy Room Agapedia) and offer paid educational services for children and adults.

5 Discussion and Conclusions

As it emerged from the presented case studies, social entrepreneurs and intrapreneurs are people who search and find innovative solutions to the greatest societal challenges (social, economic or environmental), and then develop them to become sustainable social businesses. Social entrepreneurship is an area with significant potential in ameliorating or solving diversity of social problems, not yet exploited enough in Romania. Because nonprofit organizations face more competition for fewer donations and grants, they need to develop new skills for discovering and implementing innovative commercial ways to raise more funds, including skills that involve using immersive and new technologies. The results of the present study cannot be generalizable, instead the presented case studies can serve as a framework to be followed for cases from other counties in Romania or from other countries in EU, which share a similar vision for social economy. A limit of the present study is the small number of case studies. Further research may take place for other companies based on the themes analyzed and emerged from this study. A topic that emerged from the interviews, which deserves to be further explored, refers to the support that the members of a community and public authorities can offer to social enterprises in order to bring added value to the life of the community.

From a practical standpoint, this paper may be useful for management teams from social sector to develop leadership policies and training programs for their employees, with focus on basic and advanced entrepreneurial skills, to create and manage entrepreneurial activities, to improve individual and organizational performance. These ideas may also help university teaching stuff to emphasize to their students the importance of innovation in addressing community social problems and to develop up-to-date and applied curricula on social innovation and social economy fields. Academic entrepreneurship could model younger generations and may contribute to innovation and technology transfer [13]. The training of future specialists, familiar with these aspects of interventional practice in amelioration of social problems, will speed up their integration in the professional space and will bring added value to the development of sustainable social programs. The present analyze can also help opinion makers and decision makers to become more involved in promoting innovative ways to approach social problems within a community sustainable development strategy. The role of the community itself for developing the social economy sector is crucial, by buying products and services from these social enterprises, by encouraging employment of vulnerable people and a more tolerant attitude to them as co-workers.

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A Multi-criteria Analysis Method for the Evaluation of University Students' Satisfaction

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Abstract During the last few decades one of the most important factors in a Higher Education Institution (HEI) is the students' satisfaction. University students' satisfaction measurement should be one of the core processes of a HEI. The aim of this research is to measure and analyse students' satisfaction for a business administration department of a Greek public university based on MUSA. The research results were based on the analysis of a convenient sample based on 387 questionnaires which were collected during the period between October to November 2021. One method of analysis that can be used for analysis is the multicriteria MUSA (Multicriteria Satisfaction Analysis) method. MUSA is an ordinal regression model which is based on the principles of multi-criteria decision analysis. The results show that the level of service which provided by the department of business administration is satisfactory (86.3%). Through this survey, decision-makers can learn how students view the services which receive from university and which aspects of student's satisfaction need to be enhanced.

Keywords Business students · Student satisfaction · Multicriteria analysis · MUSA methodology

1 Introduction

Over the past decades, one of the fastest growing and competitive industries around the world is the higher education industry. The higher education industry is a very important industry for a country's economic progress [1]. Good management practices and high-level performance are needed to every higher education organisation. The higher education industry currently faces considerable strategic challenges to become more responsive to students' demands by simultaneously improving efficiency and quality. In recent years it has become apparent that modern HEI place more emphasis on students' feedback on issues related to satisfaction levels as well as

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service quality [2]. More and more universities around the world recognize the importance of students' satisfaction as a strategic tool and determinant of long-term sustainability and economic growth. Quality and university students' satisfaction are key drivers of university performance. University performance is an important component in determining the successful organization and operation of a HEI. The quality management approach at higher education services discloses important particularities, creating a symbiosis between prospects, theoretical concepts, and the necessity of fundamental decisions to be undertaken [3].

As the production and delivery of a service heavily depends on the people who provide those, fluctuations in the quality of the service will be evident [4]. The difference, for instance, between two HEI probably lies in the service quality that academic and administrative staff are delivering to students. Equally important is the fact that services which offered to the university students cannot be "checked for conformance with quality standards before reaching the customer as they are usually produced and consumed under real-time conditions". Inconsistency of services, therefore, can only be penetrated through evaluating university students' satisfaction [5]. The main objective of this study is to determine students' satisfaction with the services which they receive from a public university in Greece and the factors that influence their satisfaction.

2 Literature Review

The concept of university students' satisfaction, has puzzled researchers since the beginning of the twentieth century. The opportunity to understand the causes of university students' behaviour and predict future outcomes presents itself as the ideal proposition for any university across the globe [6]. Although the definitions of student's satisfactions in higher education vary depending on the aspect the researcher has chosen to focus on, researchers tend to agree that the term refers to the attitude of the students towards to the services which receive from the university. The quality of a HEI services provided, are determined indirectly but also essentially by the nature of the services provided. It is therefore to be expected that student's satisfaction with the quality of a HEI service will be determined indirectly by various factors [7]. At the same time, a HEI has its own special features which, with all the above, affect the final result and determine students' satisfaction. Such factors can be about building installations, lecture halls, hall equipment, laboratories, variety of courses, semester workload, study material, internet access and administrative services, secretariat operating hours, ease of access to student services [8].

Students' satisfaction in higher education means that students need is met, services are considered satisfactory and therefore the experience is positive. It is especially important to denote that the management of a HEI should use measuring tools for university students' satisfaction and loyalty. All the above satisfaction dimensions give the service, a form of flexibility and subjectivity the quality of which is difficult to be examined or judged individually either by the recipient of the service (student) or by even the service provider (HEI) [9]. Thus, quality students' service, is a necessity for the satisfaction of increasingly demanding customers and the build-up of closer and more enduring relationships with them. Moreover, students; satisfaction can be used as "a competitive weapon in order to differentiate a service and gain competitive advantage" [10]. Concerning university students' satisfaction, there are several scientific papers that try to discover the factors associated with students' satisfaction within an educational institute. As shown, the factors related to university students' satisfaction are clearly multi-factorial and differ from person to person, and from university to university [11]. Browne et al. [12] in his research found that total satisfaction from a HEI was driven by a student's assessment of the quality of the course and the curriculum. Mai [13] finds that the impression of the quality of education, the lecturers' responses towards complaints/suggestions and the availability of study areas for students have a positive influence on university student total satisfaction. The results of a study by Kärnä et al. [14] find that University facilities, and the management of these facilities play an important role on university student total satisfaction. Wach et al. [15] measured university students' satisfaction using the following dimensions: the content of learning, the conditions of learning and the personal coping with learning.

3 Methodology

For the purposes of this research, an electronic questionnaire was used for data collection. The survey ran during October to November 2021. A total of 387 questionnaires were collected from students at the University of West Attica, Greece—Business Administration Department. In this paper, university students' satisfaction criteria and subcriteria are selected based on an extensive review of the relevant literature [16–20]. The main criteria which selected to determine students' satisfaction were associated with Study Program, Academic Staff, Infrastructures, Secretariat, Web page. For each of these criteria, a number of sub-criteria were selected. The satisfaction criteria and subcriteria are provided in Table 1.

The satisfaction survey results were based on MUSA's multi-criteria model (Multi-criteria Satisfaction Analysis). The Multi-criteria Satisfaction Analysis (MUSA) method was used to measure customer satisfaction. The technique is an ordinal–regression-based approach used to assess a set of collective satisfaction functions so that the global satisfaction criterion becomes as consistent as possible with customers' judgments [21]. This method inferred an additive collective value function Y* and a set of partial satisfaction (value) functions Xi*, given customers' global satisfaction Y and partial satisfaction Xi according to the i–th criterion (ordinal scaling). The main research objective was to achieve the maximum consistency between the value function Y*and the customers' judgments Y. Based on the modelling of preference disaggregation approach [22], the ordinal regression equation was termed as follows:

Table 1 University students' satisfaction criteria and subcriteria

Criteria	Subcriteria
Study program	Scientific Aptitude, Variety of Courses, Semester Workload, Study Material, Teaching Hours Allocation, Labor Market Orientation, Teaching Staff-Student Ratio, Examination Procedure, Promotion & Support ERASMUS Programs
Academic staff	Scientific Training, Transmissibility, Consequence, Courtesy-Willingness, Professionalism, Objective Evaluation, Collaborativeness, Use of I.C.T., Teaching Methods
Infrastructures	Building Installations, Lecture Halls, Hall Equipment, Laboratories, Laboratory Equipment, Cleanliness, Air Conditioning, Accessibility, Health & Safety, Protection
Secretariat	Speed of service, Operating Hours, Willingness to Serve, Courtesy-Willingness, Professionalism, Phone Service, Immediate Update, Personnel Adequacy, Electronic Secretariat
Web page	Ease of Navigation, Structure, Aesthetic Design, Variety of Services, Speed, Update

$$\begin{cases} \mathrm{Y}^{*} = \sum_{i=1}^{n} b_i x_i^{*} \\ \sum_{i=1}^{n} b_i = 1 \end{cases} \tag{1}$$

where $\tilde{Y}^{*}$ represents the estimation of the global value function, n represents the number of criteria, bi is a positive weight of the i–th criterion, $\sigma +$ and $\sigma -$ are the overestimation and the underestimation errors, respectively, and the value functions Y* and Xi are normalized in the interval [0, 100]. The global and partial satisfaction Y* and Xi* are monotonic functions normalized in the interval [0, 100]. Thus, in order to reduce the size of the mathematical program, removing the monotonicity constraints for Y* and Xi*, the following transformation equations were utilized:

$$\begin{cases} z_m = y^{*m+1} - y^{*m} & \text{for } m = 1, 2 \ldots a - 1 \\ w_{ik} = b_i (x_i^{*k+1} - x_i^{*k}) & \text{for } k = 1, 2, \ldots a_i - 1 \;\kappa\alpha\iota\; i = 1, 2, \ldots, n \end{cases} \tag{2}$$

where y*m is the value of the ym satisfaction level, xi*k is the value of the xik satisfaction level, and α and αi are the number of global and partial satisfaction levels. According to the aforementioned definitions and the assumptions, the basic estimation model can be written in alignment with the following linear program formulation:

$$\begin{cases} [\min]F = \sum_{j=1}^{M} \sigma_j^+ + \sigma_j^- \\ \text{under the constraints:} \\ \sum_{i=1}^{n}\sum_{k=1}^{t_{ji}-1} w_{ik} - \sum_{m=1}^{t_j-1} z_m - \sigma_j^+ + \sigma_j^- = 0 \forall j = 1, 2, \ldots, M \\ \sum_{m=1}^{a-1} z_m = 100 \\ \sum_{i=1}^{n}\sum_{k=1}^{a_j-1} w_{ik} = 100 \\ z_m, w_{ik}, \sigma_j^+, \sigma_j^- \geq \forall m, i, k, j \end{cases} \tag{3}$$

where M is the number of customers, n is the number of criteria, and xi * j, y * j are the jth level on which variables Xi and Y were estimated. The method involves three main steps: (1) identifying the criteria that influence satisfaction, (2) collecting data on the perceived levels of satisfaction for each criterion, and (3) analyzing the data using mathematical techniques to generate an overall satisfaction score and identify the most influential criteria.

4 Results and Discussion

The results provide evidence about the students' global satisfaction in a HEI. Based on Fig. 1 the students seem to be very satisfied (86.3%) with the services they receive from the university.

Furthermore, based on Fig. 2, we see that the most important criterion for students' satisfaction is this of the "web page" (35.97%), followed by the criteria of "study

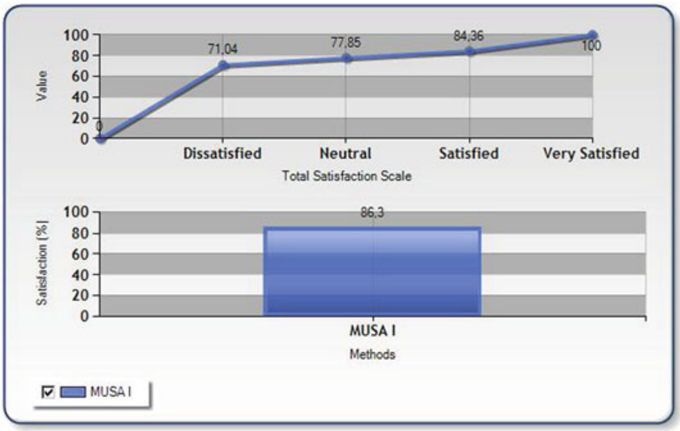

Fig. 1 Global satisfaction function

program" with a percentage of 30.6%, the "academic staff" (14%), and the "infrastructures" (10.22%). Finally, the criterion with the lowest performance is this of "secretariat" (9.22%).

Based on Fig. 3, it is obvious that the university students are totally satisfied regarding the "web page" quality (93.09%), and the "study program" (89.77%), while they are also very satisfied with the criterion of "academic staff" (80.76%). On the other hand, university students are not very satisfied with the criteria of "infrastructures" (69.64%) and the "secretariat" (57.04%).

The results of the action diagram (Fig. 4) indicate that the strong points of the ser-vices which offers the business administration department are the "web page" and "study program". The criteria "web page" and "study program" are located in the

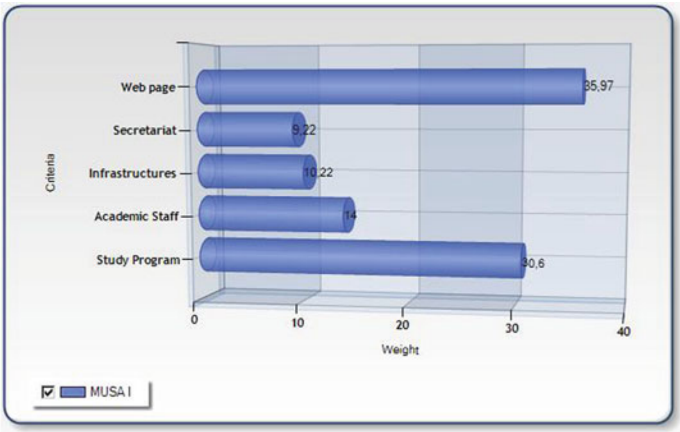

Fig. 2 Satisfaction criteria weights

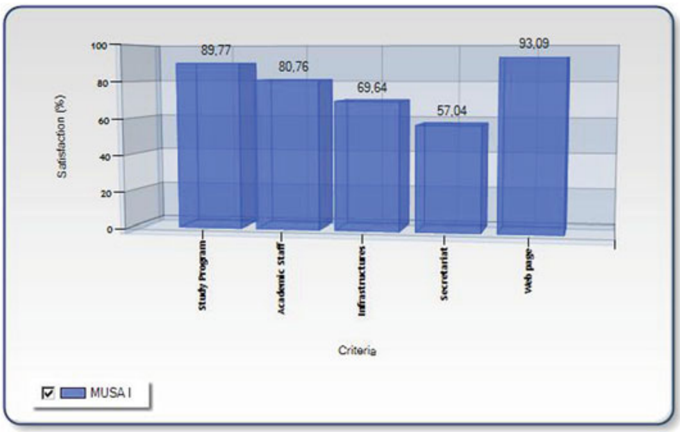

Fig. 3 Customer satisfaction with the main criteria

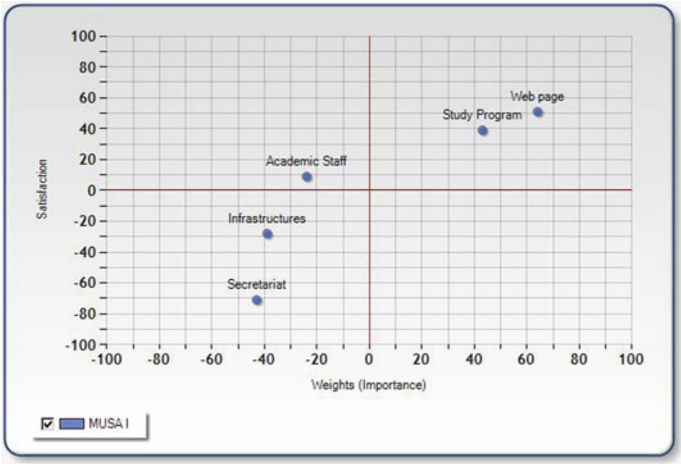

Fig. 4 Satisfaction criteria action diagram

leverage opportunity area of the action diagram, which means that these criteria are of high performance and importance. On the other hand, according action diagram the weak points of the services which offers the department to the students are the "infrastructures" and "secretariat". The criteria "infrastructures" and "secretariat" are located in the Status quo area of the action diagram, which means that these criteria are of low performance and importance.

5 Conclusions

In view of the foregoing analysis, we may terminate that the measurement of students' satisfaction in higher education is a strategic tool of university long-term sustainability and growth. The provision of high-quality services is ultimately to be understood as being a priority that is of the utmost importance for the sustainability of a competitive university. Thus, the provision of top-quality services over time is basically a kind of investment in the linkage between the customer of the service, but also the provider so that the relationship between them is founded on strong-fundamental values such as trust, faith and loyalty. All the above are essentially confirmed by the fact that the provision of high-quality services and the maintenance of it has become more subjects of research, study and analysis. There are quality systems assurances that are based on the features that are essential for a service be considered of high quality. Thus, the student's satisfaction and the service quality in higher education industry is now very composite and is influenced by many factors.

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Art Infusion to Increase Perceptions of Luxury: How Global Brands Leverage on Acculturation to Global Consumer Culture

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Abstract Luxury brands increasingly engage in art infusion in their marketing activities. While the positive outcomes these activities are linked to have been frequently discussed, the factors leading to these outcomes are not clear yet. This paper aims explore the mechanism through which positive outcomes from art infusion arise. We draw a connection to luxury brands' perceived brand globalness and consumers' acculturation to global consumer culture. To be specific, the indirect effect of perceived brand globalness on purchase intention through the serial mediation role of acculturation to global consumer culture and perceived luxuriousness is examined. A cross-sectional study was designed and a survey with a sample of 125 luxury consumers was launched, while the results confirmed our hypothesis. The study adds to the literature by explaining how acculturation to global consumer culture is linked to art infusion for luxury brands. Managerial implications and limitations are discussed.

Keywords Art infusion · Luxury · Perceived brand globalness · Acculturation to global consumer culture · Perceived luxuriousness

1 Introduction

Luxury companies are making greater use of the significant influence that the artistic ventures have in societal contexts. Luxury brands hope to shift consumers' perceptions of luxury from a fleeting notion to one that is profound, long-lasting, and

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representative of cultural taste through such a connection. What was initially tactical appears to be evolving into a crucial component of creating and upholding a luxury brand. A popular strategy for encouraging customers to purchase a brand is to include artistic elements [1]. This is especially true for luxury brands, which see the arts as a way to maintain their growth and increased presence while also reinforcing their perceptions of rarity and uniqueness. According to Kapferer [2], "artification: the process of transformation of non-art into art" has been studied by a number of researchers from both the managerial and the consumer perspectives. Despite the growing number of studies in the area, some researchers recommend that we continue to investigate the elements that influence how artification increases perceptions of prestige [3], while others advocate for examining consumer traits and situational cues at the same time [4]. This study aims to investigate the mechanism by which perceptions of luxury rise through artification in response to these calls.

As acknowledged by their links to cultural change and their symbolic nature, luxury brands have a fundamental affinity for global consumer culture [5]. Luxury shoppers consequently frequently experience a sense of belonging to a global community with shared values [6]. These international brands gain more symbolism from the system of the international consumer culture [7]. In fact, acculturation to global consumer culture has been described as the process by which individuals occasionally "acquire the knowledge, skills, and behaviors that are characteristic of a nascent and de-territorialized global consumer culture" [8]. According to Cleveland and Laroche [8], cosmopolitanism, exposure to the marketing strategies of multinational corporations, exposure to English, social interactions, exposure to global/foreign mass media, openness to and a desire to imitate global consumer culture, and self-identification with global consumer culture are all components of acculturation to global consumer culture. As a result, the following inquiry is raised: Is there a connection between a perceived global luxury brand's artification and its customers' assimilation into a global consumer culture? Significant changes have been taking place in the luxury sector lately. The importance of experience has been increasingly underlined, but the way to create such moments-of-truth is still under investigation.

2 Literature Review

If a brand enables customers to regularly satisfy their perceptions of themselves by using the appropriate cultural cues, then consumers are more likely to identify with that brand [9]. Many times, consumers want and buy products to demonstrate their membership in a global consumer culture [10]. Thus, a brand that is perceived as a global brand could aid people in their attempts to assimilate into a global consumer culture. At the same time, materialistic values have been related to global consumer culture [11]. In fact, acculturation to global consumer culture has been found to be a precondition for luxury consumption [9, 12] and the use of luxury brands is regarded as a sign of membership in a large, like-minded community [6]. As a result, a consumer who participates in global consumer culture is more likely to

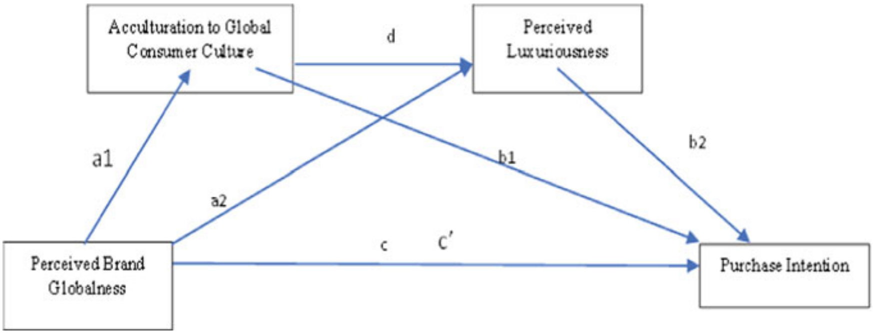

Fig. 1 Serial mediation model

perceive higher levels of perceived opulence, particularly in the case of art infusion. Additionally, products with visual arts on their packaging appear to be more upscale, opulent, prestigious, and pricey [13]. When the arts are tactically combined with luxury brands, they have been shown to significantly improve brand authenticity and, as a result, brand equity [14], while the incorporation of artistic elements has also been shown to be a successful way to persuade customers to purchase the product [1]. Thus, the perceived opulence increased shopping intent.

The following serial mediation model is thus proposed (Fig. 1):

H1: Perceived Brand Globalness indirectly influences Purchase Intention through the indirect effect of Acculturation to Global Consumer Culture and Perceived Luxuriousness.

In recent years, there is growing interest in analysing luxury brands' communication practices [15]. Studies focusing on different aspects of advertising of luxury brands have indicated that they may differ from other non-luxury brands in the strategies they employ [16]. This also applies to luxury brands in the fashion industry [17], as fashion advertising is at the forefront of emerging trends [18]. Luxury fashion advertising differs from advertising for fast fashion or mainstream fashion brands, in that it encompasses multiple layers of meaning [19]. Moreover, fashion brands are highly symbolic and luxury fashion ads frequently challenge advertising conventions [20].

3 Methodology

According to the research model, the purpose of this study is to investigate the serial mediating roles of acculturation to global consumer culture and perceived luxuriousness in the indirect relationship between perceived global brand and purchase intention. A cross-sectional survey using an online questionnaire is used to assess the model. There were 125 responses in total. Following an initial question about the respondent's attitude toward art, participants were shown brief summaries of three art-related events hosted by Louis Vuitton. The descriptions, which were taken from the business website, lacked any language that was overly sentimental. A pioneer in fusing the arts and luxury was Louis Vuitton. Then, based on these events, the brand's globalness, the respondents' acculturation to the global consumer culture, and their purchase intention, respondents were asked to indicate the brand's perceived luxuriousness. Basic demographic questions were asked at the end of the survey. The questionnaire's measurements were derived from multi-item scales that are already in use. The proposed serial mediation hypothesis was tested using the PROCESS macro for SPSS [21] (Model 6, 5000 bootstrap resamples).

The cronbach's reliabilities of the scales were calculated to evaluate their internal consistency. All scales had Cronbach's reliabilities that were higher than the advised cutoff point of 0.50. We used the PROCESS macro (Model 6) of SPSS and the bootstrapping method with 5000 resamples to calculate bias-corrected 95% CI [22] to test our serial mediation hypothesis. Regarding the correlation between Acculturation to Global Consumer Culture and Perceived Brand Globalness, the overall model was significant [$F(2, 109) = 5.8381$, $p = 0.05$, $R2 = 0.096$]. According to path a1, Acculturation to Global Consumer Culture is predicted by Perceived Brand Globalness by $b = 0.2968$, $t(109) = 3.1898$, and $p = 0.0019$ (path a1). However, because of $b = 0.1005$, $t(109) = 1.2115$, and $p = 0.2283$, the control variable Personal Inventory does not predict acculturation to global consumer culture. The relationship to the second mediator, path a2, was also examined, and the findings revealed that Perceived Brand Globalness does not predict Perceived Luxuriousness because $b = 0.0546$, $t(108) = 0.3583$, and $p = 0.7208$ (a2 path) all equal positive values. Since $b = 0.56$, $t(108) = 3.7350$, $p = 0.05$ (d path), acculturation to global consumer culture does predict perceived opulence. Again, since $b = -0.1745$, $t(108) = -1.3342$, $p = 0.1849$, the control variable Personal Inventory does not predict Perceived Luxuriousness.

Perceived brand globalness does not predict purchase intention because $b = 0.1086$, $t(107) = 0.6695$, $p = 0.5046$ (c' path), and acculturation to global consumer culture also does not predict intention to buy because $b = -0.2023$, $t(107) = -1.1927$, $p = 0.2356$ (b1 path). Nevertheless, Purchase Intention can be predicted by Perceived Luxuriousness with a coefficient of $b = 1.0700$, $t(107) = 10.4517$, $p = 0.000$ (b2 path). Purchase Intention was not predicted by the control variable [$b = -0.0539$, $t(107) = -0.3841$, $p = 0.7017$]. Since $b = 0.2849$, $t(109) = 1.2865$, and $p = 0.2010$ (c path), the total effect model demonstrated that perceived brand globalness does not predict purchase intention if no other variables are present. Personal Inventory does not predict Purchase Intention, as it did in the prior instances [$b = -0.2007$, $t(109) = -1.0163$, $p = 0.3117$].

4 Discussion and Conclusions

The current study adds to the body of knowledge on luxury by utilizing acculturation to global consumer culture to understand the impact of art infusion on perceived luxuriousness and purchase intention. The aim of the study was to examine the sequential mediating roles of perceived opulence and acculturation to global consumer culture on the indirect effect of perceived brand globalness on purchase intention. Online polling of 125 luxury goods buyers was done. Our findings confirmed this theory and showed that purchase intention increases when a brand is viewed as global and makes investments in art because of acculturation to a global consumer culture and a sense of opulence.

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Sustainable Cultural Routes: A Literature Review of Key Fundamental Aspects

Maria Zouridaki, Alexandros Apostolakis, Shabbar Jaffry, and Markos Kourgiantakis

Abstract This paper investigates the cross-disciplinary relationship of cultural routes and sustainable development (social, cultural, economic and environmental). Despite their popularity in the literature, research on cultural routes also faces one particular challenge. More particularly, the majority of studies on cultural routes have adopted a rather uniform methodological approach, focusing almost exclusively on qualitative case studies. This fragmentation restricts the advancement and understanding of a highly dynamic field. The paper aims to perform a systematic quantitative literature review in order to identify, synthesize and analyze existing knowledge on cultural routes through a scientific, structured and reliable process. The current paper utilizes the Preferred Reporting Items for Systematic Reviews guidelines. The empirical findings reveal a significant increase on the published material in the last 10 years (2013–2022), with approximately 40% of cases being solely authored. As anticipated, the majority of papers utilized qualitative methods to examine sustainable cultural routes, whereas approximately 45% related to cultural routes with a national spatial context. The greatest number of publications has as a main goal the cultural scope of cultural routes (39%), followed by the socio-economic scope of the cultural routes (34%) and the political scope of the cultural routes (27%). All the above-mentioned indicators are parts of the sustainable development and are essential parts of designation and planning phase of cultural routes.

Keywords Cultural routes · PRISMA · Literature review

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1 Introduction

Cultural routes can be powerful tools to promote and preserve shared values and cultural identities [1]. Cultural Routes and Sustainable development constitute a rising trend in the tourism field, with many research cases [2–6]. However, until today, scarce scientific research had been conducted in the field of "cultural routes", sustainable development, planning and management [7, 8]. Although there is plenty of qualitative research and case study analysis of cultural routes, there is not any critical review to reveal the significance of cultural routes in accordance with sustainable tourism development [9]. This paper uses a literature review to challenge with the complexity nature of cultural routes, in accordance with sustainability management and planning factors. The in-depth research of 432 studies highlighted a cross-disciplinary investigation of cultural routes and sustainable development principles.

2 Research Method

The current paper utilises the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and the meta-synthesis approach [10–12]. The PRISMA statement is a guideline protocol, in order to conduct systematic reviews. This protocol includes a 27-item checklist and a 4-phase flow diagram.

For the purpose of the current study, a literature research was conducted in order to procure cultural route publications. For that purpose, The authors searched through various English academic sources and databases using the text words "cultural routes", "cultural trails", "thematic routes", "routes", "itineraries", "cultural itineraries" and "travel routes" in publication's titles, abstracts and keywords. The eligibility assessment excluded publications that were inaccessible, were not in English language and were not published post-1985. The authors choose 1985 as the reference year because the Council of Europe Cultural Route programme developed in Grenada that year.

Initially, the title, abstract, keywords, type of methodology (qualitative, quantitative and mixed methodology), authors' names, journal name, year of publication and database were recorded on an MS Excel spreadsheet. The authors also coded the publications in accordance with cultural route territorial scope, cultural scope, goal or function, duration in time, structural configuration and natural environment [3]. The final screening process implemented by the authors, excluded the publications that were focused on tourism destinations and attractions and tourism and hiking—cycling routes, as they were irrelevant with the paper research focus.

3 Results and Discussion

3.1 *Empirical Findings*

The initial search identified 6410 records. After the elimination process, the final dataset comprised of 432 publications on cultural routes. Figure 1 shows the number of cultural route publications during the period 1985–2022. Specifically, until 2000, there were only a handful of publications in the field. This finding is in full accordance with the conclusion reached by Timothy and Boyd [9] Prideaux and Carson [13]. During the 2000–2012 period, the field experienced a significant growth in terms of published journal articles and other writings pertaining to the grey literature.

In our study sample (n = 432 publications), the majority of entries were solely authored (n = 162/38%), followed by publications with two authors (n = 104/24%), and three authors (n = 88/ 20%). Four and five co-authored publications follow suit with n = 47 (11%) and n = 24 (6%) publications respectively. There is also a small amount of publications (n = 7/2%) that have no authors (see Fig. 2).

Figure 3 shows the methodological approaches used by researchers in the field. The majority of papers follow a qualitative methodology, with interviews, case study

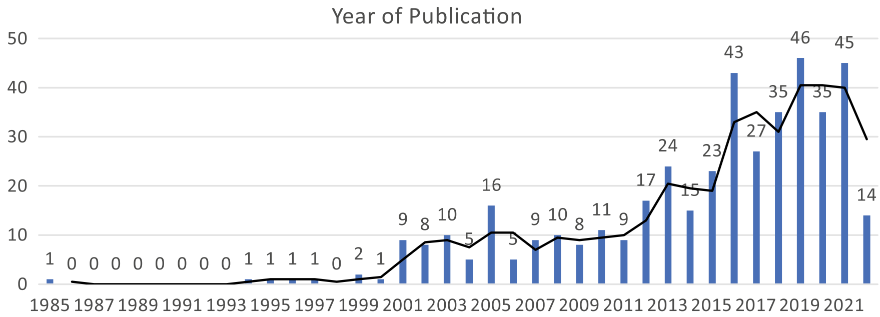

Fig. 1 Year of cultural route's publications

Fig. 2 Number of authors per publication

analysis and desk research for cultural routes (55%). 70 publications (16%) provide a literature review for cultural routes or some type of cultural routes. Only 57 publications (13%) use quantitative methodology and 66 publications (15%) use mixed methodology.

Distance and structural configuration dimension are critical for the operation and management of cultural routes [1–3, 9]. Figure 4 shows cultural routes' spatial distribution around the world. It is obvious that the majority of cultural routes are located in Europe. This result was expected given that the Council of Europe set the basis for the management and planning of cultural routes in European countries. In addition, one could also justify this finding on the basis of a more competitive tourism market in Europe, as well as a more "advanced" tourism product, in comparison to the rest of the world [18].

In Fig. 5, the greatest amount of publications mentioned one country as a case study (n = 289/67%). The majority of smaller scale cultural routes that exist in order

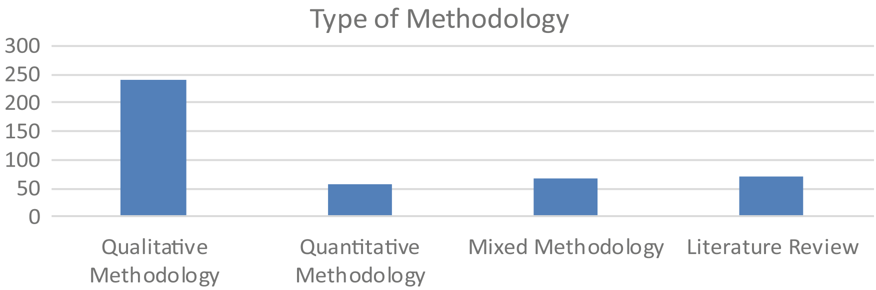

Fig. 3 Publication type of methodology in the sample size

Fig. 4 Spatial distribution of cultural routes

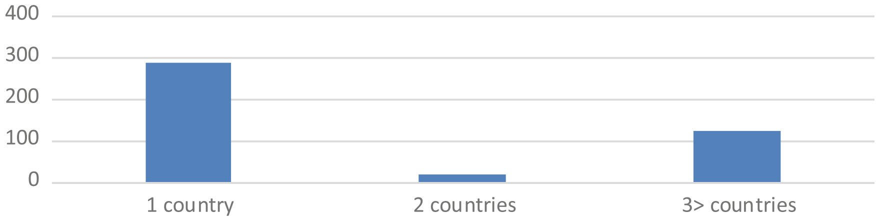

Fig. 5 Number of countries that consist of cultural routes

to enhance local economic development [14] could explain this result. Briedenhann and Wickens [15] also highlighted the role that cultural routes play in rural local communities [16, 17]. Next comes the segment of cases where 3 or more countries are coordinating to create a cultural route with a sample of 113 publications (28%).

Through the extended literature review on cultural routes, the authors provided a grouping of the focus of cultural routes. The representative set consists of 7 types of cultural routes [9]. These are 'pilgrimage/religious routes', 'environment/ecology routes, 'gastronomy routes', 'industrial/railways routes', 'cultural heritage routes', 'historical/trade routes', and 'mixed routes'. Figure 6 indicates that n = 147 or 34% of the publications consist of the cultural heritage route type. This is followed by the historical and trade cultural routes type (n = 101/23%) and the pilgrimage/religious cultural routes type (n = 71/16%). Next follows gastronomy routes (n = 41/9%), environment/ ecology routes (n = 30/7%) and mixed cultural routes (n = 24/6%). Finally, the last type of cultural route is industrial/railways routes-trails with n = 18 or 4% of the publications in the sample.

It was crucial to categorize the publications according to ICOMOS specifications, for the examination of multidisciplinary nature of cultural routes. Table 1 summarizes the empirical findings. As one would expect, the percentage of papers is almost inversely related to the spatial scope of the analysis or collaboration (the greater the spatial context, the smaller the percentage of cases appearing in the literature).

Cultural scope is important, as cultural routes are an integrated system of cultural heritage values and properties between different cultural areas that share a common

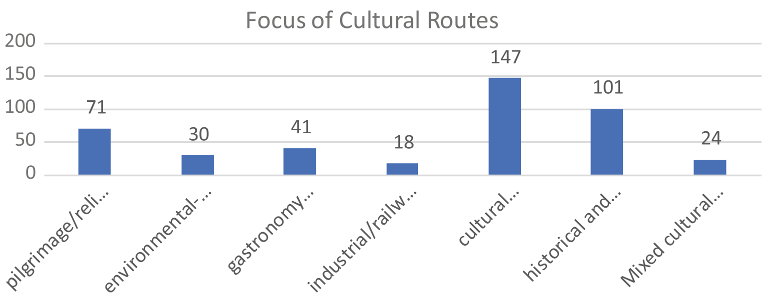

Fig. 6 Focus/type of cultural routes

Table 1 Types of cultural routes according to ICOMOS

Cultural route classification	% of Papers
Territorial scope	
Local	19
National	46
Multi-National/Regional	13
Continental	12
Intercontinental	9
Cultural scope	
Have shared a process of reciprocal influence in the formation of cultural values	27
Continue to share a process of reciprocal influences in the formation of cultural values	73
Goal/function scope	
Socio-economic	34
Political	27
Cultural	39
Duration in time	
No longer used	32
Continue to develop	68
Structural configuration	
Linear	30
Circular	7
Cruciform	4
Radial or network	59
Natural environment	
Land	68
Aquatic	2
Mixed	30

identity. In our study, most case studies are within a given cultural region, or extended across different geographical areas that have shared mutual influences in the formation or evolution of cultural values (n = 243). A sample of n = 189 publications referred to within a given cultural region or extended across different geographical areas that continue to share a process of mutual influences in the formation or evolution of cultural values. This is important, as ICOMOS, Council of Europe and UNWTO suggest that each cultural route should communicate its cultural heritage values and extend them beyond a country's borders.

In this research study, the lines between social and economic goal of cultural routes were blurred, so the authors decided to reconcile these categories to one. The greatest number of publications has as a main goal the cultural scope of cultural routes (n = 170/39%), followed by the socio-economic scope of the cultural routes (n = 147/34%) and the political scope of the cultural routes (n = 115/27%). All the above-mentioned indicators are parts of the sustainable development and are essential parts of designation and planning phase of cultural routes [3, 20]. It seems that the research community had studied almost equally the cultural, socio-economic and political aspects of cultural routes.

As for cultural route duration in time the empirical findings indicate that the majority of routes continue to develop under the influence of socio-economic, political, and cultural exchanges (n = 293/68%). This is rather anticipated given the proliferation of studies appearing in the last seven or so years.

ICOMOS also categorize cultural routes, according to their structural configuration as linear, circular, cruciform, radial or network. Linear cultural routes represent 30% of the research sample. The greatest number of publications used a radial or network structural configuration of cultural route (n = 255), which are those that forms a radial shape or create a network that unites several regions. Next come the circular and cruciform configuration with n = 31 and n = 18 cases respectively.

The final classification of ICOMOS types of cultural routes is according to their natural environment: land, aquatic, mixed, or other physical setting. The greatest amount of publications used the land environment (n = 292). Followed by the mixed environment cultural routes (n = 127), which combine terrestrial and maritime transport [21]. Some examples of that type of cultural route are the Camino Real Intercontinental and the Silk Road. These cultural routes represent 30% of the researched sample.

4 Conclusions

The main goal of the research is to evaluate through quantitative empirical evidence the existing knowledge about the sustainable management and development of cultural routes. Despite their popularity in the literature, the majority of studies on cultural routes have adopted a rather uniform methodological approach, focusing almost exclusively on qualitative case studies [9, 19]. Based on the abovementioned observation, the paper aims to perform a systematic quantitative literature review in order to identify, synthesize and analyze existing knowledge on cultural routes through a scientific, structured and reliable process [22].

In total, 432 publications were included to the literature review of the research study. The empirical findings reveal a significant increase on the published material in the last 10 years (2013–2022). The majority of cultural routes had as thematic investigation the cultural heritage tourism. As anticipated, the majority of papers utilized qualitative and literature review methods to examine sustainable cultural routes.

We had illustrated a descent amount of cultural routes studies in accordance with ICOMOS indicators, as they represent the different aspects of trail's operation and sustainable development management. It seems that 67% related to cultural routes with a national-local spatial context. The greatest number of publications has as a main goal the cultural scope of cultural routes (39%), followed by the socio-economic scope of the cultural routes (34%) and the political scope of the cultural routes (27%). Moreover, as for the structural configuration of the cultural routes, most of them shaped as radial or network (59%) and then come the linear (30%). This is in line with the current literature of the field, as the most cultural routes were evolved from point-to-point visits and linear routes to network routes with an organized stakeholder management [19]. All the above-mentioned indicators are parts of the sustainable development and are essential parts of designation and planning phase of cultural routes [20].

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Development of Innovative Applications Through the Exploitation of Landmarks for the Promotion of Ancient Greek Technology Exhibits

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Abstract This study presents the evaluation results of the "ATANA" research program, which focuses on a platform that integrates the creation and management of narratives associated with cultural tourism applications. Considering the objectives of this study and the target audience, the proposed method could be beneficial to museums and cultural institutions by providing interactive tours and enhancing the overall visitor experience. Additionally, it can be advantageous for cultural tourism stakeholders and local businesses in the surrounding areas as it may attract more tourists and increase footfall. The platform leverages augmented reality and narrative techniques within an ambient-intelligence environment that encompasses a museum and its surrounding landmarks. The case study pertains to the Kotsanas Museum of Ancient Greek Technology (MAET), an institution with a continuous presence for 25 years, represented through a network of museums on the same theme located in Ancient Olympia and Athens, and an exhibition in which the organisation has participated in Malta. The methodology employed leverages the principles of ambient intelligence, enabling tourists to traverse the historic centre of Athens or the archaeological site of the Olympia, and to explore ancient Greek technological inventions through a mobile application supporting augmented reality. The proposed approach also supported the participation of MAET in an exhibition in Malta by projecting a variety of 3D inventions presented in MAET museums through augmented reality.

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Keywords Ambient intelligence · Augmented reality · Cultural heritage · Ancient Greek technology · Museum narratives · User engagement · Recommendation system

1 Introduction and Theoretical Background

The research Project "Development of Innovative Applications through the Exploitation of Landmarks for the Promotion of Ancient Greek Technology Exhibits."—project code: T2EΔK-03,578 which co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH—CREATE—INNOVATE, aimed to expand technological boundaries in cultural tourism using augmented reality and narration techniques. The integrated narrative creation platform utilises a focused documentary format to provide historical exhibits with a spatial connection to the surrounding area. The platform's comprehensive approach covers multiple types of experience. It offers interactive narration through augmented reality (AR), which is a successful approach as seen in many studies. It utilizes interactive narration through augmented reality, which has been demonstrated to be effective in various implementations [1–3]. Creating a fun user experience with Augmented Reality (AR) is also an important factor [4] which supports participation in active learning processes [5, 6]. Enhancing the user's experiential walk through storytelling and rich material and displaying augmented reality cultural content [7, 8] according to personalised user requirements using machine learning techniques [9] completes the experience. The scientific study of ancient Greek technology was documented by Kotsanas after years of research and publication [10].

The app displays 3D visuals of ancient Greek technological inventions and augmented reality simulations of their use. MAET also created a documentation format for exhibits and components. Each section was linked to more than two landmarks (GPS) or beacons in 3D prints for indoor storytelling, as in the exhibitions. 3D photorealistic models of the exhibits were saved on a platform with interactive simulations of their functions. The 3D models were optimised for mobile devices, particularly for AR. User preferences were collected through gamification and matched with ancient inventions to create a personal narrative. Tourists, educators, students, and MAET visitors evaluated this project. The narrative can lead users to visit exhibitions and participate in museum activities. Users' feedback was vital and was gathered through SUS questionnaires completed by those who visited the exhibition spaces after using the applications during the pilot period. The anonymous data collected from the applications through the Ambient Intelligence Environment, once reaching a satisfactory volume, will support future machine learning mechanisms facilitated by the platform. This research resulted in an intelligent environment that supports augmented reality applications in the cultural heritage domain. This environment featured an innovative model that ensured sustainability and user engagement;

technical diagnostics deeply tied to the environment for assessing resilience and human-induced environmental changes relative to the cultural product; and a knowledge management framework that could gather, manage, and disseminate knowledge related to cultural heritage and associated activities.

2 Methodology

2.1 Ambient Intelligence Environment

To develop a digital platform for creating and managing stories on mobile devices (PCMS), MAET has developed appropriate documentation formats for exhibits and their main components. Each section was associated with more than two points on the map (GPS coordinates), connected to a specific ontology of concepts, or to the context of indoor storytelling (periodic exhibitions, exhibition stands, etc.) with specific beacons integrated into 3D printed parts. All parts of the exhibits were stored on the platform in 3D photorealistic models, and there was a fully interactive simulation of their operation, except for the 3D model of the exhibit itself. The 3D models introduced on the platform were designed to operate on mobile devices for use in augmented reality applications. To create the necessary 3D exhibits and their 3D simulation, MAET, as a manufacturer of fully functional exhibits of ancient Greek technology, and in collaboration with Omega Technology, an IT company with extensive experience in 3D digital modelling, produced the required 3D products. The architecture selected for the platform development is shown in Fig. 2 at Kotsopoulos et al. [11].

The platform for creating and managing narration has the following capabilities regarding exhibits: brief description, functions, list of exhibits, classification of exhibits, and creation of exhibits (exhibit registration form: Name, Description, category, edit of exhibit, addition of three-dimensional, two-dimensional, photographs, audio to exhibit). The exhibit sections have the following registration management possibilities: brief description, functions, list of sections, classification of sections, and creation of exhibit (registration form exhibit section: name, photo, display of exhibit, addition of three-dimensional, two-dimensional, photographs, and audio to an exhibit section). In addition, the rewards of users are defined based on their achievements, connection with beacons, registration of locations and their connection to the departments of exhibits, and all other functionalities that support the mobile application.

2.2 Personalized Recommendation System

The personalised recommendation system proposes a list of locations considering the user's profile, interests, history of interactions with other locations, and location characteristics. For the creation of the personalized proposal system, the Collaborative Filtering (CF) technique was used. In its general version, this technique can provide suggestions and predictions regarding a user's choices, based on the choice history and preferences of multiple users of the same system. The basic idea of this technique is that if two people have similar preferences/tastes/ideas on one topic, there is a possibility that their views will be identical. In this case, users with similar characteristics are likely to choose to visit related sites of archaeological interest.

The creation of a forecasting system based on collaborative filtering requires a large dataset with site ratings and user characteristics. Owing to the lack of a free dataset that can be used to train the model, it was decided that in the first phase and for the trial period, the system proposals would emerge in a separate manner. The criterion by which a service is recommended to a user is the similarity metric between the user and site. The similarity metric chosen is the Jaccard similarity index which calculates the similarity of two sets A, B. In our case, set A consisted of the preference tags selected by each user and set B consisted of the tags of each location.

In this phase, based on the user's geographical location, the list of locations closest to the user is calculated, and for each location, the value mentioned in the previous paragraph is calculated. The list of sites is sorted based on this user-site similarity value. Sites with a high degree of similarity to the user are higher on the list. The sorted list is a system recommendation system for the users. However, training a CF model requires the creation of a model-training dataset. The dataset will be gradually built during the system's use by real users of the application. To create the set, each time the user visits an area, they are asked to rate the site with a score between 1 and 5 at a later time. It has been observed that many users of electronic systems are not willing to evaluate products and services they use. Therefore, we decided to provide extra incentives to users to rate sites by offering them several points. Note that the points are exchangeable for products from the application's virtual store.

To enhance the quality of forecasts, to continue using the extra information we have about user characteristics and to address the problem of CF, Cold Start systems (poor forecast quality for new users whose evaluation history does not exist) and the CMFREC library were used [12]. This library offers the possibility of implementing a hybrid CF model that uses user ratings and additional information regarding users and locations as inputs (Figs. 1, 2, 3, 4).

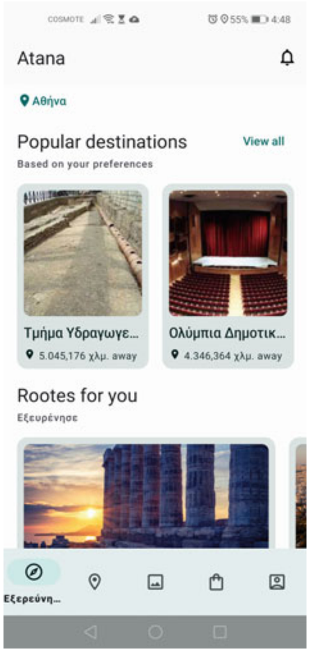

Fig. 1 Screens from the mobile application

Fig. 2 Screens from the mobile application

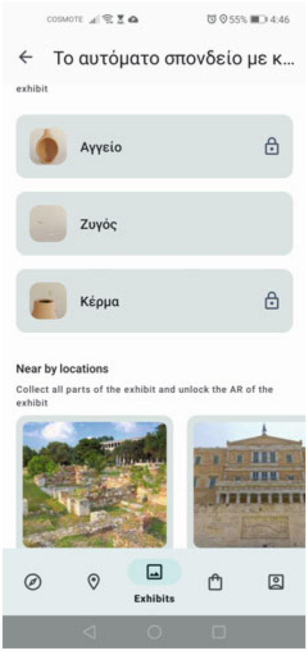

Fig. 3 Screens from the mobile application

Fig. 4 Screens from the mobile application

3 Results and Discussion

3.1 Evaluation Period Results

Initially, the application was tested by MAET museum visitors. After a small presentation of the application, visitors of the MAET museums were suggested to download the application, test the application, and answer a small questionnaire after the testing. Among the users who downloaded and tested the app, 42 visitors from Athens answered the online questionnaire and 18 visitors from the Ancient Olympia. In addition, it was tested using the beacon version of the app embedded in exhibits at the 2023 Ecsite Conference by sixteen visitors.

All users answered questionnaires using the System Usability Scale (SUS) [13]. The results of SUS were evaluated according to Sauro [14] based on their mean score, interpreting it into grades (A, B, C, D, F), adjectives (best imaginable, Excellent, Good, Ok, Poor, Worst imaginable), acceptability (Acceptable, Marginal, Not Acceptable), and NPS categories (Promoter, Passive, Detractor). For the 42 users of Athens with a mean SUS score of 80.3, the result is good, acceptable, and graded as A, and 17 users can be characterised as promoters and 25 users as passive. For the 18 users of the Ancient Olympia with a mean SUS score of 78.5, the result is acceptable, graded as A; seven users can be characterised as promoters, nine users as passive, and two users as detractors. For the 16 users of the 2023 Ecsite Conference with a mean SUS score of 80.0, the result is acceptable, graded as A, and six users can be characterised as promoters and 10 users as passive. Together, the present findings confirm that the users of the app who tested it during the evaluation period reacted positively to its use. One concern regarding the findings of the evaluation period was that the users who tested the app were informed by the staff of the MAET Museum. Thus, the users did not reach MAET Museums because of the app, which will be the next target after uploading the app to app stores and conducting appropriate marketing to promote it.

3.2 Suggested Ambient Intelligence Approach

The central core of ambient intelligence was the proposal of an appropriate narrative that would satisfy the user at the level of landmarks he will visit, at the level of interest in the exhibits to visit the MAET, and finally at the level of general personal interests. Specifically, the implemented approach successfully correlates:

The types of visitors to MAET Museums: The study of the visitor profile utilises a detailed analysis of the data recorded by the Kotsanas Museum in Athens and Ancient Olympia over the last three (3) years. Demographic data, educational level, social dimension, country of origin, nationality, culture, educational or other placement, individual visit, or group are the products of study to achieve results in relation to the development of the narrative scenario. **The types of Gamification Users**:

(Social (wants to socialise), Autonomous (wants complete freedom of movement and expression), Altruist (wants to help others), Skillful (wants to achieve goals), Player (wants to earn rewards)) for mobile applications (utilizing features such as cooperation, obstacles, goals, communication, imagination, strategy, and exploration). **The Landmarks**: Landmarks are concerned with the categorisation of visiting and selection points, which directly and indirectly determine the final decision of a visitor. The extent to which a destination is desirable, the uniqueness of the spectacle presented [15], the acceptance that a place enjoys through public reviews or recommendations, as well as personalised prioritisation combined with location, "out of the box" logic and specific topics, will be recorded through selected tags and spatial associations. **The Exhibits**: Exhibits (e.g., themes, level of interaction and functionality, scale/size, exhibits aimed at younger or adult audiences) related to the type of visitors of MAET museums. The interviews with MAET executives contributed significantly to the research on the initial categorisation of visitors based on the exhibits they preferred to learn, the time they devoted to each of them, the level of absorption and reproduction of information to third parties, and the preferred actions of MAET (thematic visit experiences, special tours, workshops, educational programs, multi-thematic actions, and open events).

A similar study by Ramos et al. [16] endeavoured to auto-curate tourist pathways tailored to individual and group visitor profiles, considering factors such as mood, personality, and context, underpinned by an Ambient Intelligence framework, but it is not included in the context exhibits from a museum. Piccialli et al. [17] delved into harnessing data science, specifically machine learning, to valorise and promote cultural heritage, focusing on analysing IoT-derived visitor data from the National Archaeological Museum of Naples, but there is no connection with the landmarks of Naples. In a recent study by Casillo et al. [18], the integration of context-awareness techniques into Recommender Systems in the era of Big Data, emphasising their transformative impact on enhancing recommendations in the Cultural Heritage sector, is examined, pointing to its importance.

The need to create some basic rules regarding narrative suggestions to users of the AR application, how they will be displayed, how they relate to the user's behaviour, and possible preferences regarding exhibits were initially approached using content-based recommendation techniques. Contextual filtering approaches only consider an individual user's previous preferences and attempt to train a preference model based on a preference representation of the content of the proposed items. An important part of the suggestion model process is the additional features of the proposals, such as special attributes, descriptions, metadata, comments, and the user's definition of preferences [19]. After a period when the application will be used, a sufficient user base will be created with their preferences imprinted. Each user and element were described by a feature vector. In this way, users and elements are integrated into a common space; thus, studying the behaviours of other users will propose appropriate narratives to a user using collaborative filtering techniques.

4 Conclusion

In this study, we introduced an innovative approach to interlinking landmarks with simulated exhibits, considering the unique characteristics of various users, from tourists at destinations to museum visitors. This pioneering research delves into a potentially unparalleled domain, emphasising that the foundation for establishing guidelines leading to tailored user proposals can only be truly validated through hands-on applications by end-users during advanced implementation stages. Our primary objective was to design an advanced environment conducive to augmented reality applications, specifically for the cultural heritage sector. The key features of this study include a groundbreaking framework that not only ensures the sustainability of these applications, but also enhances user enjoyment, aligning with organizational benefits. An efficient knowledge-management system is skilled in collecting, managing, and disseminating information about cultural heritage and human engagement. The resources generated, coupled with a structured digital knowledge repository, stand as unmatched assets, elevating the possibility of creating distinctive and influential applications. Our approach was designed to amplify museum goals by drawing more visitors and offering immersive experiences that commence externally and deepen internally. Simultaneously, it seeks to elevate visitors' appreciation of the city's cultural fabric and heighten their enthusiasm for global exhibits, expanding both the hosting venues and audience reach. In summary, this research has the potential to benefit a wide range of stakeholders, from cultural institutions and tourists to educators, researchers, and local businesses. Further research and experiments on user experience of mobile applications that focus on understanding its features can increase user acceptance.

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Communicating Corporate Social Responsibility in an Era of Disruption—A Study of Greek Companies Participating in Corporate Responsibility Index (CRI)

Panagiota Xanthopoulou, Androniki Kavoura, Alexandros Sahinidis, and Ioannis Antoniadis

Abstract Greek firms have begun to place a greater emphasis on CSR, and there is a shift away from financial gain and toward organizations showing respect for social issues pertaining to the environment in which they operate. This study looks at the social performance of all 27 firms that have taken part in the CR Index between 2008 and 2020 using the most recent information available about CRI operations in Greece from the time of the country's economic depression to the present. The results imply that the companies under investigation adjusted to the economic climate by better allocating their CSR-related spending. Even though there was a general decline in the number of companies receiving lower-level distinctions, the companies included as a sample in this research demonstrated stronger CSR engagement, obtaining higher marks in their evaluation by the CRI. The fact that businesses have not adequately informed the public about their CSR efforts has implications for managers because they could do so. The study also adds to the body of literature by starting conversations around CSR communication.

Keywords Corporate social responsibility · Corporate social responsibility communication · CR index · Social media

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1 Introduction

Modern business units are becoming more and more actively involved in activities with a defining characteristic the existence of responsibility towards society, humans, and the physical environment while their primary goal is the improvement and well-being as they become increasingly aware of the fact that they are inextricably linked to the society in which they operate. The phrase "corporate social responsibility" (CSR) is often used to refer to these efforts. Numerous studies have demonstrated that economic crises may have an impact on CSR initiatives and that there is a decline in CSR activities as a result of corporations acting more cautiously [1–3]. Some academics have a different perspective on the effects of the economic crisis on CSR, arguing that rather than being a danger, it might be an opportunity for the organization to improve its reputation, build or increase its trust by customers, employees, shareholders and the local community [4–8]. The rise in social media usage favors this form of communication. The current study intends to evaluate how CSR operations have changed through time, as well as how they have been communicated, from the start of the financial crisis in 2008 to the present. Given that Greece has been severely impacted by the economic crisis and provides a useful example for analysis with regard to CSR, this research examines Greece as a case study.

The most severely impacted countries by the financial and economic crisis are Greece, Ireland, Italy, Portugal, and Spain [9]. Additionally, this study looks at Greek corporations' CSR efforts since it predicts that given the challenging economic climate, they will be more frugal with their donations to charitable causes than the scant literature on the subject shows [9–11]. This research investigates the companies taking part in the CR Index, which has been running in Greece since 2008, in order to assess the companies' CSR communication strategy and have a precise and reliable way of gauging the development of CSR programs in the period investigated.

2 Communicating CSR Activities

CSR communication relates to interested stakeholders and good corporate values [12]. The first activities that a business would cut back on in a recession would likely be CSR communication and advertising. However, it appears to be a crucial component of a successful company. According to one definition of CSR reporting, it is a strategy used by businesses to notify diverse stakeholders about social and environmental issues [13]. Over 90% of the 250 biggest firms in the world today produce CSR reports. The ability of a firm to motivate customers and other stakeholders to choose it over competitors has been claimed by many authors to be the value of CSR communication [14–16]. However, other findings have demonstrated that CSR communication initiatives do not necessarily favorably reflect on a business and a strategic plan. The perception of the company's efforts and honesty can be negatively impacted by CSR [17–19]. Consequently, the effects of the economic crisis on CSR communication have been researched.

Through a content study of more than 4000 printed ads, Green and Peloza [20] discovered that rather than CSR communication levels are decreasing during the recession, the likelihood of stumbling into ads and communications containing CSR messaging actually increased. Not the quantity but the content of these advertisements changed, as was seen. The likelihood of CSR messaging being included into "mainstream" advertising was higher in particular. Communicating CSR initiatives to both internal and external constituents can have a significant beneficial impact, evoking positive reactions by establishing or bolstering a reputation that may be crucial during times of crisis [15, 21]. The communication of the CSR is also directly tied to an organization's reputation [22]. According to Feliciano et al. [23], sharing CSR activities with customers might enhance their loyalty and willingness to "forgive" a firm if required when it supports causes that are similar to their own. Greece has a high rate of household internet connectivity, which increased from 31% in 2008 to 76.5% in 2018. When compared to 2018, this percentage grew 2.6% in 2019, while a 69.2% increase was seen from 2010 to 2019 alone. Social media, or consumer-generated media, enables online information generation and dissemination where consumers can engage and businesses can communicate with them [24]. When it comes to whether or not they feel educated about companies' CSR operations, there is a significant difference between citizens of Europe and those of other continents. The majority of European individuals do not feel that they need to be educated, in contrast to the USA, where people are interested to hear about the CSR initiatives of the companies [25]. The majority of European residents, according to European study, do not believe they need to be informed on this problem, with only 36% of them feeling well-informed [26], while people in the USA are open to hearing about the CSR efforts of the corporations [25].

3 Materials and Methods

Content analysis is one of the most often used techniques in the study of CSR [27]. Since content analysis offers detailed and rich accounts on a variety of issues, it is frequently utilized in management research [28, 29]. Neuman [30] defined content analysis as a method for acquiring and examining text's content. The term "content" refers to any communication that can be conveyed by words, meanings, images, symbols, ideas, or themes. In order to determine whether there is a correlation between the trajectory of a company's economics and its CSR behaviors over the course of the twelve years under consideration, the current study examines all of the companies that have participated in the CR Index between 2008 and 2020, looking at their economic performance overall. The sample for this study spans a well-defined twelve-year period beginning in 2008 with the first CRI applications in Greece and ending in 2020 with all cases, or 27 companies, that have participated in being assessed using the CRI index. The researchers looked for words and phrases that were specific to the thematic codes connected to the CRI's communication in the corporate websites of the companies, as well as references in the CRI awards that had been given out [32, 33]. Next, we looked at each organization separately to see which social media channels it had access to and whether any mentions of CSR initiatives and the CR index award were made.

4 Results

Companies operating in Greece experienced a decline in revenue during a 6-year period, yet despite this, we see that their CSR performance has been steadily improving. Despite the fact that the participating companies' economic performance is declining, Fig. 1 shows that over a twelve-year period, their participation in the CRI looks consistent and improved their social performance as measured by the CRI.

Because they become more effective and offer increasingly higher level, award-winning activities for the benefit of the community where they operate, corporations do not seem to be influenced in their CSR-related conduct, especially during the economic crisis, as shown in Fig. 1. Despite the difficulties of the weakening economy, the number of awards offered rose in 2008 and 2009, rose in 2010 and 2011, and stabilized in 2012 and 2013. In 2013, ten prizes were given in the top two categories, compared to none in 2008 and just two in 2009. It is clear from gathering and analyzing the data in Fig. 2 that company participation grew steadily between 2008 and 2013. However, the number of businesses is declining over time, which may be related to Greece's severe economic situation. On the other side, there has been a noticeable rise in awards for better places like Gold and Platinum, which will finally result in 2 Diamond awards for the first time in 2020–2021.

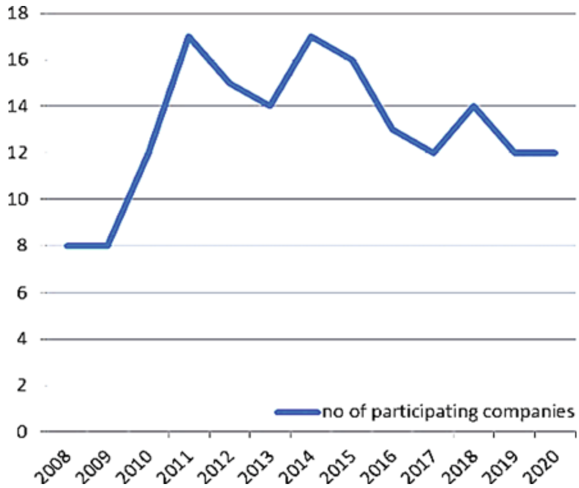

Fig. 1 Number of awards from CRI between the years 2008–2020. *Source* Data analysis from the CR Index official website [32, 33]

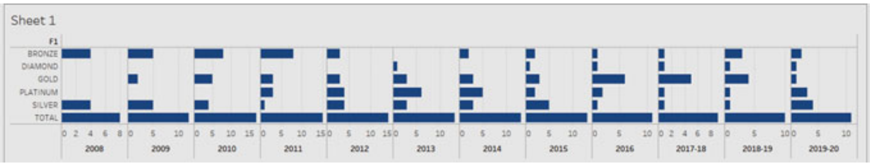

Fig. 2 Number of awards from CRI between the years 2008–2020 (with the use of Tableau Public Software). *Source* Data analysis from the CR index official website [32, 33]

It is clear from gathering and analyzing the data in Fig. 3 that company participation grew steadily between 2008 and 2013. However, the number of businesses is declining over time, which may be related to Greece's severe economic situation. On the other side, there has been a noticeable rise in awards for better places like Gold and Platinum, which will finally result in 2 Diamond awards for the first time in 2020–2021.

Despite a growth in the number of businesses using social media, particularly Facebook, YouTube, LinkedIn (the platform with the most interest), and Instagram, the number of businesses communicating CSR remained relatively constant. Although each of these firms has a separate section devoted to corporate social responsibility on their official websites, only two instances of the CRI logo were found in 2015 and three instances in 2020, indicating that there has not been much of an improvement. As for the CRI's mention on corporate websites (Fig. 4), we can see that this number has dropped from 76 to 50% of organizations because many of them also mention other awards (like "Great Place to Work").

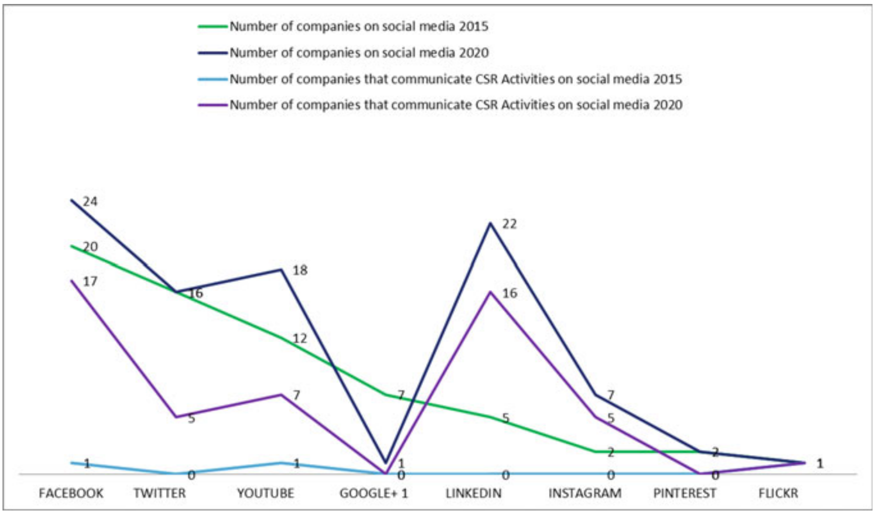

Fig. 3 Number of companies on social media and no of companies' communicating CSR activities on social media in 2015 and 2020

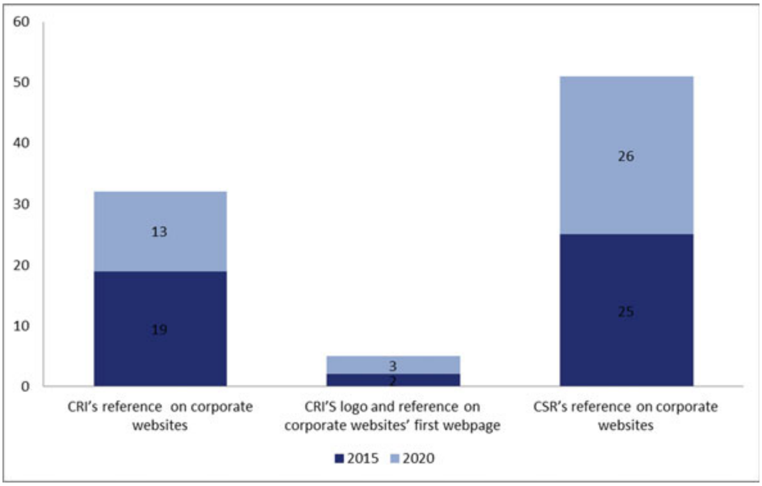

Fig. 4 CRI's reference on corporate websites in 2015 (25 companies) and 2020-number of companies (total 27 participating companies in CRI today)

5 Discussion and Conclusions

Legislation that would instruct businesses on how to define and manage CSR does not yet exist in Greece. A national CSR plan is not in place, and there is no legislative framework [31]. The goal of the current study was to determine the association between the economic trajectory and CSR behaviors of all the companies that took part in the CR Index between 2008 and 2012. One key conclusion was that despite the dire financial circumstances brought on by the recent financial crisis and the ongoing Covid-19 pandemic, CSR efforts have not been curtailed; rather, a more structured and effective CSR action plan has been noticed. This finding concurs with those of [20] and contradicts research [1] through [3].

When we looked at the CRI index, the authors saw for the first time that two Diamond awards had been made to companies that had taken part in CRI since its launch in the market in 2008. There are three possible interpretations for this distinction. First, membership in CRI drives and directs businesses to enhance their CSR strategies. Second, the Greek market and society adopt and mature the CSR concept each year. Third, the Covid-19 pandemic compelled businesses to implement more coordinated CSR measures and actions [1–3]. On the other hand, while the CRI logo was barely mentioned, nearly the whole sample of the poll makes reference to CSR on its corporate website. The research presented in this study suggests that businesses' marketers and advertising might publicize these CSR initiatives and their projects. By extending the limited chronology with twelve years of research conducted after the 2008 recession, the paper contributes to the literature discussions on Corporate Social Responsibility communication and the ways in which these actions are impacted by the financial crisis. It highlights changes regarding the CSR actions and their communication of the chosen organizations from the start of the financial crisis until the present.

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A Comprehensive Marketing and Diffusion Strategy Protocol for Marine Life Protection, Restoration and Conservation; the Case of Endangered *Pinna Nobilis*

Dimitris C. Gkikas, Marios C. Gkikas, and John A. Theodorou

Abstract This paper presents a comprehensive marketing and diffusion strategy protocol aimed at protecting, restoring, and conserving marine life populations, with a specific focus on the case of the noble pen shell (fan mussel) *Pinna nobilis (P. nobilis)*. The *P. nobilis* is a critically endangered species of bivalve mollusk found in the Mediterranean Sea, playing a crucial role in maintaining ecological balance and serving as an indicator of environmental health. The protocol consists of various components designed to maximize impact of the Pinna-SOS project referred to "*Innovative Actions for The Monitoring-Recovering—Enhancement of The Natural Recruitment of The Endangered Species (Fan mussel) Pinna nobilis*", that was funded by the Operational Program for Fisheries & Maritime 2014–2020 grant number (MIS) 5,052,394. First, target audience identification involves identifying key stakeholders, including policymakers, local communities, marine conservation organizations, and the public. Messaging and positioning strategies focus on crafting compelling narratives that highlight the ecological importance of the *P. nobilis*, emphasizing the urgency and benefits of conservation efforts. Communication channels encompass a diverse range of platforms, such as social media, websites, educational campaigns, and interactive events. The protocol recommends leveraging digital tools and technologies to reach wider audiences and facilitate information dissemination. Impact assessment includes monitoring the recovery and growth of *P. nobilis* populations, tracking changes in conservation attitudes and behaviors, and evaluating the long-term ecological health of the marine environment. Overall, the proposed marketing and diffusion strategy protocol offers a structured approach to raise awareness, engage stakeholders, and drive action towards protecting and conserving the endangered *P. nobilis* and other marine life populations.

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Keywords Endangered species protection · Conservation marketing strategy · Digital conservation · *Pinna nobilis*

1 Introduction and Background of Research

The world's oceans and seas are not just vast expanses of water; they are the lifeblood of our planet, providing essential services that sustain both ecological balance and human livelihood. Marine ecosystems play a pivotal role in human existence, acting as significant carbon sinks and climate regulators. However, these vital ecosystems are under threat from over-exploitation, pollution, and global warming, jeopardizing their ability to support humanity and mitigate the negative effects of climate change [1, 2]. In Europe, the relationship with the seas and oceans has historical roots, encompassing transportation, exploration, employment, and recreation. The emergence of the "blue economy" has further solidified this connection, offering 4.5 million jobs across various sectors, including shipping, aquaculture, fisheries, and tourism. Without a thriving marine environment, sectors like the blue bioeconomy cannot reach their full potential. Life dependence on its seas and oceans is evident, yet the protection of these critical habitats is faltering. The convergence of over-exploitation, pollution, and climate change has created a crisis, impacting the seas' ability to provide essential services. Ambitious initiatives are underway, such as the Green Deal and the Biodiversity Strategy, aiming to restore ecosystems and biodiversity [1, 3–7]. The case of the endangered *P. nobilis* stands as a poignant example of the delicate balance between marine life conservation and human activity. In the late 1980s the world population of *P. nobilis* declined significantly because of recreational and commercial bait fishing, the production of "sea silk" from its gills, the use of its shell for ornamental purposes and accidental killing by trawls and moorings. In accordance with Article 3 of Directive 92/43/EEC, the European ecological network "Natura 2000" was created for protected sites, for the conservation of natural heritage and which also concerns areas where the pinna is endemic. The pinna *P. nobilis* is included in Annex IV of the Barcelona Convention (UNEP) and is listed in the Protocol on Biological Diversity of Special Protected Areas (Annex II) as an endangered species in the Mediterranean and under strict protection conditions. The case of endangered *P. nobilis* serves as a focal point, highlighting the intricate interplay between economic opportunity, ecological sustainability, and ethical stewardship. Innovative actions for the monitoring, recovery, and support of *P. nobilis* have been explored, focusing on the main reasons for population shrinkage, including human-induced pressures, physiology of organisms, and dispersion of pathogens. The goal is to create a sustainable model for conservation, scientific research, policy making, and public engagement under the project name of Pinna-SOS referring to "*Innovative Actions for The Monitoring-Recovering –Enhancement of The Natural Recruitment of The Endangered Species (Fan mussel) Pinna nobilis*", that was funded by the *Operational Program for Fisheries & Maritime 2014–2020 grant number (MIS) 5,052,394*. This project manages to study, protect, and aid the recovery of endangered *P. nobilis* populations and diffuse the outcomes [2, 3, 8–11]. This paper explores the conservation of *P. nobilis*, leveraging digital marketing strategies, and offers a comprehensive plan that includes historical conservation efforts, global environmental challenges, digital marketing techniques, and community engagement.

2 Literature Review

The *P. nobilis*, a species of marine bivalve mollusk, has been the subject of various conservation and restoration initiatives. Historically, efforts have been made to protect and rejuvenate this endangered species, with some success in specific regions [12, 13]. Recent studies have also uncovered residual habitats that offer hope for the survival of the fan mussel *P. nobilis*, indicating that conservation strategies may have a positive impact [14]. These efforts have included both governmental and non-governmental interventions, focusing on habitat protection, breeding programs, and legal measures to prevent poaching and overfishing. The struggle to conserve *P. nobilis* in the Mediterranean has been well-documented, highlighting the challenges and opportunities in marine conservation [13]. The importance of understanding population dynamics and parentage analysis has also been emphasized, providing insights into the breeding patterns and genetic diversity of the species [14]. For *P. nobilis*, the application of social marketing techniques has been explored as a means to promote conservation [13]. This includes targeted campaigns to raise awareness among the public, policymakers, and stakeholders, leveraging social media, and other digital platforms to reach a broader audience. The potential of digital marketing strategies has also been recognized as a valuable tool for raising awareness and fostering support for the protection of this endangered species [15]. By leveraging the power of storytelling and visual media, these strategies aim to inspire empathy and action, turning passive observers into active participants in the conservation effort. Moreover, the integration of marketing and diffusion strategies with traditional conservation methods represents a holistic approach to marine life protection. Science, policy, and public engagement converge to create effective and sustainable solutions encompassing the combination of traditional conservation methods and modern marketing strategies [13–15]. The conservation of *P. nobilis* extends beyond traditional methods and marketing strategies, delving into the complex biological and environmental factors that influence the species' survival. Recent epidemiological investigations revealed a multifactorial pathogenesis that has led to mass mortalities of *P. nobilis* near extinction since 2016. This complex pathogenesis, caused by polymicrobial infections in conjunction with abiotic factors, underscores the need for a comprehensive and multidisciplinary approach to research and conservation [16]. The exploration of marine species in the Mediterranean Sea, including *P. nobilis*, has led to new insights into the species' health and condition in different locations [17]. Studies on autophagy indicators and comparisons between individuals from various regions have led to a deeper understanding of the biological aspects of *P. nobilis* [18, 19].

3 Sustainability and Bioeconomy in Conservation

The intersection of sustainability, marketing, and bioeconomy forms a critical nexus in conservation of marine life, particularly for endangered species like *P. nobilis*. Sustainability marketing emphasizes ethical practices and environmental stewardship, while bioeconomy focuses on economic potential of biological resources [10]. Parentage analysis and other scientific methods provide insights into species' survival and reproduction patterns [14]. Recent studies revealed natural hybridization between *P. nobilis* and other pen shell species, holding clues to parasite resistance [20]. Strategies for sustainable bioeconomy in conservation engage preservation protocols. *Promoting Sustainable Practices*: Encouraging sustainable fishing and marine-related activities aligns with conservation goals. *Leveraging Technology and Innovation*: Emerging technologies offer new opportunities for conservation and bioeconomic growth. *Collaborative Partnerships:* Building alliances fosters a collaborative approach. *Policy Alignment and Regulation:* Coherent policies align conservation with bioeconomic objectives [6]. Integration of sustainability, marketing, and bioeconomy in conservation represents a forward-thinking approach. Robust strategies can balance conservation with economic development and societal well-being. Continuous research, innovation, collaboration, and policy alignment are key to enduring protection of *P. nobilis* [6]. The global landscape of marine conservation is fraught with challenges. The decline in biodiversity, driven by overfishing, pollution, and climate change, has been identified as a critical concern [2]. International initiatives such as Stockholm + 50 aim to foster collaboration and commitment to sustainable development [4]. However, implementation remains a challenge, requiring alignment across jurisdictions, sectors, and stakeholders. A large marine ecosystem (LME) emphasizes the importance of understanding and managing marine resources at ecosystem level. Water quality guidelines and standards ensure health and sustainability of marine ecosystems [6, 7]. The CBD Korea Biodiversity Strategy aligns with LME approach, focusing on conservation and sustainable use of biological diversity [5, 6]. However, implementation of LME approach faces challenges, including complexity of marine ecosystems, lack of coordination, and need for robust scientific data [2, 10]. The paper aims to enhance awareness and action towards the protection and restoration of this species, linking sustainability, marketing, and bioeconomy. The 'Sustainability and Bioeconomy in Conservation' section bridges the paper's exploration of marine life conservation challenges, digital marketing strategies, and the specific case of *P. nobilis*, by elucidating how the integration of sustainability, marketing, and bioeconomy can create robust strategies for conservation. It emphasizes the importance of a multifaceted approach that combines ethical practices, technological innovation, collaboration, and policy alignment to protect endangered marine species.

4 Biodiversity-Conservation Marketing

In the modern era, digital marketing has emerged as a powerful tool for reaching and engaging audiences across various sectors, including environmental conservation [21, 22]. The Coalition for Digital Environmental Sustainability Codes, for instance, has leveraged digital tools to advocate for sustainable practices and environmental stewardship [3]. The Global Digital Coalition's plan to green the digital revolution exemplifies how digital strategies can be aligned with sustainability goals, creating synergies between technology and environmental protection [10]. Digital marketing has also found applications in biodiversity conservation, where it has been employed to raise awareness, mobilize support, and drive action. Research has shown that digital marketing can be a used in biodiversity conservation, but its success requires a strategic approach that considers the unique characteristics and needs of the conservation context offering opportunities to engage diverse stakeholders, from policymakers to the public, in the conservation of endangered species such as *P. nobilis* [22–25].

5 Digital Marketing Strategies for Pinna Nobilis Conservation

The conservation of *P. nobilis*, an endangered marine species, requires a combination of indicative strategies and innovative techniques, a comprehensive digital marketing plan can be developed to promote awareness, engagement, and action for protection of this species. The Pinna-SOS project has designed and applied a series of digital marketing diffusion strategies including *Utilizing existing frameworks*, which can provide solid foundation for crafting tailored digital marketing strategy for *P. nobilis*. This approach may include targeted social media campaigns, influencer partnerships, and interactive online platforms to engage various stakeholders [15–17]. *Green Marketing Strategies—Diffusion of Innovation and Global Consumer Values for Sustainability*: By aligning digital marketing efforts with global sustainability values, a broader audience can be reached. This includes promoting conservation of *P. nobilis* as part of larger movement towards environmental stewardship and sustainable living [24–26]. *The struggle for life of P. nobilis in the Mediterranean*: Focusing on specific challenges faced by *P. nobilis* in the Mediterranean can provide valuable insights into unique conservation needs of this species. Success of digital marketing strategy for *P. nobilis* depends on alignment with clear and measurable conservation goals [17–19, 23]. *Engaging Diverse Stakeholders*: From local communities to international organizations, digital marketing strategies must engage a wide array of stakeholders [24, 25]. *Leveraging Technology for Conservation*: Innovative technologies, such as GIS and artificial intelligence, can be harnessed to create immersive experiences that connect people with the plight of *P. nobilis*. These technologies can also be used for monitoring and data collection, enhancing conservation efforts

[25]. *Monitoring and Evaluation*: Continuous monitoring and evaluation of digital marketing efforts are essential to ensure that they are achieving the desired impact. Analytics tools, surveys, and feedback mechanisms can provide valuable insights into effectiveness of strategies and guide future improvements [25, 26]. While identifying key stakeholders, including policymakers, local communities, marine conservation organizations, and the public, a diverse range of platforms has been applied.

6 Pinna-SOS Digital Marketing Diffusion Protocol

Digital marketing strategies can include a wide range of tactics: *User Friendly Website-based protocol*: A dedicated website provides a central hub for information about the *P. nobilis* research program. Applying the most user-friendly tactics web development to increase engagement in Pinna-SOS diffusion [8]. *Targeted Domain Name:* Using proper keywords and conducting keyword research for best search engine ranking. *Search engine optimization (SEO):* SEO techniques for search engine ranking optimization. *Pay-Per-Click advertising (PPC):* Paid advertisements in search engines. *Social Media Marketing:* Social media platforms can be a powerful tool for creating awareness about your research program and reaching a wider audience through business pages content promotion. *Content marketing:* Content optimization to attract more interested parties and stakeholders. *Affiliate Marketing:* building strong networks relationships for increase stakeholders and supporters. Partner with other conservation organizations to share resources, knowledge, and networks to reach a wider audience and identify influential individuals or organizations for potential partnerships. *Video-based protocol:* Video is a powerful medium for conveying complex information in an engaging way. Plan the video content, create high-quality videos, and promote videos to increase the project's visibility including research promotion (Dept. of Fisheries & Aquaculture, Univ. of Patras). *Press Releases:* Releasing a series of press releases to the local, national, and international mostly prestige and recognized newspapers, TV stations and magazines (e.g., ERTFLIX/Pinna nobilis Development Aspects ERTFLIX). *Host events:* Hosting events (e.g., Saint Andrews Open Aquaculture Day (November 30th), Aquaculture Symposiums, European Maritime Day) related to the research program is a great way to engage with potential stakeholders and supporters. Research, organize workshops, or host educational talks raise awareness about your program and the importance of protecting *P. nobilis* [16–19].

7 Community Engagement and Conclusion

Citizen Science Campaigns: Engaging public in scientific endeavors is a powerful tool for both data collection and education. Citizen science campaigns have been employed to gather information and local ecological knowledge (LEK) on *P. nobilis*, fostering a sense of ownership and responsibility among community and marine professionals [24–27]. *Promoting Ocean Literacy:* Education and awareness are key to cultivating society that values and protects marine ecosystems. Ocean literacy programs that target various age groups and demographics can build a foundation of knowledge and empathy towards marine life. The *Importance of a Comprehensive Approach:* The protection, restoration, and conservation of marine life, particularly *P. nobilis*, require multifaceted strategy that encompasses sustainability, digital marketing, bioeconomy, and community engagement. *Innovation and Collaboration:* The application of innovative technologies and collaborative partnerships across sectors enhances effectiveness of conservation efforts. *Ethical Stewardship:* Beyond economic considerations, the moral imperative to preserve marine ecosystems resonates as a central theme, underscoring intrinsic value of biodiversity. *Continued Research and Monitoring:* Ongoing research into biology, ecology, and socio-economic aspects of *P. nobilis* essential. This includes exploring areas such as natural hybridization, population dynamics, and marketing strategies [14, 20]. *Policy Development and Enforcement:* Creation and enforcement of policies that align with conservation goals crucial. This includes regulations that promote sustainable practices and protect critical habitats. *Community Involvement:* Engaging local communities in conservation initiatives fosters a sense of ownership and responsibility. Community-based programs that encourage participation and education can enhance conservation outcomes [26, 27]. The journey towards comprehensive marketing and diffusion strategy protocol for marine life protection, restoration, and conservation, with focus on endangered *P. nobilis*, is complex and multifaceted. The case of *P. nobilis* serves as microcosmos of broader challenges and opportunities that exist within marine conservation. Collaborative and forward-thinking approach forge a path that honors value of marine life and practical necessities of human society.

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Boosting Multilingualism of Websites in Digital Cultural Heritage with Chat Generative Pre-training Transformer (ChatGPT) in Accredited Museums, Romania

Felicia Constantin and Androniki Kavoura

Abstract In the context of the creative industries, the museum serves as a promoter of tourism, economic development, education, and science. In the era of the onslaught of Artificial Intelligence (AI), we are witnessing an expansion of opportunities to optimize its role as a communicator of values and information. In order to openly serve communities, a modern museum employs marketing and digital promotion techniques and creates a communication strategy. Within this strategy, adopting a linguistic approach can strengthen a museum's brand, stimulate cultural mediation, and enhance visitor services. Taking into consideration the European concern for multilingualism in digital cultural heritage, we employed content analysis to examine the multilingualism on the websites of all 133 accredited museums and museum sections in Romania in 2023. On one hand, the paper highlights the lack of systematic consideration towards multilingualism, as physical and virtual visitors are generally left to "manage" with the languages. On the other hand, the research presents relevant solutions for providing websites in multiple languages: among these solutions, we suggest ChatGPT, which is starting to stand out as a revolutionary tool capable of translating diverse content for free, instantly, and accurately in multiple languages. Managerial implications are discussed since a website with comprehensive content in multiple foreign languages, strengthens the brand image and exponentially expands its global reach.

Keywords Multilingualism · ChatGPT · Museums · Websites · Communication

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1 Introduction

The museum is not just a place for the accumulation of memory and in-depth research; it is also an open and accessible space, fostering diversity and sustainability [1]. Museums have made sustained efforts to capture the attention of as many people as possible and awaken their desire to become physical visitors. To achieve this, they establish special departments for logistics, public relations, or cultural marketing to optimize the organized events and facilitate the dissemination of information to a wider audience. In this article, we aim to conduct a quantitative and qualitative analysis of museum communication in foreign languages as it appears on accredited museum websites in Romania. The article focuses on the multilingual website as a factor for increasing the competitiveness and attractiveness of a museum and it offers a practical, competitive, accessible, free, and rapid solution through the use of AI services.

2 Background Research

There have been studies analyzing the presence of multilingual websites across various domains such as tourism [2, 3], medicine [4–6], university education [7], or social administration [8]. Nevertheless, in the realm of cultural heritage, unlike other fields, limited research has been conducted on aspects like the multilingualism and the interface design [9] or the engagement of foreign audience [10]. An additional incentive for translating communication elements into multiple languages is their impact on tourism. This impact, by increasing the number of international visitors, directly benefits both the museum and the local community. However, it would be a misjudgment to restrict translation into foreign languages solely based on the count of physically visiting international tourists. In the creative industries, the focus extends beyond physical visitors to encompass virtual ones as well. The museum should be equally open and accessible virtually to international tourists. When the website provides comprehensive, accurate, and easily accessible information presented harmoniously and attractively, international online visitors can pave the way for physical visits. Furthermore, Soto Huerta and Huerta Migus [11] assert that placing multilingual practices at the center of the managerial mission leads to positive results for both museums and visitors.

Multilingualism is often associated with countries where there are multiple official languages. In the European context, this applies to countries like Belgium [12] and Switzerland [9]. While multilingualism in the exhibition domain represents an added value due to the country's official multilingual character, around half of the Swiss museums communicate in a single language [13]. Cha's study analyses multilingualism in museums from the perspective of socio-cultural integration of low-English proficiency visitors, focusing on ethnic minorities in the USA [14]. The intention to engage multilingual audiences is also observed by Martin and Jennings [15] and Garibay et al. [16].

There is a concern for multilingualism in the international digital cultural heritage as well. For instance, The Language Guide for European Business [17] proposed a scale for developing a linguistic strategy and implementing multilingualism in museums. The White Paper on Best Practices for Multilingual Access to Digital Libraries [9] compiles resources and best practices to achieve multilingual access to cultural heritage content, focusing on the notable project Europeana [18], which has sparked extensive reflections on multilingualism [19, 20]. In the discourse on cultural heritage information systems operating within multilingual environments, the study of Stilled et al. [9] dedicates an entire chapter to the interface enhancements and functionalities that foster multilingualism on website pages. This research also delved into financial, time, and effort costs, recommending the hiring of a professional translator as the prevalent approach for website translation. Financial aspects have also caught the attention of other authors. Cha's study examined the inclusion of multiple languages in marketing strategy, leading the museum to decide which languages to translate into and, more importantly, how many they can afford [14]. The substantial costs of translations for small museums represent a significant obstacle, as the expectations of foreign visitors are different [10]. It is evident that costs, including communication strategy budget and translation expenses based on domain and difficulty, have played and continue to play a central role in the promotion strategy. This research aims to examine multilingualism in Romania's cultural websites, adding more light to the limited existing literature.

3 Communication Strategy and Multilingual Websites

According to the Swiss Museum Association [13] a museum's strategic communication should systematically include a linguistic dimension. Multilingual communication plays a major role in three key domains: internal organization, cultural mediation, and visitor services, including marketing and communication, and scenography. Of notable significance within this framework is the institutional website. The Swiss association emphasizes its importance, including it as one of their 'ten commandments', which stipulates that "The website is multilingual and offers easy navigation from one language to another. Other communication tools follow the same direction" [13]. The website serves as a foundational and enduring element of a museum's brand, functioning as a virtual business card and the primary platform for promoting the museum's complete array of content. The website hosts a wealth of information, ranging from enduring scholarly content such as history, section descriptions, permanent exhibitions, scientific publications, and messages from management, to practical details like location, pricing, and accessibility. Additionally, it accommodates dynamic and partly ephemeral content, including details about temporary exhibitions, educational initiatives, and media appearances. As an integral part of traditional promotional methods, the website not only presents static and dynamic text and visual information, but also provides innovative channels for disseminating content, such as virtual tours, augmented reality, QR codes, and more.

The Romanian Ministry of Culture, through the Digital Heritage Department of the National Institute of Heritage, champions innovative initiatives, with one notable example being the MUSEO&WEB-RO project. This project is dedicated to fostering website models tailored for museums with limited financial and logistical resources. Such websites are administered remotely by the museums themselves, enabling them to curate their content and manage their pages online [21]. In alignment with the regulations set forth by Law No. 311/2003 on museums and public collections, which pertains to the acquisition of prior approval for the operation and accreditation of museums and public collections, the museum is mandated to showcase cultural marketing elements, including the establishment of an internet presence [22].

4 Methodology

The quantitative analysis is grounded in the database sourced from the official website of the National Institute of Heritage, Romania, meticulously selected based on the 'domain' criterion. This methodological approach reveals the diverse landscape of museum entities across Romania, encompassing a wide spectrum of domains. Among this array, our focus centers on the subset of accredited and reaccredited museums, as enumerated in the 2023 Public List available on the Ministry of Culture's website [23]. In total, this selection encompasses 133 museums, each classified under distinct activity domains: 19 art museums, 19 archaeology museums, 1 fine arts museum, 4 religious art museums, 1 old books museum, 20 ethnography museums, 2 ethnography and local history museums, 30 history museums, 1 military history museum, 12 memorial museums, 1 mixed museum, 1 numismatics museum, 2 science and technology museums, and 14 natural sciences museums. In some cases, multiple entities fall under the coordination of the same museum. However, these entities are individually listed on the official registry and are frequently situated in diverse locations within a given locality. They occupy distinct buildings and pertain to different domains of focus. Consequently, despite potentially sharing a common website or digital platform, each entity has been meticulously catalogued and inventoried as a separate entity.

Through a unit-by-unit evaluation, using the Google search engine, we determined the presence of active websites for each museum and explored indications of multilingual communication (symbols, words, and other facilities).

5 Results and Discussion

The analysis reveals that among a total of 133 accredited museums and sections, 129 possess websites written in Romanian. There is no website for the analyzed museums that is exclusively built in English, Hungarian, or any other language. The website in the national language is the one that includes indications regarding other languages.

Following our analysis (Table 1), we found that 97% of the total accredited museum entities (museums or museum sections) have websites in the Romanian language. Regarding the multilingual component, explicit references to the English language are present on websites of 40% of the nationally accredited museums in 2023, to the Hungarian language for 14%, to the German language for 10%, and to the French language for 5% of the total museums in the official list of accredited museums and sections (in 2023). Some websites employ emojis representing the respective flags of languages, while others incorporate a dropdown menu labelled "Language" showcasing available language options. In certain cases, a separate category like "Welcome to" is utilized. Typically, these indicators are positioned at the top of the webpage, although some instances place the button in the lower-right corner, potentially reducing visibility.

In the second stage of analysis, we evaluated the 129 or 133 websites in their country's native language, Romanian, which represents the platform for multilingual information. We specifically assessed the consistency of information indicated to be in foreign languages. It is important to note that the presence of multilingual communication indicators, such as flag emojis, doesn't automatically guarantee full translation of website content into those languages.

The analysis reveals that among a total of 133 accredited museums and sections, 121 possess websites written in Romanian, which are comprehensive and encompass a large variety of informational categories. In 8 cases, specific information appears on dedicated pages on the website of the local municipality, the County Council, the bishopric or the monastery (if it is a religious art museum), a foundation, or a university. Most websites are complex, offering a true virtual visiting experience, while others provide a minimum of necessary information. As for the lack of specific websites, in 4 cases the link was inactive at the moment of the research. We do not aim to conduct an analysis of the website's design, but rather of how it conveys

Table 1 Detailed presentation of the foreign language versions of the websites of accredited museums in Romania (2023)

Website		Romanian	English	Hungarian	German	French
Consistent version		121	42	17	8	1
Inconsistent version	Partial	8	3	0	2	2
	Empty	4	8	1	3	3
Total websites with reference to the language		133 (100%)	53 (40%)	18 (14%)	13 (10%)	6 (5%)

information in multiple foreign languages; therefore, we refer in the following to the 129 substantial museum entities.

Regarding foreign language versions, the breakdown is as follows: out of the overall 53 instances of English language references, 42 offer consistent content in English, 8 are devoid of content, and 3 have partially translated information. The Hungarian versions exhibit notable consistency, as only 1 reference to the Hungarian language lacks substantive coverage. In 17 out of 18 instances, they feature comprehensive Hungarian content. However, notable disparities arise for the German and French versions: among the limited references to these languages, only 3 out of 13 indications in German have complete websites in this language. Regarding the 6 references to French content, 2 websites are partially composed in French, 3 are void of content, and only 1 website presents consistent information. Notably, a solitary website integrates an automated translation solution on its homepage, facilitated by Google Translate.

What could be the explanations for this multilingual deficit and what solutions exist to remedy it? The most plausible explanation is that managers or communication responsible do not give proper attention to the benefits of multilingualism. Producing information in multiple foreign languages can be a costly effort. Additionally, officials may be unwilling to allocate funds for translations or simply lack the necessary resources. Despite the fact that communication in multiple foreign languages ensures broader visibility and increases the number of cultural consumers from diverse linguistic backgrounds, accredited museums in Romania limit themselves to providing translations in English and consider it sufficient to meet the needs of international visitors. Versions in Hungarian and German languages appear in particular at museums in areas where Hungarian and German minorities reside in Romania.

One of the fastest ways to translate the contents of a website is to use Google Translate, which has improved its performance over the years. Recently, very convenient, affordable, and sufficiently accurate methods of translating content into foreign languages have emerged. Research is still in its early stages in this regard, but the translation services provided by ChatGPT are listed alongside numerous other functionalities of the model [24].

5.1 Translating the Website Using Google Translate

By translating a site's link through Google Translate into a language other than that of the initial site, the user obtains the version of the site in the preferred language. The advantage is evident, but the disadvantage is that not all users are familiar with this functionality. Placing an automatic translation button on the original website with a link to Google Translate would save users from manually entering the link into the translation application.

The foreign language version is created live, and the user can navigate through each page using the menu, where they will find the complete information in their chosen language. The experience is identical to browsing the website in its original version: the same design, and the same information, but in the chosen foreign language. The experience is pleasant, and the visitor feels comfortable, seamlessly integrating the information in a harmonious way, even visualizing dynamic elements typical of the original website, such as scrolling images or background videos. Simulations have shown that displaying information in the foreign language generally works smoothly. Translation through Google Translate is the fastest and most efficient, and offers increasingly better translation options, despite occasional hesitations and errors. Overall, it remains a highly useful tool for the virtual visitor.

5.2 *Using AI Capabilities like ChatGPT*

ChatGPT is an extraordinary facilitator for creating original content and obtaining multilingual content. Launched in late 2022, ChatGPT is primarily known for its ability to generate text that can be easily used for creating brand strategies, slogans, and original messages, but these aspects are related to the brand and require official steps.

For virtual users, ChatGPT can be quickly utilized to obtain concise answers related to the heritage presented on the website. For example, after taking a virtual tour of a Brancusi exhibition on the website of the National Museum of Art of Romania, a visitor may want to learn more information about a particular exhibit, which might not be directly available. Through ChatGPT, visitors can obtain an instant response in any language they prefer.

Much less is talked about ChatGPT and its ability to translate extensive texts in and from numerous languages with high accuracy and without financial costs. Even the costs in terms of time and effort are minimal because once the languages for the multilingual strategy are defined, ChatGPT offers translation services in any foreign language within a few minutes. With minimal human supervision, the translations are very accurate and competitive.

A museum that aims to diversify its offerings by creating versions in multiple foreign languages now has a competitive alternative to the traditional route of translations carried out by professional or volunteer native speakers. The main effort in using translations with the help of ChatGPT is to input consistent text fragments into the Artificial Intelligence, formulate a translation request in any desired language, and ChatGPT instantly provides precise and grammatically correct versions that can be saved in the application's memory or deleted. If a museum officially wishes to create versions of the website in other languages, it can easily retrieve the translations with minimal effort and upload them to the site, on dedicated pages in the desired foreign language(s).

A multilingual website, which traditionally remains a primary source of documentation, has been conditioned by financial limitations until now. The advent of Artificial Intelligence can eliminate this constraint. ChatGPT offers an extraordinary way to obtain instant translations in and from any foreign language without significant human effort. These translated texts can fuel websites and provide physical and virtual visitors with the opportunity to access content in as many foreign languages as possible. In its current form, Google Translate and ChatGPT complement each other. As an interface, Google Translate delivers friendlier versions, identical to the original website. However, ChatGPT delivers more precise and grammatically correct text versions in most foreign languages.

6 Conclusions

In the communication strategy of a museum, the linguistic component plays a crucial role. Although multilingualism represents a cultural, social, and economic added value, widely acknowledged as such, there is a deficit of multilingual information on websites in the creative industries. This article presents the situation of accredited museums in Romania, but the evaluation could be extended to other countries or other branches of the creative industries. It is important to note that these observations are subject to a limitation posed by the rapid evolution of Artificial Intelligence. Besides ChatGPT, the most known in this moment, there are other AI applications that have already entered the market or are preparing to do so.

Innovation in the services sector comes from research and development in topics such as the extension/augmentation of the physical environment, through the support of artificial intelligence and robots. In particular, research is focusing on: artificial intelligence and service automation [25]; augmented and virtual reality [26]; cross reality environments [27]; culturally adaptive agents, chatbots and avatars [28] among others. ChatGPT itself will certainly optimize its interface and functionalities in the not-too-distant future, allowing for the generation of versions in other languages while preserving the design of the original website, enriching with new options and features. Boosting the multilingualism of websites in digital cultural heritage with ChatGPT is ultimately a matter of choice and decision.

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The Dilemma of Food: Taste or Healthy Choices?

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Abstract Individuals have an intricate relationship with food; trying to balance taste, authenticity, and health presents challenges, since each choice carries its own advantages and trade-offs. Tourists face this dilemma more vividly. Thus, this work, prompting a dual research approach using Eurobarometer data and TripAdvisor reviews, tries to unveil the predominant dimensions in consumer decision process. Through a cluster analysis, the data from Eurobarometer allowed unveiling four types of consumer profiles when it comes to food decisions: one centered at the food safety, one at the cost, one at the nutrient content, and the last one, on food taste. These clusters were present in all countries with different weights. Focusing only on restaurant experiences in Portugal shared online, there is a growing trend in referencing sustainability and businesses' social responsibility besides the quality and taste of food; health and hygiene are also mentioned. Gastronomy holds a crucial position in promoting the sustainable development of local tourism; understanding the needs and desires of tourists in terms of consuming healthy foods is crucial for tourism businesses to address authentic tourism experiences.

Keywords Tourism · Consumer preferences · Food · Taste · Sustainable · Healthy options

1 Introduction

Food has always held a significant place in individuals' lives, serving as a source of nourishment, pleasure, and cultural identity. However, in today's world, customers often find themselves facing a dilemma when it comes to food choices. Should they prioritize taste and indulge in the flavors they crave, seek out authentic culinary

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experiences, or prioritize healthy options that support well-being and sustainability? Balancing these aspects can be challenging, as each choice presents its own set of advantages and trade-offs.

Taste, undoubtedly, is a fundamental aspect of the relationship with food. The tantalizing aromas, flavors, and textures can create a sensory experience that can bring immense joy and satisfaction. However, the pursuit of taste alone can sometimes lead down a path of overindulgence, potentially compromising health in the long run. When looking from a tourism perspective, authenticity in food is another dimension that holds a special allure. Exploring traditional recipes, cultural cuisines, and local delicacies can be a gateway to understanding different cultures and unique culinary heritage.

Authentic food experiences can be a source of inspiration, fostering a sense of connection and appreciation for diverse traditions and destinations. However, the quest for authenticity can sometimes clash with the high resource demand, challenging individuals to find authenticity in the balance between gastronomic journeys and destination sustainability.

More recently, there has been a growing emphasis on healthy eating and making conscious food choices. With the rise in diet-related health issues, individuals are prioritizing nutritious options that can contribute to maintaining a balanced lifestyle and reduce the risk of chronic diseases. However, healthy eating can often be associated with bland flavors or restrictive diets, leading to a perception that it lacks the satisfaction and enjoyment that come from indulging in more authentic and gastronomic journeys. Tourists are by far the segment that lives this dilemma in a more vivid form. Thus, to establish how people solve this dilemma, a dual approach is adopted: (1) data from the Eurobarometer is used to identify Europeans' most valuable dimensions; and (2) data from TripAdvisor to unveil the weight of these three components in European tourists' reviews.

2 Literature Review

2.1 Food and Sustainability

The United Nations (UN) adopted the Sustainable Development Goals (SDG) as a global initiative in 2015, under the framework of the 2030 Agenda for Sustainable Development. These goals, totaling 17, were collectively embraced by all UN member states. They serve as a universal call to action, urging efforts to eliminate poverty, protect the planet, and enhance the lives and prospects of people everywhere [1].

Food plays a significant role in numerous SDGs due to their intricate connections with various dimensions of the economy, environment, and society. They are linked to a wide range of issues, such as addressing hunger, combating malnutrition, mitigating desertification, promoting sustainable water usage, curbing biodiversity loss, tackling overconsumption, addressing obesity, and improving public health [2].

While numerous SDGs indirectly relate to food, there are three goals more directly linked to this subject matter, namely goals 2, 3, and 12, respectively: "zero hunger", "ensure healthy lives and promote well-being for all at all ages", and "ensure sustainable consumption and production patterns" [1].

Sustainable Gastronomy encompasses the concept of sourcing, producing, and preparing food to minimize waste of natural resources and ensure its viability for the future, without causing harm to the environment or our well-being. In essence, sustainable gastronomy refers to a culinary approach that considers the origin of ingredients, the methods employed for food cultivation, and the journey from farms to markets, ultimately reaching our plates [3].

Gastronomy also plays a pivotal role in the sustainable development of local tourism, and research indicates that tourists exhibit diverse attitudes towards local gastronomy as a significant factor of interest. Gastronomy specifically attracts tourists with higher economic means, and the presence of a rich gastronomic tradition holds substantial value for them [4]. The significance of food and gastronomy in driving the sustainable development of locations is gaining widespread recognition. A commonly accepted notion is that food and gastronomy can play a pivotal role in promoting the economic, social, and environmental sustainability of places. Moreover, food and gastronomy have the potential to enhance the appeal and competitiveness of these places, making them more attractive to visitors and residents alike [5].

2.2 Health and Food

In recent decades, there has been a significant transformation regarding the understanding of the importance of nutrition. It has become a central topic in society, driven by the increasing awareness of the impact of dietary choices on health [6]. Advances in science have provided a deeper understanding of the effects of food on health; numerous studies clearly demonstrate the link between a balanced diet and the prevention of chronic diseases such as cardiovascular and respiratory conditions, type 2 diabetes, and even certain types of cancer [7].

Despite the heightened awareness of the relationship between nutrition and health, the World Health Organization (WHO) has raised serious concerns about the challenging rise of obesity in Europe and its subsequent contribution to the prevalence of other chronic diseases. Excess weight, including obesity, is one of the major risk factors for mortality and disability in the European Region. It is associated with 13 different types of cancer, attributing to a significant number of over 200,000 cases per year, with a rising trend [7].

Given the scenario reported by WHO, European Union member states have developed a range of public health policies aimed at empowering citizens to adopt nutritionally balanced and environmentally sustainable food choices. Therefore, if people are increasingly aware of the need to adopt healthier habits, this also applies when they travel. It is important to reflect on the relationship between dietary choices and tourism destinations.

As stated by Hrelia [6], a new category of tourists has emerged: people who prioritize healthy eating and avoid unhealthy foods to protect their health even while traveling. The increased awareness and knowledge of food quality, particularly nutritional guidelines, can influence the dietary choices of tourists in order to maintain and protect their health. Maintaining a healthy diet during a trip can be challenging, but it is certainly not impossible. While it may appear that healthy food options are limited, the truth is that there are choices available. Restaurants are increasingly creating menus with healthier options to assist consumers in selecting more nutritionally balanced alternatives. However, despite the growing concern among the food service industry to provide healthier alternatives, there is still a lack of awareness regarding the necessity of providing nutritional information for the items listed on menus.

The COVID-19 pandemic has exerted a substantial influence on the food industry and customers' perceptions of the dining experience. Research indicates that, despite increased concerns about health and perceived risks associated with dining out during the pandemic, these factors do not seem to have a detrimental effect on customer satisfaction. On the contrary, customer online reviews reflect an enhanced perception of cleanliness during this period. As a result, it becomes crucial for establishments to strictly adhere to rigorous hygiene protocols to alleviate apprehensions related to the disease and safeguard the perception of quality [8].

3 Materials and Methods

This study adopted a dual research approach using Eurobarometer data and TripAdvisor reviews to uncover the predominant dimensions influencing the consumer decision process. The Special Eurobarometer 505—Wave EB93.2 driven from the survey "Making our food fit for the future—new trends and challenges—2020" covered the 27EU countries and allowed to profile countries and consumers according to their expectations and preferences regarding to food. A cluster analysis was conducted to establish the existence of different profiles between countries and within them. The outcomes of this analysis led to choose Portugal, an outlier in terms of cost concerns, to conduct the second part of the study. For the second part, consumers' comments and ratings were retrieved from TripAdvisor. An examination was conducted to identify the existing restaurants located in three Portuguese insular tourist destinations, namely Madeira, São Miguel, and Terceira Islands. For this analysis, the best positioned restaurants in each location were selected; the comments related to the second semester of 2019 and the second semester of 2020, totaling 1416, were analyzed.

Qualitative research focuses on generating concepts, insights, and understandings by identifying patterns in the data, rather than gathering data solely to validate preexisting models or theories [9]. Thus, text mining and machine learning techniques were employed to analyze the textual content of the collected reviews; CAQDAS software WordStat version 2023.1.2 was utilized for this purpose. A content analysis was performed, allowing for the presentation of word and short sentence frequencies, as well as the identification of significant topics within the comments using the WordStat dendrogram analysis. This was accomplished through the application of factor analysis, enabling the identification of the most influential factors shaping the customers' perceptions.

In order to specifically identify references to sustainability and health concerns, an expert analysis was also performed, applying two different categorization models: the Corporate Social Responsibility content analysis dictionary [10] and the Roget Categorization Dictionary (Provalis Research).

4 Results

This section presents the outcomes of the analysis of both data sources: collected through the questionnaire and from the tourists' reviews on TripAdvisor.

Influencing Europeans' food purchases, taste takes the lead at 45%, closely followed by food safety at 42%, and cost at 40%. Approximately one in three people consider the food's origin (34%) or its nutrient content (33%), while one in five mention the available shelf-life. Factors such as whether food is "minimally processed" or personal "ethics and beliefs" (e.g., animal welfare concerns) are cited less frequently, each at 16%. Considerations related to a product's "environmental and climate impact" follow closely at 15%, and "convenience" ranks as the least influential factor at 9%. When using these preferences as segmentation variables, four types of consumer profiles were unveiled when it comes to food decisions: one centered at the food safety, one at the cost, one at the nutrient content, and the last one, on food taste (see Fig. 1).

The clusters analysis showed that the four clusters emerged in each country, but with different weights, with that light green being the one that shows smaller concerns regarding food healthiness and sustainability. As previously mentioned, Portugal was the chosen country since the cost-related cluster is predominant, leading to question if when sharing with peers their preferences, this dimension will prevail.

The content analysis of the reviews led to Fig. 2 that displays a word cloud that highlights the most referenced words by customers in the comments provided.

The most referenced words are related to food and the restaurant itself, namely: food (n = 1177), restaurant (n = 658), great (n = 617), good (n = 596), service (n = 592), excellent (n = 413), staff (n = 374), friendly (n = 353), place (n = 307), and amazing (n = 277). However, there is also the occurrence of words more directly related to health and sustainability topics, namely: quality (n = 148), fresh (n = 122), local (n = 84), vegetarian (n = 71), traditional (n = 40), vegan (n = 36), authentic (n = 31), typical (n = 27), ingredients (n = 25), real (n = 23), clean (n = 20), environment (n = 20), salad (n = 17), and freshly (n = 16). Figure 3 shows a word cloud that highlights the most referenced phrases; these are predominantly related

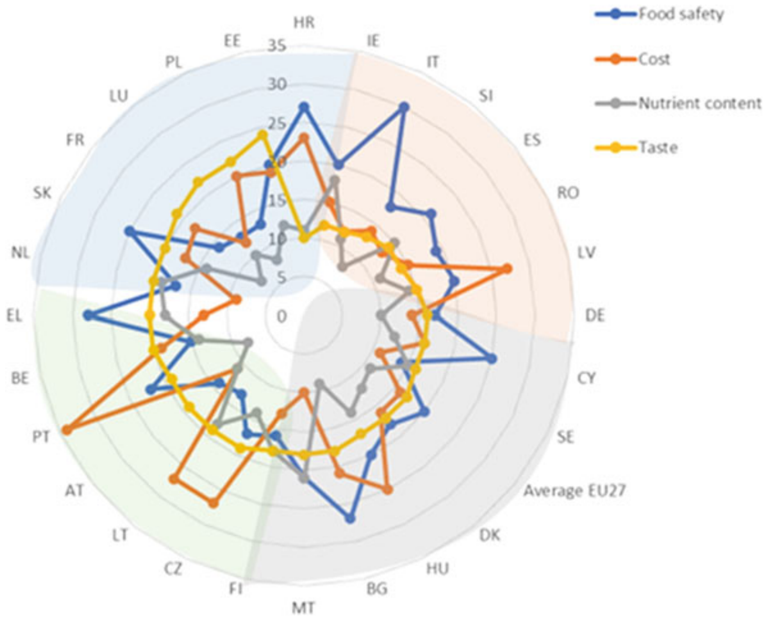

Fig. 1 Cluster composition and average point by country

Fig. 2 Word frequency

to the quality of the food and service: great food (n = 101), indian food (n = 77), excellent food (n = 59), great service (n = 58), good food (n = 57), Ponta Delgada (n = 52), Indian restaurant (n = 50), friendly staff (n = 49), delicious food (n = 45), and highly recommend (n = 44). Though, there is also the use of expressions more directly related to health and sustainability: fresh fish (n = 21), good quality (n = 21), quality food (n = 12), vegetarian restaurant (n = 12), high quality (n = 11), quality of the food (n = 11), excellent quality (n = 10), fish of the day (n = 8), local cuisine (n = 8), great quality (n = 7), vegan options (n = 7), vegetarian food (n = 7), fresh food (n = 6), quality ingredients (n = 6), vegetarian options (n = 6), local

Fig. 3 Phrases frequency

Table 1 Categorization performed with the Corporate Social Responsibility Dictionary

	Frequency	% Shown	% Processed	% Total
Employee	1533	43.79	5.14	2,30
Environment	567	16.20	1.90	0.85
Human rights	373	10.65	1.25	0.56
Social and community	1028	29.36	3.44	1.55

fish (n = 5), quality of food (n = 5), quality products (n = 5), and traditional food (n = 5).

Among the most influential topics for the total number of customer reviews, at least 4 can be identified that are more directly related to health and sustainability topics, namely: the quality of products (eigenvalue = 1,96); food freshness (eigenvalue = 1,92); vegan and vegetarian options (eigenvalue = 1,78); and the dimension and location of the place (eigenvalue = 1,69).

By applying the Corporate Social Responsibility dictionary, comments were categorized as detailed in Table 1.

As can be observed, there is a high expression of words that fit in the categories "Employee" (n = 1533), followed by "Social and Community" (n = 1028).

By applying the Roget Categorization Dictionary, comments were categorized as detailed in Table 2, following a specific analysis of topics related to health and hygiene.

As can be observed, there is a relevant expression of words that fit in the categories "Uncleanness" (n = 151), followed by "Health" (n = 139).

5 Discussion and Conclusions

Preserving or promoting health appears to be an increasingly important goal for travelers, and the health benefits of tourism are gaining significance, with healthy eating being one of the most important determinants. By opting for healthy food

Table 2 Categorization performed with the Roget categorization dictionary

	Frequency	% Shown	% Processed	% Total
Cleanness	98	22.37	0.33	0.15
Uncleanness	151	34.47	0.51	0.23
Health	139	31.74	0.47	0.21
Disease	36	8.22	0.12	0.05
Salubrity	9	2.05	0.03	0.01
Insalubrity	5	1.14	0.02	0.01

choices during their travels, tourists also can experience and enjoy local cuisine in a balanced manner. Many tourist destinations offer typical dishes that are rich in flavors and nutrients, allowing travelers to indulge in authentic gastronomic experiences without compromising their health.

The first data set analyzed allows the identification of different consumer profiles by country and age. Within countries, four clusters emerged. Considering that in Portugal, the cluster with higher predominance was a cost-anchored cluster, with little concerns about health and sustainability, the reviews of consumers in this country were analyzed. Although cost was declared as a decision variable, when sharing with peers, the experience consumers, who visit restaurants in Portugal (mostly tourists), tend to value the freshness and healthiness of the options. There are online communities of specialised interest that could be further used for exchange of ideas on the subject [11] and food can be part of online branding decisions of the destination [12]. Therefore, it is essential to adopt practices and policies that encourage and facilitate healthy food choices, providing locals and visitors with a more complete and rewarding food experience, but not neglecting the cost.

Finding a solution to the tourists' taste-authenticity-healthy food dilemma requires a thoughtful approach. It is important to recognize that these aspects are not mutually exclusive and can coexist in harmonious ways. Culinary creativity and innovation have given rise to a plethora of delicious, authentic, and healthy recipes that cater to various dietary preferences and restrictions, as shown in the reviews from certain restaurants. Chefs, food enthusiasts, and nutritionists alike can search for ways to strike a balance, ensuring that meals are both nourishing and flavorful and meet tourists' expectations.

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The UNESCO Experiential Digital Heritage Narrative in the Black Sea Basin

Aldo Di Russo and Dorothea Papathanasiou-Zuhrt

Abstract New communication patterns define market preferences, while the constant use of e-devices in daily life impacted the common sense through the interpretation of visual codes. It is necessary to determine the quintessential steps to define a strategic approach to the European audio-visual aarket and find new opportunities for research, application and creation of new iconic audiovisuals to design and deliver cognitive-emotional experiences for an inclusive and accessible cultural heritage. The digital revolution has altered the production of various industrial sectors, the audio-visual market including and the use of outdated languages and technologies results in the loss of the audience in the sector. Transferring domain specific expertise and know how into new technologies, is not only adding to the quality of contents and the tradition of the sector, but it is becoming a factor for further developments and progress. Supported by the EU funded project BSB/831/ HERiPRENEURSHIP "Establishing long-lasting partnerships to upgrade heritage-based offers and create new investment opportunities in tourism and the cultural and creative industries", a novel cultural experience pattern is introduced for the 6 Unesco-listed properties in Greece, Romania, Bulgaria, Moldova, Georgia, and Türkiye in the form of a multimedia eBook collection. The design is articulated in two central moments: (a) the presentation of a methodology acquired from many years of research in new media languages and applied in a number of European case studies on the use of tangible or intangible cultural heritage as instruments of social cohesion; (b) from a practical point of view, this methodology is applied to stories, myths, traditions and history reconfigured for the construction of new stories for an unlimited global audience. This paper discusses the process to lead a multicultural and multigenerational audience towards quality experiences at places of cultural significance through an integrated word-image relationship in the digital environment.

Keywords Digital storytelling · Digital grammar · Audio-visuals

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1 Introduction

In 1997, the digital world was just beginning to populate the needs of mankind and the market, and a global audience was summoned to the Moscone Center in San Francisco to attend the Macromedia Conference *Ignite the Web* [1]. The mission was to understand the way forward for the Internet: a mature and tested technology for specialists from the military and academic world was becoming part of everyday life. At the time, the Internet meant a network that could basically only carry text, but according to experts, it would develop very quickly and intensively and would provide possibilities and opportunities waiting to be discovered. Industries were anticipating huge investments from which they expected equally huge profits, and for that reason companies like Apple, Macromedia, and Walt Disney had summoned a heterogeneous audience together: engineers, programmers, philosophers, poets, musicians and so on. Several experts from the audiovisual sector had many prejudices about that new digital world that wanted to enter the old world, with directors, television writers, scriptwriters, and creative professionals grappling with a language that had yet to be built. The major technology makers were looking for answers on a series of research questions such as: new communication paradigms, engaging and useful ways to impact future users; what the new articulation of the forms is, to give sense and meaning to the new medium, and finally how to turn novelty into innovation. While the term novelty is expressing the technological aspect, innovation is to be sought in society, and from that day on, it was to be sought among the creative forces of the cultural industry. It was the same year that DCMS launched the 'Creative Industries Mapping Document' [2]. While a simulator gave evidence of what would be the possibilities of the Net in every home in every country in the world, the debate suggested to use the future medium we were testing, to tell the story of the art by providing services to museums, pointing out that the necessary investments would come from applications for cultural tourism. The discussion tackled the topics of knowledge, emotion, experience, and that was how culture was about to be re-born in the digital environment with possibilities and opportunities that were unimaginable at the time. The aim of this paper is to demonstrate an experiment with a new audio-visual grammar that digital publishing urgently needs in the cultural heritage sector, which could overcome the word-image division by constructing paradigms of reference that rewrite the word-image relationship where orality is added to the written word in a universe of possibilities yet unknown.

2 Literature Review

Our time is characterized by the decline of the written word: the influx of images has prompted many to study the anthropological effects of the civilization of the image, to indicate the increasing centrality of visual communication in the mass culture of western society [3–7]. In his monograph Apocalyptic and integrated intellectuals:

mass communications and theories of mass culture first published in 1964, Umberto Eco links image and consumption arguing that we have become consumers of an intensive production of continuous stream messages, industrially mass-processed and broadcast according to the commercial rules of that period [8]. Already in the days of Paolo Uccello (1397–1475), pioneer in the visual perspective in art, great painters felt the need to insert words into their canvases and frescoes to reach where even their art could not reach [9: 21]. Cinema, where the integration of image and word is the perfect synthesis, but where the word is orality, seems to conclude the process of media integration.

When development processes are fast, it is vital to analyze what was predicted at the time with what happened afterwards. In the last two decades an abundance of influential publications has emerged discussing the impact of digital technologies culminating on the EU guidelines for the audiovisual and media services first published in 2018, especially article 16 "On the production and distribution of European heritage works [10–15]. In the same year, the Report on e-tourism, demonstrates that tourism grows in Italy, despite inadequate digital offers [16]. It seems that the path of research that began in 1997 in the framework of the Macromedia Conference Ignite the Web has come to a halt and has become entangled around technologies and infrastructures, stopping to reflect on the audiovisual languages for a conscious and profitable use of the digital product, so much to be considered inadequate after more than twenty years. The tendency of each new medium to imitate its predecessors has always existed, there was the tendency of the cinema to photograph the theatre and that of television to illustrate with images the content to which radio listeners were accustomed; it is therefore not shocking that the Net and the digital world in general has tried to imitate television. All the mistakes made must become a source of study, but mainly it must be understood as such:

- digital is an environment in which relationships are experienced;
- digital is a way of conceiving and generating a product;
- digital requires conceptual structures to favor and privilege the relationships between facts and not the facts themselves.

Almost thirty years after the Macromedia Conference Ignite the Web [1], the awareness has matured that no sector and no discipline alone will be able to provide global answers to a world that thinks and acts in a common direction and with the same tools for all. Technology alone is no longer enough: from now on the discussion shall focus on the methods and on the capacity of the audio-visual language to create human-centric experiences or not.

3 Research Methodology

Research and experimentation in new audiovisual languages is a reason for cognition and emotional impact at the service of representing the culture, history, and identity of a people. However, above all reasons, research in this domain is inherent to social cohesion. We argue that language stimulates technology to go further in the direction of facilitating knowledge in a subject matter, thus, in the world of the creative industries, this bridge links artists and technicians τo build together something new. In other words, art measures itself against the digital revolution, which is a culture of sensitivity that is made possible by what technology can develop. The opportunity to test this assumption was offered by the BSB/831/HERiPRENEURSHIP project. Funded by the 2014–2020 ENI CBC Black Sea Joint Operational Program, it aimed to establishing long-lasting partnerships to upgrade heritage-based offers and create new investment opportunities in tourism and the cultural and creative industries. 6 UNESCO sites in Greece, Romania, Bulgaria, Moldova, Georgia and Turkey have pursued a new genre in digital publishing to enhance the onsite-offsite experience among non-captive audiences. Two research questions prevailed, namely: (a) how to variate on the theme of virtual reality integrated with a reality that enhances the emotional afflatus; (b) how to impact the audience in a cognitive and emotional way allowing for the development of transformative experience in both the digital environment and the territory.

A valorization survey has been conducted in 2021 across 6 UNESCO properties in Greece (Archaeological Site of Philippi), Romania (Danube Delta), Bulgaria (Ancient City of Nessebar), Moldova (Intangible Cultural Heritage of Weaving Carpets), Georgia (Mtskheta-Tbilisi) and Turkey (Soumela Monastery in the Tentative List). 60 stakeholders have been interviewed in relation to their planning and management policies; 60 suppliers have given evidence on the status of the creative industries in the project area; and 180 foreign visitors have evaluated the sites visited, indicated needs, and formulated suggestions for improvement. Research results have revealed that there is a consensus in viewing digital storytelling as a powerful mechanism to promote the sites and build a quality tourism experience and the travel motivation. However, there are differences how the three groups define the tourism experience: while stakeholders and app providers focus on the accessibility issues preferring applications with a clear service orientation, like opening hours, transport means, short history etc., visitors request an impactful experience, which ensures “to learn and feel” and that the time spent on the sites was value for money, rather “value for time”.

The results can be summarized as follows: (A) stakeholders, e.g., the public sector are not aware of the requirements for the creation of compelling contents and are often impeded to select experts by the very nature of the public procurement procedures, which impose the selection of the lowest offer. This results in low quality applications and direct loss of audiences, especially among the young. The further frustration of stakeholders combined with the distrust of market operators leads towards inhouse ‘productions’ with low quality software and unskilled staff: a vicious cycle is born. (B) Digital providers focus on the technical aspects and do not allocate efforts on the quality of contents, not willing to pay a price for research, expertise, and artistic input, arguing that the public procurement in the cultural sector is not a lucrative opportunity. The survey has unveiled that there is no common ground as to what “digital storytelling” is: for the service providers the liability for contents is not of their concern, while the heritage authorities expect quite the opposite. (C) 82%

of the visitors in the project area require quality cultural experiences such as AV-driven visitor centers, interactive experiences, apps with quality contents, gamified experienced, and multimedia eBooks with co-creation possibilities. All six UNESCO properties in the project areas have been criticized for being void of "experience and recreation opportunities" but "full of boring descriptions, digital or print". Thus, the requirements for the creation of the multimedia eBook collection have been decided by the demands of the three selected target groups. The guiding principle is to enhance the onsite-offsite cultural experience and improve the audience's creative capabilities and cultural capital. For this to happen a digital design has been weaved, to impact non-captive audiences in a cognitive-emotional way.

4 Application and Discussion

From the theoretical background built through the experiments and experience acquired, comes the more recent history of collaboration with museum institutions and territorial administrations [17: 8–9, 18: 328–329, 19: 25–28]. In the audio-visual industry there is constant insistence on the need to construct narratives that stimulate the listener's curiosity and interest. This seems a truism. Who would produce a story with the aim of boring the attention of the audience? It is necessary to start with how to do it and below, we suggest hints, methodology, sometimes procedures established by practice so that the research mentioned in the previous paragraphs can take place and provide usable analyses in the future.

The collection published under the name UNESCO Experiential Heritage Corridor in the Black Sea embeds non-textual multi-media including interactive images and image galleries, videos, audio files and interactive animated graphic design. It is offered to iOS and Android users as a free download. By being digitally born, the collection can be easily modified, re-invent and update itself with new data and media, a possibility the print media do not possess. We are accustomed to the caption descriptions that mark the stages of many of our visits to collections, exhibitions, museums. A well-crafted caption contains references, explicit or implicit, to historiographic sources or/and archaeological evidence that frame the object or building from a historical or artistic perspective: they are a document. We experimented with a way of constructing narratives in which the first rule was to act out the story by narrating it with the invisible presence of a narrator who becomes, when needed, a common part of the same objects used in the story. The narrative is not the label of the object, but turns established rules upside down, uses history to reaffirm the function that objects, for us artistic relics of a distant world, have had in that civilization, representatives of true foundations of the civilization that created them. It is history that will make room for objects and not objects that will be documents of history. By constructing the route with this method, each artefact ceases to be a past fact and becomes a "making itself" contemporary to the civilization that created it. The idea that past civilizations analyzed with the yardstick of the present has a counterproductive effect, when applied. It is one of the results of the many television series based on historical characters, created for the sake of simplicity: to encourage identification with the character we make them act, love, suffer, and live in the same fashion as we do today. The consequence of this is to risk going to the theatre to see Medea, with our penal code in mind, and judging her a serial killer, desecrating one of the humankind's representative works with a higher content of values.

The heritage narrative is not an archaeological or philological reconstruction, but a fictional one, aimed at creating the environment to which the narrative refers, made up of artworks. Thus, contents are deliberately constructed around these artworks. This approach allows the audience to transcend to the other and the elsewhere becoming contemporaries of the heroes precisely to acquire its significance of the myth or story. For this to work, any scene embedded in the narrative, although totally imaginary, must give the idea of being verisimilarly possible, the narrations are constructed to erase, in the spectator, the idea of the special effect. To make all this possible, an extremely sophisticated technical-artistic procedure is now in place that merges reality and virtuality in a way that is invisible to the audience.

Substantial effort has been invested, that references to the past are artfully inserted into 60 narratives in a comparative and contrasting way, as in this way the narrators, who are the story heroes can unveil what would be difficult to comprehend at the UNESCO-listed sites in the project area. A tale conceived in this way moves away from the logic of viewing from the outside, from the vision of an interpretation to be suggested, and becomes internal to the facts and to the spectators themselves, who are led to be the protagonists of the narrated beacons. Each story becomes a theatrical, or rather meta-theatrical, mise-en-scène in which the rules are made explicit, and the tale is illustrated as a mise-en-scène. By accepting the key, a code is organised to decipher images and stories that were unknown until recently, the audience takes the first steps towards a culture of the past. It is precisely the code that provides the key to understanding that the heritage of the past is not limited to the stones on display in the museum, a collection, or a site, but to the set of ethical codes typical of a civilization or society.

5 Conclusion

Traditionally a book is read and not viewed. It is on books that civilization has been founded and evolution organized, for the simple reason that the word contains the dose of abstraction necessary to define concepts that we would be deprived of, if it were not there. The image traditionally becomes illustration, sometimes the text becomes the caption of the image.

One of the great challenges of representation in the new world of innovative technologies is to define digital publishing. It is the new frontier in the experimentation of audio-visual languages because it has become the place where the forms of digital audiovisuals converge and, at the same time, the place where text and context can mutually mutate their roles so that the effects of a cognitive experience can be amplified, of a loyalty to the use of the instrument as a place to excite.

Confusing a novelty with an innovation, that is the case of the digital television, means to consider a revolution the changing of the antenna. The tendency to define the digital book as text exported to tablets, has not only put the brakes on the development of the sector but has shifted the focus from the valuable innovation, that is to induce knowledge and experience, to a mere novelty of the reading medium that has nothing innovative per se.

The digital environment allows transposition between text and context, unimaginable in traditional media, through audiovisual crops, animations, allegories built in computer graphics and much more. The challenge, to build a paradigm and experiment with it in the field of culture, is still there. Cultural institutions would be the most interesting sources of data, information, and studies to generate an international audience and put the new digital grammar at the service of an economy that can enhance it, to build a bridge to other creative industries and build economies of scale, all on the condition of knowing the possibilities and opportunities for integration.

As was the case with the birth of newspapers, economic sustainability should not be sought directly (who pays for the newspaper), but indirectly (sustained value growth, in the case of our example, for museums, for culture, for tourism). It should not be the task of cultural institutions to increase the customer base, but to intervene in the degree of emotion and thus the experience of enjoyment. Therefore, the real innovation does not lie in the technology used, but in the methodology of approach to the production of stories and the integration of languages, the ability to construct a path where the e-readers can safely travel by raising the awareness in which *the new* is embedded in his or her or his *previous baggage*. This is what we call a transformative cognitive and emotional experience. Understanding a small mystery opens the door to enthusiasm and becomes leverage to continue and turn the page. The reaction continues at a higher level precisely because knowledge makes one happy and satisfied. One gets a little tired, but it is worth it.

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How User Engagement Mediates the Effect of Social Media Marketing Efforts on Brand Loyalty of Green Products. The Role of Green Brand Bullying

Ioannis Rizomyliotis, Apostolos Giovanis, and Kleopatra Konstantoulaki

Abstract Green products are getting more preferred than the conventional ones as they are related with sustainable consumption. Digital marketing practices are used by companies to reach the relevant target groups, to promote green products and develop sustainable relationships with their customers. Although there are several studies dealing with the role of social media marketing efforts, still, research in brand loyalty for green products has remained limited. The present study addresses this gap by proposing a conceptual framework describing the relationship between the social media marketing efforts that companies undertake to sell environmentally friendly products and brand loyalty by considering the intervening role of user engagement and green brand bulling. The theoretical analysis supports the view that there are significant nonlinear associations among these four constructs.

Keywords Green brand bullying · Brand loyalty · User engagement · Social media marketing

1 Introduction

With the increasing use of social media platforms, companies have recognized the potential to engage with their customers and influence their purchasing behaviour [1]. The integration of social networks in marketing plans has gained a significant amount of traction in recent years and social media marketing efforts have, thus, become a central feature of contemporary marketing strategy [2]. In this setting, the way businesses promote their products or services, and shape consumer attitudes and opinions has been widely researched [3]. Similarly, while social media provide companies with a stand to communicate their commitment to their customers, they

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also offer them the chance to exhibit their environmental sustainability and promote their eco-friendly products and practices [4].

In fact, the unprecedented emphasis on sustainability issues has led to a growing demand for environmentally friendly products, and green businesses need to have a better understanding of their target audience and adopt marketing strategies that cater to digitally savvy consumers [5]. In the context of green branding, the use of social media as a marketing tool has the potential to significantly shape the sustainability agenda. By doing so, companies can increase awareness of environmental issues and positively influence consumer perceptions of their brands [6].

2 Theoretical Background

The intense push for sustainability can sometimes be perceived as aggressive or overbearing, leading to bullying phenomena [7]. This behaviour can take the form of pressure, shame, or guilt tactics aimed at forcing others to adopt more environmentally sustainable practices [8]. Bullying behaviour generally leads to negative attitudes in the target and witnesses of the bullying [9]. The negative impact of bullying on mental health and well-being is widely documented in the literature [7, 10]. The experience of being bullied can lead to feelings of anxiety, depression, and low self-esteem [11–13]. Additionally, bullying behaviour can create a toxic social environment, leading to negative attitudes and behaviours among peers. For example, bullying can lead to a culture of fear, where individuals are reluctant to speak out or intervene for fear of becoming the next target.

Despite the increasing use of social media as a marketing tool, there is still no research examining the impact of brand bullying on consumers' shaping of repurchase behaviours in the context of green products [7]. Given the complexities, and as companies strive to build brand loyalty through their social media marketing efforts, the role of brand bullying in the relationship between social media marketing efforts and brand loyalty seems to be an increasingly important area of research for marketers and policy makers. In essence, this research aims firstly to add knowledge to the understanding of how social media marketing efforts influence user engagement and green brand loyalty. Secondly, our study examines the moderating effect of green brand bullying on the relationship between social media marketing efforts and both user engagement and brand loyalty. And this is where this work can offer far-reaching implications for organizations and marketers as the need for further research on the relationship between brand bullying, social media marketing efforts, and brand loyalty is critical for advancing our understanding of consumer behaviour in the sustainable consumption context. To address the gap, this study aims to expand upon the limited knowledge on the potential impacts of green brand bullying on the consumption behaviour for green products. In doing so, a conceptual model is developed and will be empirically tested in a social media marketing setting.

Engagement refers to the extent to which customers participate in the consumption process with regards to products, brands, advertisements, marketing, or purchases

[14]. Building an intimate and long-lasting relationship with consumers is the main goal of a company's marketing strategy [15]. Social media is a distinct marketing tool because it enables two-way communication and interaction, allowing users to actively take part [16]. A survey showed that 78% of marketers use social media to enhance customer engagement [17]. Thus, it is crucial for businesses to improve their interaction with customers through social media marketing to tap into these growth and development opportunities. Kim and Ko [18] found that social media marketing efforts, including the five dimensions of entertainment, interaction, trendiness, customization, and word of mouth (WOM), have a positive impact on brand loyalty. Similarly, social media marketing efforts can lead to increased user engagement by providing interactive and personalized experiences. By creating opportunities for interaction and promoting positive word-of-mouth, social media marketing efforts can help to increase user engagement and build stronger relationships between brands and their target audience.

Engaging with users, on media platforms can offer insights to companies regarding the needs and preferences of their target audience. By utilizing this information companies can continuously enhance their sustainability initiatives. Better cater to their customers' requirements. Consequently, this can result in heightened customer satisfaction, positive recommendations and an improved brand reputation that fosters loyalty. Moreover, social media user engagement also plays a role in establishing trust between companies and their customers. When companies are transparent about their sustainability efforts and actively engage with customers, on social media platforms they showcase their dedication to sustainability. In turn, they earn the trust of their customers. This trust ultimately leads to increased brand loyalty and repeat purchases since customers are more inclined to choose a brand they trust. Trivedi and Yadav [19] define repurchase intention as the reflection of predicted consumers' future behaviour or the possibility that their belief of a brand will translate into actual repurchasing. In other words, purchase intention combines consumers' interest in a brand and their possibility to buy. The ultimate goal of brands' application of social media marketing is to induce actual purchasing behaviour, therefore, studying the effects of brands social media activities should focus not only on consumer attitudes and behaviours. Repeated purchases are good predictors of consumer behaviour, since they are strongly connected to consumer attitudes towards a brand [18].

In such a setting, in the realm of social media, there are studies that propose that brand bullying on social media can take numerous shapes such as spreading untrue information, cyberbullying, or trolling and can have serious results for both the companies and the entire society. It is imperative for companies and people to be mindful of their activities and the potential effect on others, and for people to talk out against and boycott companies or people that lock in in bullying behaviour. Furthermore, green brand bullying can also have a negative impact on the reputation of green brands. Brands that are associated with bullying tactics may be perceived as aggressive and confrontational, which can lead to negative word-of-mouth recommendations and a decrease in brand loyalty.

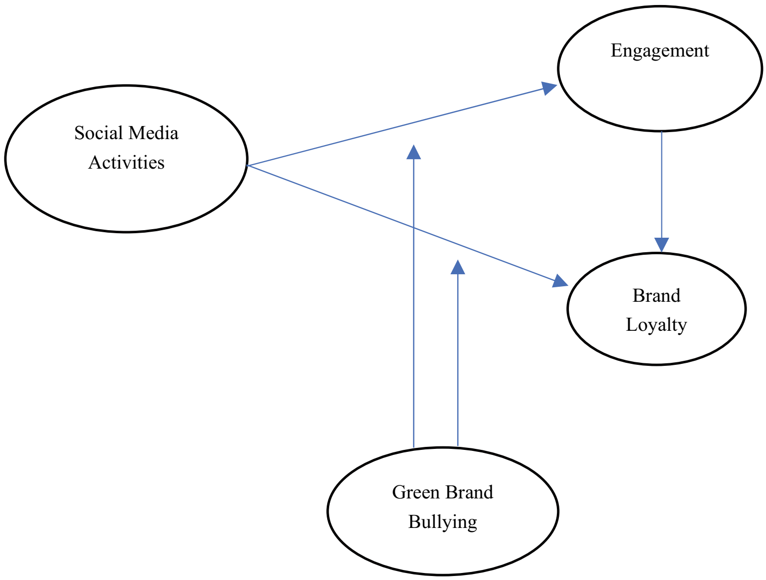

Fig. 1 Conceptual model

3 Conceptual Model and Methodological Considerations

Based on the conduction of an extensive literature review, we have formed the model conceptualization (Fig. 1) regarding green brand bullying and the consumption behaviour for green products. A conclusive research design will be then followed to examine the relationships described in the conceptual framework. Likert scale will be used with "'5" as "strongly agree" and "1" as "strongly disagree" to record the participants' responses for all constructs. The measurement of Green brand bullying is adapted the nine-item Illinois Bully Scale [20] used to assess the frequency of teasing, name calling, social exclusion. Social media marketing activities measurement is based on Kim and Ko [18] while Brand loyalty is adapted from Rizomyliotis et al. study [21] and Engagement from Hollebeeke et al. [22].

4 Discussion and Conclusion

The study aims to offer significant theoretical as well as practical implications for academics, green brand managers, organizations and policymakers who are interested in promoting green brands, sustainable consumption and behaviour change particularly to customers in a socially aberrant context. The paper proposes a conceptual framework that elucidates the intricate relationship between social media marketing efforts, brand loyalty, user engagement, and green brand bullying. The theoretical approach presented in the paper suggests that these four constructs are interconnected in significant nonlinear ways, providing valuable insights into the theoretical implications of their interplay.

An important component of the theoretical framework suggested in the research is the mediating function of consumer interaction. It serves as a crucial connection in the analysis of how brand loyalty for eco-friendly products is affected by social media marketing initiatives. Target audiences are sought after through social media marketing campaigns on sites like Facebook, Instagram, and Twitter. These initiatives can involve community building, interactive campaigns, and content creation on different fields of common interest [23–26]. In this situation, customer involvement serves as a link between these marketing initiatives and the emergence of brand loyalty. Customers get more emotionally invested in a brand when they actively interact with its social media material, such as by like, commenting, sharing, or joining debates. A sense of belonging, trust, and affiliation with the brand's values are fostered by this increased engagement, particularly when it comes to environmentally friendly items.

Through social media engagements, clients interact with the brand more frequently, which increases their brand loyalty. They are more inclined to make repeat purchases, recommend the business to others, and pick the green items from that company over others. This is due to the fact that devoted customers who are engaged feel a connection to and alignment with the brand's environmental objectives and values. The mediating role of engagement demonstrates how good social media marketing techniques not only engage the target audience but also help to grow involvement. This is especially true in the context of green products and sustainable consumption, where brand loyalty is extremely important.

On the other hand, bullying with green brands can be tempered in a number of ways. A brand's marketing efforts may be less effective when they are met with criticism, scepticism, or unfavourable comments on social media about their sustainability promises. Customers who hear such complaints may lose faith in the brand's environmental claims, which could result in a decline in brand loyalty. A company can increase the effect of its social media marketing efforts on customer loyalty if it successfully handles or combats green brand bullying. The capacity to handle criticism well and a dedication to fixing environmental issues can show a brand's commitment to sustainability and potentially increase client loyalty. In this manner, the relationship between social media marketing initiatives and brand loyalty for eco-friendly products is moderated by green brand bullying. It highlights the necessity for businesses to actively monitor and answer any criticism of their environmental initiatives in addition to engaging in effective social media marketing.

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Investigation of Tourists' Satisfaction from the Furniture Equipment and Decoration of Hotels in Greece

Ioannis Papadopoulos, Grigorios Mamalis, and Marios Trigkas

Abstract The design of the hotel's interiors can help guests enhance their experience. Hotel interior design also directly affects the profitability and success of hotels in the hospitality industry. Therefore, it is considered important to maintain a high level of interior design of hotels in order to provide a destination of choice that satisfies guests and offers them unique amenities and experiences, while at the same time ensuring economic efficiency for the owners. The aim of this research is to develop a comprehensive pre-approach to tourists' preferences for hotel furniture in Greece. The research was conducted by using convenience sampling of 340 tourists of hotel accommodation in various tourist areas in Greece. The results showed that, respondents' satisfaction is influenced both by the hotel's decoration and the configuration of the rooms, while the existence of new technologies plays an important role for them, which positively influences their choice. There is a strong tendency to prefer wood as the main material of furniture construction, while most tourists claim that they wish to have elements of Greek culture and civilization in the furniture of Greek hotels. The research is expected to contribute further to the existing literature on this topic. Furthermore, the results can be particularly useful to hotel owners who wish to incorporate green practices in their hotels, or to use eco-friendly and smart furniture in their hotel equipment.

Keywords Tourism · Hotel decoration · Furniture · Market research · Greece

1 Introduction

The tourism sector has been one of the most important factors in the development of local and global economies in recent decades. It is one of the most important industries in the world and involves very important infrastructure with service organizations, among which the most important feature is the hotel industry [1, 2]. According to [3],

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hotel service has been considered in recent years as one of the key businesses that formulate the complex tourism system. Therefore, it is logical that the satisfaction of tourists is a key component for the survival and success of the hotel industry. Therefore, hotels need to differentiate their services by better meeting the needs of their customers and improving the quality of the services they offer [4]. In a highly competitive hotel industry, individual hoteliers need to find ways to make products and services to stand out among others. According to Kariru and Aloo [5], one way to achieve this, is for hotel entrepreneurs to understand the needs of their customers and then, find ways to meet and exceed those needs. The furnishing and decoration of hotel rooms are important factors for the satisfaction of customers' expectations. Customer satisfaction as a key marketing tactic, differentiating the business from its competitors, will enhance the increased understanding of guest preference and the overall value of a guest experience resulting in maximizing hotel revenues [6, 7]. This paper aims to develop a comprehensive pre-approach to tourists' preferences for hotel furniture in Greece based on primary research, regarding their preferences and assessment of hotel furniture, while it is expected to contribute further to the existing literature on this topic.

2 Literature Review

Customers are considered protagonists in modern marketing as they seek to satisfy a set of needs and desires that are partly linked to the basic services offered and their expectations about how these needs and desires are consistently fulfilled [7, 8] also link service quality to customer expectation as it was found that customer expectation occurs when customers predict service quality using their own characteristics, attitudes and preferences. Customers perceive services differently depending on their perception and expectation, and customer satisfaction can be assessed by the service provided and customer expectation [9]. Research findings [10] confirmed that service quality directly affected tourist satisfaction across destination accessibility, destination facilities and destination attraction. Similar results were also obtained by Gupta and Srivastava [11]. Also, Della Corte et al. [12] measured tourist satisfaction and fourteen indicators were identified in their study, ranging from easy access through various modes of transport and accommodation, to the organisation of cultural events and activities. According to Gupta [13] the quality of service is divided into two parts. The first part is tangible services (furniture, buildings, rooms, decoration, etc.) and the second part is intangible services (personal contact, surprise, special materialization). These tangible services offered by hotels and the perception and expectations of their customers from them have not been explored to a large extent, in Greece as well. Such information is a valuable tool for decision making by the owners of these accommodations to satisfy their customers' expectations on the one hand and to differentiate themselves from the competition on the other hand [6]. Research on guests' satisfaction in the hotel industry [14], showed that age and gender affect the satisfaction experienced by hotel guests and that not all characteristics are equally important.

In Greece, a very important architect Mr. Konstantinidis Aris had made a big contribution in the decoration of famous hotel interiors and in the furniture choice [15]. For interior decoration and furniture of the same hotels, Marnellos [16] proposes solutions and highlights that the period from 1950 to 1970 continues, after decades, to greatly influence contemporary hospitality architecture and furniture design, thus, demonstrating its abundance and continuous contribution. Finally, Papadopoulos et al. [17] investigated consumers' perceptions on green and smart furniture innovation, which may well find application in the hotel industry and thus, enhance the competitive advantage of Greek accommodation. Based on the above, the research questions of this study are the following: Is room furnishing an important factor influencing the choice of hotel accommodation in Greece and how is it related to the demographic characteristics of tourists? What are the factors that influence the choice of accommodation in terms of the characteristics of the furniture of Greek hotels by tourists? What is the degree of importance of a hotel's furniture being of Greek manufacture and how is this view related to the demographic characteristics of tourists? How is the degree of tourists' satisfaction with the decoration of the hotel room related to the region and category of accommodation?

3 Methodology

In this research, a specially structured questionnaire was used, initially distributed to a sample of 20 tourists in tourist places, to record possible shortcomings or suggest adding questions. The total number of survey participants was also 340 tourists in hotel accommodation in various tourist areas in Greece (see Table 1). The period of the survey was July–September 2019, and for the smooth conduct of the survey the questionnaire was translated into four languages other than Greek, namely French, English, Serbian and Italian. This convenience sampling method was chosen for the convenience of the researchers, due to the limited time and cost of conducting the research [7]. The sampling process was conducted by asking people who were most conveniently available to participate in the research. The selection of the location of hotels and respondents is completely subjective as there was access by the researchers to specific hotels. However, the results and conclusions of this research cannot be generalized as the sampling method used has limitations [7]. The demographic characteristics of the respondents are presented in Table 2. Moreover, through the SPSS reliability statistical test, it was shown that the sample is reliable, since the Cronbach's reliability coefficient of all the questions of the questionnaire is equal to 0.890 > 0.7. The statistical program SPSS version 26 was used to process the questions. First, the descriptive characteristics of the respondents were analyzed, followed by statistical analysis using the correlation analysis method and the test of means.

Table 1 Characteristics of hotels

Variable	Category	Percentage (%)	Variable	Categories	Percentage (%)
Stars	0	16.8	Place	Pieria	11.8
	1	0.9		Folegandros	10.9
	2	24.1		Paros	10.3
	3	37.6		Paxoi	16.2
	4	0.9		Skiathos	14.1
	5	19.7		Chalkidiki	20.9
				Rethymno	7.9
				Mytilini	8.2

Table 2 Demographic characteristics of participants

Variable	Categories	Percentage (%)	Variable	Categories	Percentage (%)
Gender	Male	52.6			
	Female	47.4			
Age	≤ 20	10.9	Annual income	< 10,000 €	7.1
	20–29	25.6		10–20,000 €	36.8
	30–39	32.4		20–30,000 €	38.5
	40–49	17.6		30–40,000 €	10.9
	50–59	6.8		> 40,000 €	6.8
	> 60	6.8			
Education	Primary school	1.8	Nationality	Greece	25.0
	Secondary school	16.2		Italy	20.6
	High school	8.2		German	15.6
	Bachelor's degree	50.3		G.B	11.2
	Postgraduate	18.2		Serbia	7.1
	Ph.D.	5.3		Russia	7.1
				Spain	4.4
				Turkey	2.4
				Other Countries*	6.6

*Poland, Malta, Austria, Switzerland, France, Belgium, Romania, Bulgaria

4 Results

A 79.1% of the survey participants claimed that the furnishing of the hotel room is an important to very important factor in their choice of hotel accommodation. The X^2 statistical test indicated that there is a statistically significant correlation between the influence of room furnishing on the choice of hotel accommodation and (a) age ($X^2 = 79.054$, $a < 0.001$), i.e. younger age groups put more emphasis on this factor (see Table 3), (b) income ($X^2 = 39.657$, $a < 0.001$), i.e. guests with higher income seek better hotel room decoration, (c) with the nationality of tourists ($X^2 = 234.184$, $a < 0.001$), i.e.: Greeks, Germans, Italians, British, Russians and Serbs are more interested in the decoration of their accommodation. It is worth noting that 70.6% of the participating tourists had visited the accommodation they stayed in for the first time, while 20.6% for the 2nd, 4.1% for the 3rd, 2.1% for the 4th, 2.7% for the 5th + time.

Regarding the main material of construction of furniture in a hotel room, 84.1% of the respondents claimed to prefer wood, 7.4% metal, 3.2% leather, 2.4% prefer a combination of materials, 2.1% glass and 0.9% plastic. Survey participants were asked to define the importance of the characteristics of a hotel's furniture that influence the final choice of hotel for accommodation using the Likert scale (5 = very important to 1 = not at all important). They claimed that the final choice of hotel for accommodation is mainly influenced by the integration of modern technology in furniture (4.0, ± 1.3), modern design (3.7, ± 1.2), ecological furniture (3.7, ± 1.2), bright and dark colors (3.5, ± 1.2) and high quality of construction (3. 5, ± 1.3), followed by the reference of the furniture to Greek culture (3.5, ± 1.4), the certification of the final manufacture (3.4, ± 1.3), composite wood products, solid wood (3.3, ± 1.3 respectively), classic design (3.2, ± 1.1), certified raw materials (3.2, ± 1.4) and brand name (3.2, ± 1.2). It is worth noting that 82.7% of the participants in the survey claimed that they would like the furniture of the hotel they chose to contain elements that refer to Greek culture and Greek culture. Also, 75.3% of the participating tourists claim that it is of great to very great importance for them that hotel furniture is of Greek manufacture, while 14.4% claim to be moderately influenced by the origin of hotel furniture, 6.8% a little and 3.5% indifferent, respectively (see Table 4). The X^2 statistical test showed that there is a statistically significant

Table 3 Influence of room furnishings on the choice of hotel accommodation (%)

Impact	Age							Pearson X^2	df	a
	< 20	20–29	30–39	40–49	50–59	> 60	Total			
Very strong	27.0	31.0	52.7	53.3	21.7	17.4	40.0	79.054[a]	20	0,00
Strong	43.2	56.3	16.4	30.0	60.9	78.3	39.1			
Moderate	29.7	12.6	20.0	13.3	17.4	0.0	16.5			
Weak	0.0	0.0	4.5	0.0	0.0	4.3	1.8			
None	0.0	0.0	6.4	3.3	0.0	0.0	2.6			

Table 4 Importance of Greek origin of hotel furniture (%)

Impact	Annual income					Total	Pearson X^2	df	a
	< 10.000	10–20.000	20–30.000	30–40.000	> 40.000				
Very strong	37.5	37.6	46.6	43.2	13.0%	40.0	39.657[a]	16	0.001
Strong	29.2	45.6	37.4	27.0	43.5%	39.1			
Moderate	33.3	12.0	13.0	16.2	43.5%	16.5			
Weak	0.0	3.2	0.0	5.4	0.0%	1.8			
None	0.0	1.6	3.1	8.1	0.0%	2.6			

correlation between this opinion and (a) age ($X^2 = 79.054$, $a < 0.001$, with df = 20), (b) income ($X^2 = 39.657$, $a < 0.001$, with df = 16), and (c) their educational level ($X^2 = 57.123$, $a < 0.001$, with df = 24). 83.3% of the participants are confident to very confident that the choice of Greek furniture by hoteliers will have a positive impact on the increase of the clientele of Greek hotels.

Investigating the degree of satisfaction of the survey participants by the decoration of the room in the hotel they chose, 58.8% of the participants say they are satisfied. The mean degree of satisfaction of the participants with the decoration of the room in the hotel, on a scale of 1–10 with a perfect score of 10, was 7.59 with a standard deviation of 1.805 (N = 340). The X^2 statistical test indicated that there is a statistically significant correlation between the level of satisfaction with the hotel room decoration and (a) the area where the room is located ($X^2 = 141.720$, $a < 0.001$, df = 63) (see Table 5). The areas rated with higher scores (greater than 8 with a perfect score of 10) are: Pieria (90.0%), Folegandros (89.2), Halkidiki (87.3%) and Rethymno (84.6%). Relatively lower scoring regions are: Paros (42.9%), Paxos (49.1%), and Mytilene (57.1%) and (b) the number of stars of these units ($X^2 = 72.048$, $a < 0.01$). The highest degree of satisfaction is obtained from 4* hotels and the lowest from 1* hotels. There is considerable room for improvement in decoration by 5* hotels, as the expectations of the people who choose them are higher, naturally relating them to the price they pay.

5 Discussion and Conclusion

The present research revealed very interesting results that can be highlighted regarding the satisfaction of tourists with hotel furniture equipment in hotels in Greece, highlighting the importance of quality [13].

Regarding the furniture in hotel accommodation, it seems that there is a strong trend of preference for wood as the basic material of furniture with characteristics that create a positive impression on tourists, for example, the integration of new

Table 5 Testing X^2 correlations between regions and satisfaction with hotel room decoration

Grade	Place							
	Pieria (%)	Folegandros (%)	Paros (%)	Paxoi (%)	Skiathos (%)	Chalkidiki (%)	Rethymno (%)	Mytilini (%)
1	0.0	0.0	2.9	1.8	0.0	0.0	0.0	0.0
2	0.0	5.4	8.6	3.6	0.0	0.0	0.0	0.0
3	2.5	0.0	8.6	5.5	0.0	0.0	0.0	3.6
4	0.0	0.0	11.4	7.3	0.0	0.0	0.0	10.7
5	2.5	2.7	8.6	3.6	0.0	0.0	0.0	3.6
6	5.0	2.7	5.7	3.6	16.7	5.6	11.5	10.7
7	17.5	27.0	5.7	7.3	16.7	31.0	30.8	10.7
8	12.5	27.0	11.4	25.5	41.7	45.1	42.3	28.6
9	55.0	24.3	14.3	29.1	20.8	15.5	15.4	17.9
10	5.0	10.8	22.9	12.7	4.2	2.8	0.0	14.3

technology in furniture, modern design of furniture, etc. Thus, it is identified what the expectations of tourists are, and they associate them with quality [8].

Tourists of all nationalities were positive regarding the sourcing of hotel furniture from Greek companies and presenting elements that refer to the Greek element and Greek culture, while arguing that the incorporation of the Greek timber industry in hotel decoration will substantially help hoteliers, increasing the reputation for supporting the Greek industry and creating a complete "Greek experience". This could act as a trigger for interested hotel entrepreneurs to understand the needs of their customers [5] in order to develop and implement the appropriate marketing strategy for the sustainability of the elements that formulate their hotel unit, including furniture, by highlighting for example the Greek origin of the furniture materials, the Greek timber industries they have collaborated with and by sharing the vision of their business. This way they can also differentiate themselves from the competition [6]. Tourists are generally satisfied with the accommodation and furnishing of hotel accommodation, but they vary according to the region and the category of these accommodations. Finally, it is noted that the results of the present survey could be particularly useful to entrepreneurs in the wood and furniture sector, to recognize the necessity of sustainability in wood products offered to consumers and especially in the tourism sector, the necessity of providing quality wood raw materials and the preservation of the Greek origin of furniture.

The limitations of the research are firstly the sample size and method which, although very satisfactory for the completion of the present research, compared to the tourist flows arriving in Greece, is relatively small and shows limitations for generalization and greater representativeness. On the other hand, the seasonality of the survey may be a limitation, since it could be conducted during the winter months, in order to investigate their views on wood products in hotel accommodation, not only in coastal areas where mass tourism and leisure tourism is mainly developed, but also in other areas of the mainland, in order to highlight the opinions of alternative tourists regarding the furniture of hotel accommodation.

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Management Optimization of Crop Storage Processes Using Vision Techniques

Katarzyna Szwedziak, Beata Detyna, Petr Doležal, and Androniki Kavoura

Abstract The paper presents a method of using vision techniques and artificial neural networks to assess the degree of contamination of cereal grain during grain reception and storage. The aim of the work is to optimize the management of the process of evaluation of contaminants in grain mass in the warehouse and during purchase using vision techniques based on computer image analysis in order to expedite laboratory work. On the basis of the conducted research and analysis of the results, a technology of optimization of quality assessment of stored grain using vision techniques as a quick assessment method was developed. Artificial neural networks were used to analyze the obtained results. Implications for marketing managers and the farming enterprise for sustainable practices and economic advantages are discussed.

Keywords Management optimization · Artificial neural networks · Vision techniques · Quality assessment · Grain storage · Grain contamination

1 Introduction

Statistics show that agriculture plays an important role in Poland. Poland is famous for the production of cereals, rapeseed and potatoes. The use of artificial neural networks and computer image analysis in agriculture and processing in the assessment of the quality of raw materials and final products can make a huge contribution [1]. As currently stated in the literature [2, 3], machine vision system based image analysis is widely used in the food industry to monitor food quality, greatly assisting

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researchers and industry in improving food inspection efficiency. Meanwhile, the use of deep learning in machine vision has significantly improved food identification intelligence. This article reviews the application of machine vision in food detection from the hardware and software of machine vision systems, introduces the current state of research on various forms of machine vision, and provides an outlook on the challenges that machine vision system faces. According to Xi Bin [2], the main function of computer vision is to simulate the video and graphic information seen by human eyes and to monitor and process existing data image information, which can facilitate technicians to quickly capture sensitive detection indicators in the process of data entry, information integration, data analysis and data labeling. Machine vision systems usually include two parts: image information capture and image information [4, 5].

Since the authors point out that the problem of assessing the quality of raw materials is important, an attempt was made to develop a quality assessment method using computer image analysis. The aim of the work is to optimize the management of the process of evaluation of contaminants in grain mass in the warehouse and during purchase using vision techniques based on computer image analysis in order to expedite laboratory work [6, 7].

2 Research Methodology

Artificial neural networks were also used to model the results. It was therefore assumed that on the basis of the prepared application for processing and analyzing the acquired digital images, based on the *RGB* color recognition model, a quick and good method of assessing the quality of products will be obtained. There is a great practical demand for such solutions, e.g. during the purchase of cereals for storage. Determining the initial quality of the incoming seed in terms of impurities gives an immediate basis for determining the price of the purchased material. The second aspect of using this method is the quality control of the grain stored in the warehouses. The development of such a method will allow to quickly obtain results without time-consuming laboratory work. For this purpose the samples of wheat seeds were prepared. The computer application was prepared and developed to assess the degree of contamination of grain mass based on the *RGB* model. *Also a* measurement stand was made to enable taking digital photographs of appropriate quality and digital photographs of the collected wheat seed samples were taken [8, 9]. The obtained photographs of wheat seed samples were analyzed using the “Agropol V08” computer application and neural analysis of the obtained empirical results was performed [10].

The research was conducted in a company dealing with the purchase and storage of cereals. For the research, wheat that was stored in the floor cereal warehouse there were used. The research was conducted for 7 months’ storage period from the loading date. Samples were taken every 4 days (8 samples per month). Five samples were taken each time from a randomly selected batch of wheat pile. Approximately

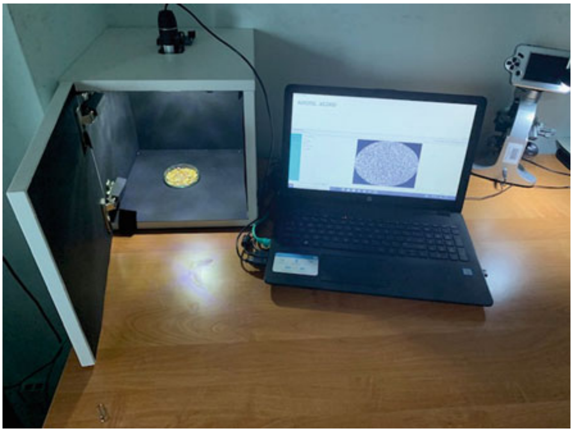

Fig. 1 Computer image analysis stand. *Source* Katarzyna Szwedziak

0.5 kg of grain was collected for testing. Samples were taken using a prototype multi-chamber probe with an overall length of 150 cm, which was equipped with a humidity and temperature sensor type AM2302. The probe allowed for the acquisition of a representative cross-sectional sample at the depth of up to 120 cm and for the study of temperature and humidity of the intergranular space at a depth of about 100 cm. Then the sample was taken to the laboratory, where the contaminants were determined by means of the weight-sieve and microscopic methods. In parallel, the same sample was evaluated using computer image analysis. For this purpose, a special test stand was used, equipped with a camera for image acquisition (sampling) and connected with a computer application for grain evaluation. After the acquisition of the image, the analysis was carried out using the computer application "*Agropol V08"*. Figure 1 shows the test stand.

To carry out research based on computer image analysis, "*Agropol V08"* application was developed, which is used to analyze, process and recognize images. Its basic feature is the ability to build image processing scripts. For this purpose, a scripting language has been built in that allows for a number of graphic operations. The program is adapted to read and write images in standard graphic formats (BMP, JPEG). The results obtained were compared with those from the laboratory. Neural modelling was used for comparative assessment. The task of "*Agropol V08"* computer application based on the *RGB* color description model and the application of the color recognition model was to extract the measured objects from the background and averaging the *RGB* components within the object outline:

$$R, G, B = \frac{\sum R_{0-255} \cdot K}{\sum K} \tag{1}$$

where

R acquisition resolution (0–255),
K number of pixels of a given resolution.

With the average values of the *R, G, B* components, you can calculate the average brightness of the image according to the formula:

$$I = (R + G + B)/3 \tag{2}$$

3 Results and Discussion

In addition, as part of the research, the management of the entire technological process has been implemented in parallel with the currently operating system. With such an approach it was possible to work out an optimal scheme of implementation of the new solution. It was also possible to compare the time of conducted research, determine the costs incurred by both operating systems and calculate the operating profit related to the implementation of the new solution. As part of the research conducted, only the cleaning process was analyzed for profitability. The whole technological process was divided into the following stages: weighing, sampling, evaluation of the composition and quality of contaminants, unloading, intra-elevator transport, cleaning (separation), drying, storage, transport [11]. The implementation of the innovative method will improve the organization of the technological process at the stage of weighing, sampling, assessment of the composition and quality of pollutants, cleaning and drying. The analysis assumes a comparison of the current method of sampling and evaluation in the technological process and the implemented method carried out during the research. Figure 2 shows a block diagram of granular material evaluation technology.

As part of the project, the profitability of the project was assessed using the EBIT operating profit ratio. The key element was the time of receipt of the produce and thus the lost profit when using the traditional method. Figure 2 shows a diagram of the entire process.

The assumption for the analysis was that the company is able to work 12 h a day in the working season. On average, from experience and analysis of the company's records, it follows that the receipt department accepts around 50 transports (2021 data) with 20 tons of grain. The time of the task performance by traditional method takes about 15 min. In case of implementation of the new method, the time is reduced to 3–5 min per transport. The laboratory is able to handle 150 shipments of 20-tonne each using the new vision method within the same period [12, 13]. The financial analysis was based on generating income only from the cleaning and separation stage. Shipment of wheat with the contamination up to 1% of grain value was accepted for analysis. After the analysis at this technological stage, it was found that the traditional method generates a value of 11,522 PLN/day (operating profit), and the vision method 2,073,960 PLN/day (operating profit). The value was calculated using the following formula:

(1) (+) direct revenue—taxable revenue

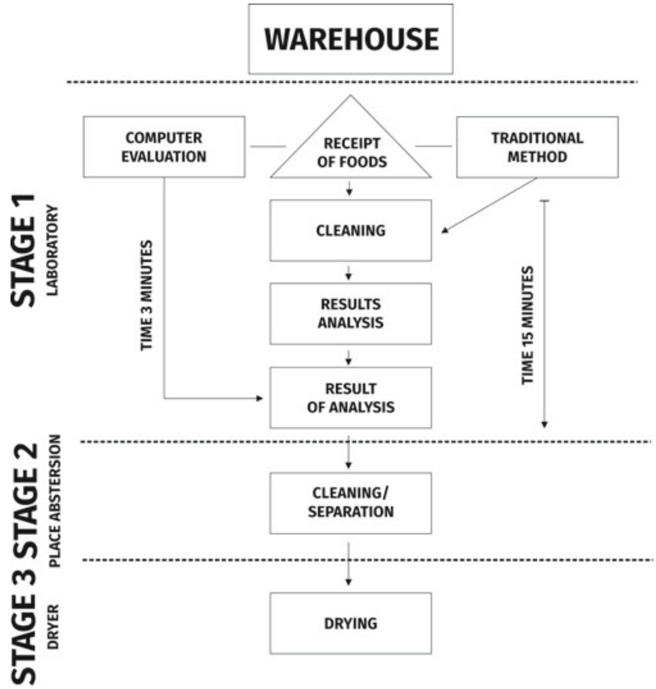

Fig. 2 Block diagram of granular material evaluation technology. Source: own study

(2) (−) tax-deductible costs
(3) (=) profit (+)/loss (−)—operating profit

The financial data include purchase and sale prices in 2021. Subsequently, a financial analysis was made based on generating income only from the technological stage of cleaning and separation. Shipment of wheat with the contamination up to 2% of grain value was accepted for analysis. After analysis at this technological stage, it was found that the traditional method generates a value of PLN 12 354 per day (operating profit) and the vision method PLN 2,359,614 per day (operating profit).

Based on the operating profit ratio only, the percentage of growth ranges from 90 to 190%. The entire technological process has also been modernized to avoid bottlenecks:- material cleaning,

- drying
- transport inside the warehouse.

As part of the project, fixed assets were purchased to improve the whole process. Based on the above assumptions, an analysis of the so-called straight payback on investment was also made. The payback time is understood as the time necessary to recover the initial expenditure on the project. This factor allows to choose from investment projects under consideration such an option which enables the fastest payback of initial expenditure. In the case of a single project, it may be carried out if its payback period is shorter or equal to the period accepted by the investor as acceptable.

In applying this criterion, the annual nominal amounts of income should be summed up and the resulting sum should be compared with the value of the expenditure.

$$OZN = \frac{CNPI}{PRNF}$$

where

ONZ payback time
CNPI total investment project expenditure
PRNF planned annual financial surpluses resulting from a given undertaking

In this case, the ONZ value—the payback time is about 3 years.

4 Conclusion

On the basis of the analyses carried out, it was found that neural models for quality assessment of wheat grain contaminants, which were developed and verified logically and experimentally, confirmed that it is advisable to use them on the basis of color characteristics obtained from the image analysis software developed. The application of computer image analysis allowed for a significant acceleration of the assessment of the quality of the examined material in relation to traditional methods. This method was of particular importance in the case of the examination of the condition of the seed coat of wheat from the cereal warehouse. The generated models were characterized by good parameters and high quality, obtaining a high R^2 coefficient, at the level of 0.999. As part of the investment project we have savings resulting from the time of receipt of goods and further production process. Profitability was estimated at 190% per day. The analysis was made without taking into account other costs related to the business activity. The straight payback time is 3 years.

This paper illustrates how to optimize the management of the process of evaluation of contaminants in grain mass in the warehouse and during purchase using vision techniques based on computer image analysis in order to expedite laboratory work.

Sensor technologies can be used from the production industry to provide an economic advantage to the farming enterprise [14]. Strategies can be associated with the farming procedure for economic decision making, sustainable agricultural practices and food security [15].

Marketing managers may use technology optimization in providing packaging information with code generators (QR) and detailed information about the products for customers to be informed.

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Characteristics of Romanian Online Recruitment Websites and Students' Use

Andreea Claudia Mardache and Melisa Florina Balasescu

Abstract Technology has increasingly changed the way human resource (HR) function achieves its goals. Organizations seek agile employees who can cope with continuous changes in a complex and uncertain environment. Effective recruitment is closely related to talent management, as organizations are interested in attracting talented people who can give a competitive advantage for the organization. The use of technology and artificial intelligence in recruitment will increasingly enable the creation of profiles that help organizations attract the best candidates for vacancies. In this context, due to its multiple advantages both for organizations and candidates, online recruitment is increasingly being used. However, it is important to be aware of the various problems associated with online recruitment and to find solutions in solving them. In this study, we conducted a content analysis of ten of the most popular recruitment websites in Romania, according to a wide range of criteria concerning the jobs on offer, but also the features of the sites. Moreover, we also conducted an exploratory survey (with a sample of 200 students) in order to identify the perception and use of these recruitment websites by students and recent university graduates. Recruitment websites are more and more complex and offer diverse and useful tools for users. Some of them already use artificial intelligence to help users identify the most compatible job. Students and recent university graduates predominantly use such websites when they are looking for a job.

Keywords Online recruitment · Recruitment websites · Artificial intelligence

1 Introduction

Contemporary organisations need agile and flexible people with a powerful adaptive capacity who can cope with the continuous changes taking place in a volatile, uncertain, complex and ambiguous environment- VUCA, as described by Holbeche [1]. The unravelling of the most efficient ways of attracting the qualified candidates

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is of utmost importance, as recruitment costs can be high [2]. As the acquisition, development and preserving of the talent represent a key to success, organisations are suggested to handle talent management in a strategic and integrated fashion [3]. The approach should support the organisation's strategic objectives and, last but not least, generally match with its values and characteristics. Within an organisational context, the talented employees are the ones who can contribute to the growth of the organisational performance, either through their immediate contribution or through their long-term input, via the manifestation of their potential on the highest level [4]. The use of a talent management software is suggested which implies, for instance, the evaluation of the workforce performance, the monitoring of the candidate's abilities and their integration, which further helps managers to "recruit, administer and keep the best employees" [5].

When taking decisions concerning recruitment, organisations take into account three paths [6]: the personnel policies (they represent organisational decisions which act upon the management of human resource in general, comprising the nature and manner in which vacant positions are filled); recruitment sources (internal and external sources), but also the characteristics and behaviour of the recruiter (which act upon the characteristics of both the vacant positions and candidates). Finally, both the decision of an applicant to accept a job offer and the decision of the organisation to make the offer depend on the coordination between the characteristics of the vacant position and those of the applicant. The recruitment sources make reference to the location of the qualified candidates (i.e., universities or competitors), and the recruitment methods account for the special means used so as to attract the candidates (i.e., online recruitment) [2]. Because of the development of technology, online recruitment has, nowadays, become one of the most used and efficient ways of recruitment. This paper aims at identifying the complexity of recruitment websites from Romania (from a job perspective wise but also from the perspective of facilities and options that are on offer for the users) and their use by students. Most of the students are or will be searching for a job and they represent the age group which knows how to value the diversity and richness of the resources offered by the online environment.

2 Online Recruitment

Technological tendencies have created new opportunities through which the functioning of the human resource reaches its targets, its recruitment [6]. Recruitment through technology covers a wide spectrum of the labour market, with different online platforms being available for the searching of the necessary candidates. At present, organisations are using more and more of the social media platforms, such as LinkedIn and Facebook to search for the ideal candidates [7]. In order to evaluate the different opportunities given by these platforms, it is sufficient to take into account that Facebook has outreached 2 billions of daily active users and 3 billions of monthly active users [8]. Online or electronic recruitment uses the internet to advertise vacant positions and to offer information about the job itself or to collect CVs. The majority of organisations resort to online recruitment through their own webpage, where they offer details about the vacant positions, the benefits that the enterprise offers and details about how to apply for the job [9]. A website which offers numerous details about the job is, most of the times, a successful website in online recruitment [10].

There are multiple advantages of online recruitment: information can reach a higher number of possible candidates; low costs, convenient, the speed of getting people employed (the fastest and cheapest method, as opposed to the old methods of recruitment); the possibility to offer more details about the future workplace; through social media websites and blogs one can identify a large range of possible candidates and know various details about them; websites such as LinkedIn offer candidates enough information about the culture and values of the organisation which help them evaluate whether they are eligible to the requirements of the position and of the organisation. On the other hand, such websites are useful for the employers who can pay for extra benefits; such is the case of "Recruiter", an instrument with which one can identify the profiles of the candidates whose qualities and abilities are similar to the ones required by the organisation. "The organisations can create a career page on LinkedIn so as to offer a description of themselves using key words which candidates might use; they could also present the lists concerning the available jobs and customize messages according to the visitor's profile" [6].

In spite of the many advantages of online recruitment, there are also some disadvantages that employers must consider when using it: collecting too many job applications for a vacant position, thus bringing difficulties in sorting them out; attracting unqualified people for the position. Therefore, it is necessary that the employers should make the recruitment process more efficient; the possible candidates post information on social media websites which they do not reveal at an interview, a fact which might not be regarded as positive by the employer; "accessibility for some groups, such as the unemployed, less IT-literate or older applicants" [9]. E-recruitment may also not be fully compliant with disability discrimination legislation. Organisations should, therefore, also use traditional methods, such as application forms and print media, to ensure equality of access to information [9]. In addition, recruiters begin to intensively use artificial intelligence (AI) and other recruiting instruments with intelligent technology at the workplace [7]. AI is seen as a game changer of recruitment, especially in large organisations [10]. "AI-powered interfaces will become a source of competitive advantage for organizations that use them correctly" [11].

AI can be used in different ways: the algorithms can sort CVs, can create the profile of the outstanding employees and compare it to the candidates' profile, can write job descriptions; the data extraction algorithms can use the given data on social media; Google Hire comes as an add-on to Google platform for jobs; one can create psychometric systems for game testing (gamification). The learning algorithms can easily help in the recruitment automation system through the basic fact that they collect data from the online environment [10]. The possible problems that can show up, as a result of the use of AI in recruiting, are linked to the fact that erroneous information can be extracted from Facebook, LinkedIn or Twitter; discrimination or other biases against the candidate can also arise. "Pictures can potentially identify individuals as members of a protected class, and those pictures may cause subconscious bias on the part of some recruiters. AI systems also pose privacy issues. Any privacy invasion or bias, whether intentional or unintentional, is a danger to the organization during the recruiting and hiring process" [7]. "As talent acquisition is one of the most labour-intensive elements in the entire HR spectrum, professionals in this field stand to gain much from the adoption of AI-based recruiting technologies" [12].

This study aims at identifying the way in which students use recruitment websites from Romania: the frequency of their use, the options which are considered useful, the trust and degree of satisfaction of the above mentioned in terms of their use and the ability of finding a job with their help, but also the use of instruments of artificial intelligence, offered by some of them.

3 Methodology

3.1 Research Objectives

(1) A comparative analysis of recruitment websites from Romania from the available positions' stance: the number and type of positions (overall and from the domain of human resources (HR), the required education level and previous experience, the number of jobs for students and graduates from the domain of HR, the number of positions from abroad (overall and from the domain of HR), the number of remote positions (overall and from the domain of HR).
(2) A comparative analysis of recruitment websites from Romania, from the perspective of design and from the different facilities that are on offer.
(3) To identify the students' attitudes towards the use of recruitment websites from Romania and other general behaviours towards their online use.

3.2 Research Design

The present sociological study is a descriptive one. Two methods of research have been used: content analysis and the sociological inquiry based on a questionnaire. The questionnaire has been sent through e-mail to the students from Transilvania University of Brașov. A number of 16,809 students were enrolled at Transilvania University of Brasov in the 2022–2023 academic year (undergraduate degree programmes).

3.3 Data Collection

The universe of the research is given by: (1–2) Recruitment websites from Romania in June 2023; (3) students from Transilvania University of Brașov, enrolled in the 2022–2023 academic year. The size of sampling: (1–2) 10 recruitment websites from Romania, some of them being sponsored by the Google search engine: eJobs [13], BestJobs [14], Hipo [15], Jobradar24 [16], Undelucram [17], Jooble [18], JobZZ [19], OLX Jobs [20], Romjob [21], Careerjet [22]. The sampling was improbably accidental. Data were collected in June, 21st 2023. (3) 200 students from Transilvania University of Brașov, Romania, enrolled in the 2022–2023 academic year. The sampling was improbably accidental. Data were collected in June 2023.

4 Analysis and Interpretation of Data

4.1 A Comparative Analysis of Recruitment Websites from Romania

Top websites with most jobs are: Jobradar24, eJobs and OLX Jobs. Full time jobs gain the upper hand on most of the recruitment websites and Jobradar24 contains many seasonal positions. The majority of remote jobs can be found on Jooble. According to the education level: eJobs mainly contains jobs for qualified candidates and for graduates. BestJobs mainly includes jobs for underqualified candidates; Hipo for students; Jobradar24 for underqualified candidates and for graduates; Jooble for students and graduates; JobZZ for qualified candidates; OLX Jobs and Romjob for underqualified and qualified candidates; Careejet for underqulified and students; Undelucram website does not mention any. Based on experience level, such websites contain jobs which do not require previous experience (most jobs out of the total number offered on Jooble, OLX Jobs and Careerjet); Entry-level jobs (eJobs, Jobradar24 and Romjob); Mid-level (BestJobs, Hipo and Undelucram); Senior-Level and Manager/Executive (Jooble). Most jobs from abroad can be found on Jooble, eJobs and bestJobs. The majority of jobs from abroad from the HR domain are on eJobs, OLX Jobs, BestJobs and Jooble (Table 1).

Recruitment websites have been analysed according to the following 14 criteria: job diversity (10 websites), attractive design (9 out of 10 have an attractive design), facility usage (8 websites), mobile friendly (7 websites), Facebook pages in Romanian (7 user accounts), activity on social media (6 websites), advanced filtering (6 websites), additional information about jobs (6 websites), fees for posting the announcement (6 websites), career counselling (5 websites), articles for users (4 websites), CV templates (4 websites), internship programmes (3 websites) and salary calculator (2 websites). According to the number of given facilities, the top of websites is as follows: (1) eJobs (14 facilities); (2) Undelucram (11 facilities); (3)

Table 1 Number of different type of jobs

Website	Total no. of jobs	Full-time	Part-time	Internship	Seasonal	Remote	HR jobs	Remote HR	HR students
Jobradar24	61,009	41,350	1125	5	12,910	1670	2125	45	5
eJobs	31,644	30,893	5995	373	1621	1746	1810	68	460
OLX jobs	30,462	28,856	965	0	12	70	251	0	33
Romjob	29,302	25,412	1748	3	447	80	255	2	10
Cereerjet	21,835	21,382	452	3	12	1470	400	8	37
BestJobs	18,328	16,274	1474	172	380	1197	2046	14	6
Jooble	14,634	3277	2762	2	2183	5373	835	391	659
Hipo	4897	4672	138	2	10	321	58	7	12
Undelucrăm	1261	1236	31	1	0	239	52	0	0
JobZZ	944	642	80	0	23	4	4	5	0

BestJobs (10 facilities); (4) Hipo (9 facilities); (5) Jobradar24 and Jooble (8 facilities); (6) Careerjet (7 facilities); (7) Romjob (6 facilities); (8) JobZZ and OLX Jobs (5 facilities).

4.2 The Use of AI by Recruitment Websites

In 2019, eJobs launched the feature for employers known as “Fitness candidate” which uses artificial intelligence in order to classify candidates according to the relevance and degree of compatibility in what concerns the workplace. Using this feature, all jobs posted by the employer will quickly arrive at the right candidates, because similar jobs will be recommended according to the qualifications of the candidate applying for a position. When it comes to identifying talents, eJobs introduced in 2021 an intelligent service for recruiting candidates (Skilld) which is based on algorithms and contains powerful recruitment instruments through social media. BestJobs has a section of Coaching which offers a conversation with AI (Artificial intelligence). This feature resembles ChatGPT and offers information with respect to the career that the user wishes to have, information connected to interviews, professional orientation, assistance in filling in the CVs or in finding a job. Undelucram.ro uses artificial intelligence for “Employer Branding” (to create a solid employer’s brand), “Salary Report” (which offers detailed information about incomes on the labour market) and “Jobbing” (the JobMatching algorithm represents an efficient solution for organisations to attract the right candidates).

4.3 The Attitude of Students from Transilvania University of Brașov Regarding the Use of Recruitment Websites from Romania

Socio-demographic Data of the Respondents. The age of the respondents: most of the respondents (86%) are in between 18 and 20 years of age. The respondents are students from 9 out of the 18 faculties of Transilvania University of Brașov, most of them from the 2nd year (24%) and 3rd year of undergraduate degree programme (60%). 84% of the students are on no tuition positions while 16% on tuition positions. The gender of the respondents: 72% feminine, 28% masculine. Background: 60% urban and 40% rural. Generally, students spend plenty of time in the online environment: 46% spend on average between 3 to 6 h, 40% between 6 to 8 h and 12% over 8 h daily. Only 2% state they spend less than 3 h.

Over a half of the respondents (54%) already have a job. Out of those who do not have a job, almost half of them (46%) mention that are interested, to a large extent, in finding a job. Those students who are in search of a job turn to or intent to turn to, to a large extent the following websites: recruitment websites (66%), Social

Media (54%), companies' web pages (42%), recruiting apps on mobiles (42%), job groups on social media (32%), online communities (26%) and government's job portals (10%). Most of the students (88%) state they access the recruitment websites, 80% already have a user account on such a website and 50% already got a job through a recruitment website. Students have user accounts on the following recruitment websites: (1) eJobs (82%); (2) BestJobs (50%); (3) JobZZ (22%) and OLX Jobs (22%); (4) Jobradar24 (16%); (5) Jooble (12%) and Careerjet (12%); (6) Hipo (10%); (7) Undelucram (4%); (8) Romjob (0%). The most accessed websites by students, when in search of a workplace, are: (1) eJobs (94%); (2) BestJobs (52%) and (3) OLX Jobs (24%). Comparing the popularity of websites to their facilities, one can notice the fact that eJobs owns more facilities and it is the most popular among students. BestJobs comes 3rd in the top when it comes to the offered facilities and 2nd in terms of students' preferences. Even if JobZZ and OLX have fewer facilities in contrast to other websites, they come the 3rd and 4th when it comes to students' preferences. Interesting enough is the situation of Undelucram website which, even if it comes 2nd in terms of the offered facilities, it comes the 6th in students' preferences. Students are satisfied and extremely satisfied (72%) by their experience as users on the recruitment websites. Recruitment websites prove useful to the students in finding a workplace suitable for them (70% have managed to find at least a suitable job in the last year). Characteristics of useful websites for students, to a big extent, when they are in search of a job: detailed information about jobs (80%); filtering of information (76%), search facilities (64%), reviews (62%), the website's reputation and popularity (60%). The most used filters on recruitment websites are: the city (86%), the required level of experience (76%), the type of job- full time, part-time (76%), the domain of activity (74%), the income (70%) and the education level (66%). Only a small number of students (25%) have used the instruments of artificial intelligence given by the websites, but most of them (80%) are eager to become knowledgeable about these instruments and further use them. Students believe that online recruitment has greatly intensified (78%) after the pandemic. Moreover, they argue that online recruitment makes, to a great extent, the work of organisations a lot easier.

5 Conclusions

Online recruitment is more and more used by organisations and candidates due its various benefits. It is a method for complex recruitment and in a continuous change due to the endless evolution of technology. It is important that organisations learn to efficiently use all instruments offered by this recruitment method- to pay attention to the organisation and use of its own websites, of the filters so as to attract the most suitable candidates, to use the best websites in the field and online platforms. In spite of all these, organisations mustn't neglect the classical means of recruitment in order to attract those classes of candidates which do not seek for vacant positions online. In general, the most popular websites are those which offer as many facilities as possible, complex filtration systems, a great number of jobs and detailed information about them. For most websites, creating a user account is an advantage to finding a job, as they regularly send e-mails about the new jobs posted on websites, according to the users' criteria. The costs for posting on a recruitment website are high, as well as the costs for promoting the announcements, but the chances for attracting candidates for the vacant job are higher when the rating of an announcement grows. Students search online for information about the vacant positions, many of them having user accounts on various recruitment websites. The most used website is eJobs, which is also the most popular but also known and advertised recruitment website from Romania. The most used filters by students are the city (commuting is difficult during college), the type of job (students prefer part-time jobs) and the level of experience (in order to access, as easy as possible, those jobs which do not require previous experience). At these, we add the filtering of jobs and the possibility to obtain detailed information about the job itself.

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Performance, Activism and Citizenship: The Experimental Theatre of Thrace, Greece

Thanos Vovolis

Abstract Local communities and social groups nowadays interact to create a dialogic environment using the arts as a vehicle. The paper examines the case of the Experimental Theatre of Thrace as a pivotal Greek example of the emergence of new forms of citizenship as a performative expressive practice. A practice that gained momentum in many European countries during the twenty-first century, emphasizing the performative dimension of citizenship as well as the artistic value of activism. The article focuses on the landscape political action 'Tea-time Europe', a provocative artistic initiative and an ode to all people who drown every day in the Aegean and the Mediterranean seas during their attempt to reach Europe, pushed by wars, violence, persecution, and poverty. The ongoing global refugee crisis shows no signs of decline, and the Mediterranean Sea has become the graveyard for humans and hopes. In the light of the constant resurfacing of xenophobia and neo-fascist ideology in Europe the action 'Teatime Europe' is an urgent reminder of the creative power of autonomous citizen communities to recall by artistic means our shared humanity, inviting a rethink of mindsets about art and society. The case study presented consists of a paradigm of the creative collaboration between professional artists and communities, both benefiting greatly from the collaborative process. It provides us with an example of how artistic projects can regenerate communities and how communities are empowered to produce cultural artistic projects where the creative process promotes ethical and social responsibility, awareness, and social sustainability.

Keywords Performance · Citizenship · Activism · Experimental Theatre of Thrace

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1 Introduction

Citizenship is usually understood as a contractual relationship of the individual with the state, that provides both the person and the state with a bond of rights, duties, and obligations towards each other. As an institution the concept of citizenship has been closely linked to modern notions of the nation-state. During the twentieth and twenty-first centuries, the notion of citizenship has come under pressure due to the multiple changes and crises the world faces. Using the Experimental Theatre of Thrace as a seminal example, the aim of this paper is to present an innovative re-conceptualization of citizenship where citizens are not simply expected to understand the ways in which civic societies operate, but also to enact, embody and perform. Emancipatory and transformative in nature, the works created by the ETT involved the development of the perceptive, imaginative, and empathic capacities of a socially engaged citizen who does justice to the depth and complexity of lived human experience.

2 Citizenship as Embodiment and Performance

Political philosophers like Arendt [1] and Butler [2] have proposed an immanent connection between citizenship and performance. Moving beyond traditional citizen protocols, the conceptualization of citizenship as a performative expressive practice emphasizes the corporeal dimension of the citizen in the public space. Public space emerges by the appearance of public actions, by means of public corporeal and inter-corporeal performance. The creative transformations entailed by performance initiate new connections that move past institutionalized identities and enable new forms of the political to emerge. Performance offers an emancipatory potential in ways that transgress the boundaries between art and political action.

Isin [3] has articulated a reconceptualization of citizenship where citizens are not simply expected to understand the ways in which civic societies operate, but also to enact, embody and perform. Self- organized networks and independent collectives emerge and assume roles and responsibilities formerly attributed to the state. Isin [4] differentiates between active and activist citizens. Active citizens conform to already defined relations such as voting and taxpaying. Activist citizens create new ways of being a citizen. Citizen communities become builders of collective visions, questioning how we live and how we want to live together in the world. Performance is a mode of both knowing the world and creating new visions of the world.

The affiliation between citizenship as an embodied performative practice and artistic performance as a site for staging and contesting citizenship, is rather evident. The tradition of art seen as an act in the world, an emancipatory and democratic recourse with which citizen communities can respond to precarious situations has its roots in many European countries but it has been radicalized in many Mediterranean countries after the 2008 financial crisis. Committed professional artists have been cooperating with citizens from different cultural and social backgrounds to foster a creative imagination and generate through artistic performance humane forms of engagement and dialogue about our societies, many times playing a seminal role in the development of new aesthetics [5]. The aim of this paper is to examine the case of the Experimental Theatre of Thrace as a pivotal Greek example of the emergence of new forms of citizenship as a performative expressive practice.

3 The Experimental Theatre of Thrace

The case examines the creations and initiatives of the Experimental Theatre of Thrace, especially the landscape political action 'Teatime Europe'. The Experimental Theatre of Thrace (ETT) was a non-profit, self-organized, self-administered, and self-funded cultural organization active in Thrace, Greece between the years 2008–2018 [6]. This autonomous organization with the city of Alexandroupolis, Greece as its base, was founded in the beginning of the financial crisis back in 2008, by a group of citizens who were interested in creating a meeting point where the local communities and social groups could interact to create a dialogic environment using the arts as a vehicle. The organization's artistic director was the theatre director Giorgos Zamboulakis, him being also one of its founding members.

Alexandroupolis is the capital of the Evros regional unit in East Macedonia and Thrace and an important port, mainly connecting Greece with Turkey. The city is about 14.5 km west of the delta of the Evros river and 40 km from the border with Turkey. The Evros river is the longest river that runs solely in the interior of the Balkan peninsula, forming the border between Bulgaria and Greece, and then between Greece on the west bank and Turkey on the east bank to the Aegean Sea [7].

Being an autonomous organization that did not comply to agencies owned or run by the government or regulated by official policies and commercial interests, the ETT produced during a period of ten years a series of theatre performances, seminars, workshops, meetings, events, performances, actions and a drama school included. Since its foundation as an independent cultural organization, Experimental Theatre of Thrace made an important contribution as a local collectivity, successfully bringing the whole community together while using visually elaborate work to foster an active social and critical direction. The philosophy of the Experimental Theatre of Thrace has always been to become a dialogic forum to discuss social issues. A space open to the whole city and all its citizens. With reference to Richard Sennett's idea that as individuals and as a society we need to learn how to engage with those who are different from ourselves the ETT has always argued for a dialogic approach—one conducive to an open-ended dialogue [8]. Through open calls and by using local and social media and word-of-mouth communication the ETT succeeded in creating community engagement, involving members, sharing common issues and meeting on an ongoing basis to furnish support. The EET has been collaborating with several local organizations in the area, as (a) the Association for the social support of youth—ARSIS is a non-governmental organization, specializing in the social support of youth that are in difficulty or danger and in the advocacy of their rights, (b) the local centre of supporting victims of gender-based violence, used as an organizing strategy to call for the prevention and elimination of violence against women and girls, (c) a series of other social, environmental, and cultural organizations, as well as the traditional musician and dance groups in the area.

Through acting and music workshops and seminars, discussions, meetings, and communal social eating the group increased social bonding and developed a wider social network capable of providing social and emotional support. The ETT engaged with topics and narratives intertwined with current societal issues including the impact of the socio-economic crisis, the violence against women, the refugee crisis, immigration, xenophobia, racism, social alienation, environmental issues, issues of social cohesion etc. The sense of social and emotional cohesion was always channeled towards a collective artistic creation. All artistic actions were participatory and open to all citizens who would like to voluntarily participate. The ETT was itself a citizen experiment and a try-out to place the performing arts in the center of the social discourse.

With the performance of Euripides' 'Trojan Women' the group started a dialogue on the issue of immigrants and refugees [9]. The performance of Bertolt Brecht's 'The good person of Szechwan' presented the problems of unemployment and its impact on human relations [10]. The performance of Yannis Ritsos' 'Moonlight sonata' examined the contradictions between the poetics of a society that vanishes, and the ways of a new society emerges [11]. With the production of Anton Chekhov's 'The Cherry Orchard' the community worked on the theme of the auctions of public and private property and its consequences for the present and the future of society [12]. With Henrik Ibsen's 'The enemy of the people' the collective investigated the issues of democracy, of intertwined financial interests and the manipulation of the public opinion by the mass media. [13].

To intervene quickly and without the excessive preparation required for theatre performances, the ETT also created a series of artistic activist actions. In 2013 the ETT created the action '3096', on the problem of the violence against women. That was followed by the landscape political actions 'Tea-time Europe' in 2014 and 'Eat-time Europe' in 2016. With these works the ETT addressed the current migrant and refugee crisis in Europe in a distinctive site-specific and performative mode.

The 'Eat-time Europe' action lasted eight hours and took place in the region of Avantas, very close to the Greek /Turkish borders which is one of the points of entrance of refugees in Europe. A laid table in a prosperous green field, where everyone is welcome to sit and eat. Four different scenes of a very old woman's life. A whole century in a moment. History repeats itself. Wars, invasions, migrations, displacements, deportations, exchange of populations, carnage, ethnic cleansings, and genocides. The history of the Balkans. The action placed unconditional hospitality and the welcoming of the other as supreme human values, suggesting that the way in which self and other are always already intertwined together, hospitality should involve the imperative to further immerse oneself in this bond. So eloquently formulated by Jacques Derrida: 'To who or what turns up, before any determination, before any anticipation, before any identification, whether or not it has to do with a foreigner, an immigrant, an invited guest, or an unexpected visitor, whether or not the new arrival is the citizen of another country, a human, animal, or divine creature, a living or dead thing, male or female' [14].

4 Case Study: Tea-Time Europe

This section concentrates on the landscape political action 'Tea-time Europe' using the condensed and poetic form of the performance video as the primary material of analysis. The work was developed during a period of one year (2013–2014) and it involved around 250 volunteers under the direction of Giorgos Zamboulakis. The project was created in collaboration with the citizens of Alexandroupolis and gathered voluntarily all the creative people of the city: actors, musicians, photographers, painters, poets. Citizens who all together wished to take a stand, through art and activism, on the issue of the refugee crisis that swept all over Europe, making the Aegean Sea the grave for thousands of thousands of people. The aim was to remind everyone that the acceptance of the foreigner is part or should be part of what we mean with the word culture.

The action 'Teatime Europe' took place on the 29th of July 2014, at the delta of Evros River, nearby the border between Greece and Turkey. Evros River is one of the main gates of entrance for people inflow, seeking asylum in Europe. The performance duration was eight hours. The participants were organized in groups and each group had to follow certain directions and act under a period of 2 h. Being then replaced by other groups, they had to assist the new groups in their actions. All artistic means were discussed and defined during the long preparatory period.

In the tranquil and borderless waterscape at the delta of the Evros River a full circle of seats took center stage with well-dressed men and women sitting on them, the constellation of the seats and the bodies being a direct reference to the official European emblem. The European flag features a circle of 12 gold stars on a blue background, a symbol of the ideals of unity, solidarity, and harmony among the peoples of Europe and, more broadly, the identity and unity of Europe. Of course, on another level the striated, metrical space of the geometric circle transformed the smooth and amorphous space of the open seascape to the formal, homogenous, space of the state apparatus, the law, and the logic.

The group of people are drinking tea, simultaneously creating music using the teacups teaspoons as improvisational musical instruments, combining the tea drinking rituals of the northern European countries—a time when people have returned from work and are enjoying their tea, listening to the news of the day—with the traditional Greek way of creating circular rhythms, music, and storytelling, welcome or farewell. An improvisational musical tradition with roots in both Thrace and Asia Minor which combines improvisations, performance, and the communication of emotions. The rhythmical motif of the jam session being always the beat of the human heart. The group slowly moves on, and the sound is transformed into music, culminating in Ravel's recognizable rhythmic pattern from Bolero, the ostinato that is steadily repeated throughout the entire piece. A reference to the classical European high culture of the nineteenth century with some affinity to Arabic Sufi music [15]. A case of cultural appropriation?

In the next sequence, the seated group continues its jamming session but now the sea around them and amidst them is covered with floating lifeless bodies and debris; adults and children, arms and legs hanging down the side, bodies washed up, life jackets, clothes, shoes, backpacks, suitcases. Apparently, the catastrophe does not provoke any reaction from the seated group, not more than a couple of tears rolling down their cheeks.

In the final sequence, the circle of the seated people disappears. A solitary female figure dressed in black is the only person who remains. She is sitting alone in the middle of the open, calm waters where the drowned bodies and the debris are still floating. Kaiti Makri, the performer/singer of traditional music and founding member of the ETT sings a cappella the traditional song 'Tzivaeri'. A song originating from the Dodecanese islands that deals with the suffering and hardships of the Greek immigrants abroad. A mother lamenting for her treasure, her immigrant child. A song well known to all Greek immigrants and a painful reminder of Greece's recent historic past as a land of frequent emigration; a situation that has resurfaced once again during the economic crisis. Also, a painful reminder for the city of Alexandroupolis where a great a part of the population is third and fourth generation refugees because of forced ethnic migrations that occurred in the context of the Balkan wars. The affective power of the song and of the human voice activates the imagination and the emotions. Grief, melancholy, mourning—bridging inarticulate places of memory and personal experience. In opposition to the paratactic, linear flow of the previous moving images, which are infused with rhythmic markers of time and spatial striation, this image expresses a sense of stasis; of suspension in an in-between space where time seems to stop. Or where time past, future and present coexist. Perception becomes a space of reflection, and the audience immerses itself into a collective experience like dreaming. Are these images emerging from the unconscious of humankind? Remembrance images of collective memory? Sarah Ahmed proposes that 'emotions do things, and they align individuals with communities—or bodily space with social space—through the very intensity of their attachments' [16].

Politicization is an affective experience. But the affect is not simply found in a particular body but in the circulation between bodies and signs, transcending the spatial or temporal sense of the here and the now. These emotions and affects chart for us a personal journey to a place from where as individuals, as communities and societies we might allow the experiences of others to be heard. All questions remain unanswered, but the images created by the collective ethos of the citizens, members of the ETT, ask of us to step out of our stagnant habits, overcome stereotypes and reflect on archetypal humanitarian ways of providing asylum and welcoming the other. Emancipatory and transformative in nature, the performances created by the ETT involved the development of the perceptive, imaginative and empathic capacities of a socially engaged citizen who does justice to the depth and complexity of lived human experience. The citizen that with curiosity and care, seeks to understand and, where possible, to improve the world we all find ourselves in. The process created by the ETT developed a comprehensive community and promoted collective artistic expression as a dynamic social experience and a vehicle of personal and collective transformation without for a moment reverting to artistic simplifications. The projects created a socially engaged participatory art, channeling art's symbolic capital towards constructive social change and not even for a moment forgetting to discuss, analyze and compare the works critically as art. Art can act as a vehicle for the dominant social and political imaginary operative in a particular society, but it can also attempt to dismantle it and counter the core social representations of a given culture. Art can reify a given situation or break with it to bring alternative worldviews into focus. Art can act as a powerful framework for collective identity by producing powerful counter histories. Art can raise questions about the world we are living in, and staging inquiries aimed at proposing possible solutions. Art can offer alternative modes of perception. Art can celebrate political developments or propose an alternative world. Art can foster experiments with alternative social and political structures or new modes of collective interaction.

5 Conclusion

During its ten years of existence the Experimental theatre of Thrace created projects of artistic activism that belong to the sphere of making art that works politically. Long before the exploitation of the refugee crisis for political economic and artistic purposes, the ETT fostered a new kind of citizenship ethos and developed another way of being a citizen, the citizen performer. In their collective works they presented new perspectives to see and to imagine the world; by creating subtle, affective, and visceral impressions beyond the immediately measurable, countable, and describable. The ETT proposed a world based on the ethos of solidarity with the Other as the foundation upon which all other relations rest. Being an autonomous non-profit organization that did not comply to agencies owned or run by the state or regulated by official policies and commercial interests, the ETT is a seminal paradigm of the creative collaboration between professional artists and communities, both benefiting greatly from the collaborative process. The ETT provides us with a great example of how artistic projects can regenerate communities and how communities are empowered to produce cultural artistic projects where the creative process promotes ethical and social responsibility, awareness, and social sustainability.

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Using Social Media as a Marketing Tool in Sport Tourism Firms

Krinanthi Gdonteli, Pinelopi Athanasopoulou, and Nikos Papaiakovou

Abstract The purpose of this study is to investigate the use of Social Media (SM) as a marketing tool by Greek sport tourism businesses at each stage of the consumer decision making process. Specifically three stages are analyzed, before, during, and after the consumption experience. In total, 20 interviews were conducted with managers of Sport Tourism businesses using a semi-structured questionnaire. The sample was split into two groups, 6 companies that have scientific knowledge of marketing and use it in their strategy (A Group) and 14 firms that treat marketing as a supplementary process that is not very important (B Group). Data was analyzed based on this categorization by using content analysis. Results show that Group A have a specific marketing strategy that includes the strategic use of social media for segmentation, targeting and positioning whereas group B have a passive strategy in the market and wait for customers to come to them. There is no active segmentation, targeting and positioning and they expect the Greek Tourism Organization to promote sport tourism activities. Results show that sport tourism businesses need to use social media strategically in all stages of the consumer decision making process and recruit specialized staff that will handle a social media marketing strategy. Future research can extend the sample, use quantitative methodologies, research different sport tourism activities or events or different types of customers.

Keywords Sport tourism · Social media marketing · Consumer decision making process

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1 Introduction

Social media (SM) is defined as "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" [1]. SM is extremely valuable for marketing and their value is increasing rapidly. On one hand, SM can provide information on what customers prefer and their personal characteristics (demographic and psychographic), information that is critical for developing a marketing strategy [2]. On the other hand, SM can be used to effectively engage customers and create value for customers [3, 4]. Furthermore, sport tourism provides authentic, personal experiences through participation in sport activities or through attendance of sport events [5]. The use of social media in sport tourism helps to disseminate these experiences in communities that actively engage in sport tourism activities. Social media create online communities that serve the increased communication of people with shared interests [6, 7]. As a result, sport tourism businesses have established social media marketing (SMM) as a functional necessity for communicating effectively with customers [8]. Although the use of social media as a marketing tool is increasingly important for service businesses [2], previous research on such use is limited [9]. Also, there is a lack of literature regarding the strategic use of social media by sport tourism businesses [10]. The purpose of this study is to investigate the use of SM as a marketing tool by Greek sport tourism businesses at each stage of the consumer decision making process.

2 Theoretical Background

Social media, or networks, is a concept that derives from the communication field and are essentially internet-based media used by firms to make communication with customers better and easier. The use of SM is increasing globally in a fast pace. SM includes Collaborative Projects such as Wikipedia, Social Networks such as Facebook and LinkedIn, Virtual Communities such as Twitter or Tripadvisor, Content Communities such as YouTube and Pinterest, and Virtual Games such as Second Life [11].

SM provides many benefits to businesses such as the creation of well-targeted communication efforts; wide geographical reach of customers; increased perceived service quality and brand loyalty; lower costs; higher sales; faster new product adoption; enhanced and longer relationships with customers [2]. Social media work strategically to create online loyalty relationships in an effort to influence consumer behavior [12]. The strategic use of social media has offered businesses a powerful social media marketing tool by modifying the structure of communication with their audience and establishing a new field in the marketing of goods and services [13]. Falkow [14] claims that modern social media marketing creates a way for businesses to tap into user conversations about their brand, products and services, engage in conversations with consumers, and then use this data to make better business decisions. Various studies stress that social media help companies to communicate more effectively with customers, increase brand awareness, affect customer attitudes, acquire customer feedback, develop more successful products and services and improve sales [15, 16]. Many service businesses use SM as a strategic marketing tool for communication purposes, for managing customer relationships and for developing new services with customers through the integration of user-generated content in the development process [2, 17–20].

On the other hand, the sport tourism experience is indeed a complex construct involving motivational, emotional, social, environmental, organizational and physical attributes [21–23]. Modern tourism experience marketing is based on the personalized satisfaction of customers through the prediction, study, and diagnosis of their consumer behavior [24]. Social media enhances its role as a management tool for an audience that actively participates in the service provided (watch or participate in sporting events). Social media experiential marketing encourages the tourist-consumer to form his/her own opinions about the goods and services being provided to them [10].

According to Fornell et al. [25] the transition from the simple provision of services to the offering of unique experiential experiences is structured in three dimensions with social media adapting its function as an important marketing tool to them. First, the interaction between reliable staff and customers. Second, the physical environment in terms of infrastructure which is very important since Greece has not made significant use of its natural space for the development of sport tourism and lags behind in terms of infrastructure in relation to competition. Third, the satisfaction of customers' expectations and the effective management of complaints. The immediate response to negative comments in the tourism industry is an important factor for successful social media use since such interaction restores the relationship between business and consumers. Also, Sigala et al. [26] argue that social media have now redefined the participation and role of tourists in the process of production and distribution of tourism value by empowering them to become involuntary and voluntary co-designers, co-advertisers, co-distributors, and co-producers of tourism experiences.

For all these reasons, social media are very important for managing the sport tourism experience. Taking into account that globally in 2023 4.48 billion people use social media, more than double than 2015 (2.07 bil), we can easily understand the power they have into the life of modern individuals [27]. As the penetration and use of SM increases rapidly around the world, firms realize the importance of incorporating social media into their marketing strategy. Although the use of SM as a marketing tool is very important and beneficial for service businesses, there is still limited research on how SM can be used strategically as a marketing tool [2, 20] and on the sport tourism industry specifically [10].

The purpose of this study is to investigate the strategic use of SM as a marketing tool by Greek sport tourism businesses at each stage of the consumer decision making process. Specifically, three stages are analyzed, before the consumption experience, during the consumption experience and after the consumption experience. In doing so, we aim to analyze all the stages of consumer decision making process.

3 Methodology

This study is qualitative in nature. First, we reviewed the literature on Sport Tourism, Social Media, Tourist Consumer Behavior, Social Media Marketing, and all strategic applications of social media in tourist consumer behavior. Second, two pilot interviews were done in order to conceptualize further the questions needed. Pilot interviews were conducted in order to ascertain the content of the semi-structured questionnaire. In total, 20 interviews were conducted with managers of Sport Tourism businesses using a semi-structured questionnaire. The sample was split into two groups, 6 companies that have scientific knowledge of marketing and use it in their strategy (Group A) and 14 firms that treat marketing as a supplementary process that is not very important (Group B). Data was analyzed based on this categorization and using content analysis. Data was collected and analyzed based on three stages of the consumer decision making process using the stages developed by Williams and Buswell [28] and Ayeh et al. [29] to describe tourist consumer behavior. The three stages used include before the experience (Need recognition, Information search and Evaluation of alternatives), during the experience (purchase decision) and after the experience (post purchase behavior).

4 Results and Discussion

Results show that the A Group have a specific marketing strategy that includes the strategic use of social media for segmentation, targeting and positioning. They understand customer motives and use appropriate metrics to measure such motives (e.g. informational motives measured with engagement metrics or self-promotion motives measured with content sharing metrics). Also, they have an integrated presence on social media and target specific communities of sport tourism fans. They perceive that SMM is very useful and strategically aim at its exploitation in all stages of the consumer decision making process. For them, the advantages of social media use include increased brand awareness, effective targeting and positioning, effective communication with customers and development of customer relationships. On the other hand, disadvantages include high costs because of constant advertising in multiple platforms and time spent in responding to bad comments. These findings are in line with previous studies in this specific area [2, 15, 16, 18–20], who claim that businesses can benefit from the appropriate and strategic use of social media. Furthermore, group B (14 businesses) have a passive strategy in the market, they wait for customers to come to them. There is no active segmentation, targeting and positioning and they expect the Greek Tourism Organization to do the promotion of sport tourism activities. They consider social media as complimentary to other promotional efforts and do not believe that having a social media strategy is important. The main advantage of social media for them is direct communication with customers. They understand customer motives through their personal experiences and are not familiar with concepts such as storytelling. Also, they use SMM mainly in the information search phase of the consumer decision making process and in the consumption phase but not in the post consumption stage. Brand loyalty is not used strategically since communication with customers does not continue after the consumption experience. Finally it seems that companies don't invest in employee training in social media use even if various researchers agree that firms should invest further on employee training in the proper use of social media [30]. According to Bonson and Flores [31], important determinants of whether organizations fully utilize social media are the size of the organization and the area of operation. Group B companies are mainly small businesses and this maybe the reason why they adopt a passive strategy and lag in the strategic use of social media.

5 Conclusions-Suggestions for Further Research

Results show that sport tourism businesses benefit from using social media strategically as a marketing tool in all stages of the consumer decision making process and it is important to recruit specialized staff that will handle a social media marketing strategy. Future research can extend the sample, use quantitative methodologies, and research different sport tourism activities or events, or research two types of customers, spectators and participants.

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Inclusion and Sensory Accessibility in Hotels and Its Importance for Branding

Despoina Saltouridou and Ioannis Poulios

Abstract Accessibility is a crucial factor in the hospitality industry, especially concerning guests with special access needs [1]. While significant strides have been made to create environments conducive to mobility, efforts to support individuals with sensory challenges often require further improvement. The hospitality industry seems to be still far from ensuring equal opportunities and access for all visitors regardless of their diverse needs (including mobility, vision, hearing, and cognitive dimensions of access). The paper explores the challenges, as well as the opportunities, associated with sensory accessibility in the hotel industry. Strategies and technologies that allow hospitality providers to offer a more comprehensive and welcoming experience to all guests are key to quality accommodation. Training staff, utilizing technological tools, and education, along with the integration of innovative strategies and solutions, can significantly improve the customer experience. These advancements in service delivery and technology can offer a distinct and unparalleled experience for guests, exceeding the usual expectations of hotel hospitality. This not only enhances hotel branding and marketing but also emphasizes the importance of sensory accessibility. It is crucial to adopt best practices in the hospitality sector for guests with special access needs, aligning with branding and marketing strategies.

Keyword Hospitality · Accessibility · Inclusion · Innovation · Experience · Branding

1 The Importance of Incorporating Sensory Accessibility in the Hospitality Industry

"In the bustling lobby of a modern hotel, a little guest, Alice, accepts the pink welcome drink offered to her, and she is taking a moment to absorb her surroundings. The receptionist Anna, who is well-trained in assisting individuals with hearing

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impairments, quickly recognizes Alice's reliance on visual communication and lip-reading. Speaking slowly and with pronounced clarity, she hands Alice a tablet. It displays an illustrated map that simultaneously translates her words into subtitles and showcases the hotel's facilities. As Anna describes the location of the kids club, where Alice can savor the most delightful strawberry ice cream, chocolate crepes, and the water slides she'll enjoy with her sister, she also maintains direct eye contact, allowing the young girl to read her lips. And so, this year's summer vacation for Alice begins."

In the contemporary reality of the hospitality industry, how probable is the above scenario? Do hotels have the culture or even the potential in terms of facilities and specialization to provide such an experience?

While accessible tourism has evolved in policy and research, its practical application often lags, with obvious consequences on the experiences of travelers with disabilities. Consider the instance of Alice in a hotel lobby: her interaction with a receptionist highlighted that genuine sensory accessibility extends beyond mere compliance with a standard. Yet, such instances remain sporadic, underlining the need for a paradigm shift from mere compliance to genuine understanding and application within the tourism industry [1].

Accessibility and inclusion for all guests are of paramount importance in the modern hospitality industry [2]. Although the importance of this issue is widely recognized, there is a specific area of accessibility that often goes unnoticed: sensory accessibility. Sensory accessibility is vital for individuals with sensory challenges, such as those with Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, sensory processing difficulties, or visual and hearing impairments.

This paper delves into the opportunities for enhancing sensory accessibility in hotels. It emphasizes understanding the unique needs of individuals with various sensory challenges and fosters practices that ensure their inclusion. By focusing on thoughtful design and a keen orientation towards sensory accessibility, a broader and more equitable range of opportunities in the hospitality industry can be realized.

2 The Current Situation and Best Practices

Sensory accessibility in the hospitality sector encompasses multiple facets, which include the physical environment, the digital realm, and interpersonal interactions guests have with the staff.

The paper intensively investigates the unique needs of guests with varying sensory challenges. It underscores the importance of identifying triggers and modifying communication and information dissemination techniques to accommodate these needs. Current practices and guidelines within the hospitality industry relevant to sensory accessibility are critically assessed, employing research and case studies to pinpoint successful strategies and areas necessitating further enhancement and innovation [3].

3 Action Research: Integrating Specialized Communication Practices in Hospitality for Individuals with Hearing Impairments

In the dynamic field of hospitality, ensuring an inclusive environment for all guests is paramount. With a growing awareness of the needs of guests with sensory impairments, there is an urgency for service protocols and amenities to adapt and evolve, to cater to such specific needs. This action research aims to explore the integration of specialized communication practices and technological tools for individuals with hearing impairments within a contemporary hotel setting.

In addressing communication barriers faced by individuals with hearing impairments in the hospitality sector, it's pivotal to incorporate comprehensive strategies. Two effective measures include training staff in specialized communication techniques and the deployment of digital tools, notably tablets equipped with transcription software that converts spoken words into subtitles [4]. These adaptations can result in noticeably reduced communication challenges for guests with hearing impairments.

The lack of preparation of service staff poses significant barriers to travel and touristic activities for people with specific accessibility needs, including mobility, vision, hearing, and cognitive dimensions of access. A hotel hosting such guests must have a range of infrastructures and provisions to ensure their smooth and safe stay. Ensuring proper training for the staff about these different types of accessibility requirements is critical. In emphasizing this issue's importance, we provided a practical suggestion based on a recent hotel engagement [3].

4 Holistic Inclusivity in Hospitality: Strategies for Sensory Accessibility and Guest-Centric Services

The integration of sensory accessibility in the hospitality sector is vital not only for the well-being and comfort of guests but also for its impact on branding. Providing sensory access, which involves persons with hearing or sight impairments, necessitates the provision of tactile markings, signs, labels, hearing augmentation-listening systems [4] and audio cues for lifts and lights. Moreover, the following strategies are imperative to genuinely cater to the needs of all guests.

4.1 Training on Assisting Guests with Specific Needs

Understanding the varied requirements of guests is crucial for the hotel industry. While terms such as WCHR (Wheelchair ramp), WCHS (Wheelchair—up and down step), WCHC (Wheelchair- all the way to seat), and WCLB (Mobility aid with lithium ion batteries) have their origins in the aviation sector [5], they are equally helpful and relevant to the hospitality industry Specifically:

a. WCHR refers to guests who can walk short distances but may have difficulties with stairs.
b. WCHS denotes individuals capable of walking short distances but unable to navigate stairs.
c. WCHC describes guests with mobility disabilities.
d. WCLB identifies those with mobility challenges who use a lithium-ion battery-powered wheelchair.
e. DPNA: Guests with cognitive or developmental disorders, such as ASD, ADHD etc. [6].

Incorporating these terms into hotel training ensures that staff are well-prepared to cater to the diverse needs of their guests, providing an enhanced level of service and understanding.

4.2 Training on Assisting Guests with Specific Needs

Understanding the varied requirements of guests is crucial for the hotel industry. Quiet Zones, Adjustable Thermostats, Neutral Aesthetics, and Flexible Decor are not merely additional amenities but fundamental elements that can make a guest's stay more comfortable and tailored to their personal needs. It's imperative for hotels to incorporate these details into their services to offer a genuinely personalized experience to their visitors [7].

4.3 Dedicated Section on Website/App

A specific section for individuals with special needs should be included on the hotel's website or app, offering detailed information pertinent to their unique requirements.

4.4 Training on Assisting Guests with Vision Impairments

For guests with vision challenges, it's vital to implement specific accommodations. These include Voice Technology for seamless information access, Braille Signage throughout the facility, Accessible Pathways and Entrances for safety, and Optimal Lighting with materials available in large print, audio, or Braille formats [8].

4.5 Training on Assisting Guests with Hearing Impairments

To better serve guests with hearing impairments, hotels should implement several key measures. These include offering Assistive Listening Devices in essential areas like meeting rooms, installing Visual Alarms for safety, providing Telephones with Visual Indicators and vibrating alerts, and ensuring availability of Sign Language Interpretation services, particularly during events like seminars. These adaptations not only enhance accessibility but also contribute to a more inclusive and personalized guest experience [9].

4.6 Specialized Check-In Process

A personalized check-in approach that reassures the guest and, if desired by them, informs the staff about their specific needs to ensure immediate assistance if required.

4.7 Staff Sensitization and Training

Comprehensive training for staff on the importance of accessibility and recognizing non-visible impairments or disorders. This could be achieved through written and oral guidelines.

4.8 Realistic Evacuation Drills

Conduct realistic evacuation exercises that encompass guests with a diverse range of challenges and needs.

4.9 Designated Areas for Mobility-Impaired Guests

Clearly marked areas designated for guests with mobility challenges, like toilets, stairs or tables. Both staff and guests should be educated to respect these designations [10].

4.10 Cooperation in Need of Equipment Repair

Collaborate with vendors or service providers to ensure immediate assistance in case of any damage to assistive devices or medical equipment. By creating an inclusive environment that caters to a wide range of sensory needs, hospitality businesses can enhance their brand reputation and appeal to a broader customer base. Attracting guests with different sensory needs is essential for developing a more comprehensive hospitality approach that serves all customers.

4.11 Prioritizing Staff Training in the Hospitality Sector: Ensuring Inclusivity for Guests with Sensory and Mobility Impairments

The hospitality industry thrives on its ability to provide exceptional service to its diverse clientele. With a significant portion of the global population living with sensory impairments, the need for specialized staff training in this sector has never been more evident. Before diving into the specifics of the training modules, it's essential to grasp why this training is crucial. Trained staff not only ensure that hotel services are accessible but also play an important role in creating an inclusive environment that resonates with empathy, understanding, and respect for all guests. To ensure training remains effective, it should be an ongoing process. Regular workshops, expert sessions, and feedback from guests can offer invaluable insights to refine and adapt training methods. Staff should also be encouraged to share their experiences and challenges, fostering a culture of continuous learning. By empowering hotel staff with the necessary tools and knowledge, the hospitality industry can lead the way in understanding and accommodating the diverse needs of its clientele, paving the path for a more inclusive future [11].

5 Conclusion

In conclusion, the hospitality industry's success hinges on its ability to adapt and cater to all guests, regardless of their challenges. Emphasizing continuous training for staff is crucial to meet these needs. By investing in understanding and accommodating every guest, the industry not only enhances its service quality but also champions a more inclusive and welcoming environment for all.

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The Evolution of Subscription Services in Greece: From Satellite TV to Over-The-Top (OTT) Streaming Models

Athanasios Papathanasopoulos and Aikaterini Stavrianea

Abstract Media is a dynamic entity that undergoes constant transformations over time. While many users continue to watch traditional TV, new technologies and modes of transmission have emerged, creating new forms of media that challenge the dominance of television. This study explores the evolution of subscription services in Greece, with a focus on the transition from satellite TV to the current Over-The-Top (OTT) streaming models. The study covers the period from 2001 to 2023 and examines the factors that have contributed to the popularity and growth of these services in Greece. The research employs a historical analysis, utilizing data from respectable sources. The study reveals a transformative journey, from the dominance of satellite TV in the early 2000s, with NOVA, to the emergence of IPTV and the subsequent rise of OTT platforms, led by international giants like NETFLIX and AMAZON PRIME. Overall, this study aims to shed light on the adaptability and dynamism of the Greek pay-TV industry, providing valuable insights for media managers, broadcasters etc.

Keywords Streaming Services · Satellite TV · Marketing Communications · Over-the-Top (OTT) · IPTV · Greece · Convergence

1 Introduction

While many users continue to watch traditional TV, new technologies and modes of transmission have emerged, creating new forms of media that challenge the dominance of television. From the era of traditional television to the present form of

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streaming services, such as the Over-The-Top (OTT) model exemplified by platforms like NETFLIX, the media landscape has experienced significant changes. Media organizations continuously evolve and actively compete for audience attention [1]. For instance, satellite television, introduced in the 1980s and gaining popularity in the 1990s, began to gain traction as an alternative to traditional television broadcasting [2].

New media formats, like cable television and IPTV, have emerged alongside technological advancements. The latest development is the OTT streaming model, revolutionizing content consumption [3]. In Greece, satellite TV, along with IPTV, was the primary mode of broadcasting before the rise of OTT streaming. This study explores the transition from satellite TV to current OTT streaming models in Greece. In doing so, this study follows a chronological approach, covering the period from 2001 to the present day, and analyzes various sources, ranging from relevant literature to data from reputable organizations.

2 The Evolution of Subscription Services

Since the 1990s, technological advancements in the media sector have precipitated a radical transformation in the consumption of television content, leading to the gradual shift from traditional television to the era dominated by pay-TV. This transition has been made possible by the convergence of various groundbreaking technologies [4]. The proliferation of digital broadcasting technologies, such as Direct-to-Home (DTH) satellite systems and the expansion of cable infrastructure, has significantly improved the availability and quality of television content [2, 4]. Alongside these developments, the emergence of interactive and on-demand services, such as video-on-demand (VOD), has further revolutionized the viewing experience. Viewers now have access to a diverse range of channels and specialized content, empowering them with greater control over their viewing preferences [5, 6].

Cable television has been a transformative force in the television broadcasting landscape, revolutionizing the way viewers access and consume content. Unlike traditional linear TV, cable TV relies on a network of cables to directly distribute television signals to households. This technology offers numerous advantages, including superior signal quality, expanded channel capacity, and the integration of interactive services [7]. Furthermore, cable systems possess a higher channel capacity that leads to diversity of content, offering viewers a multitude of options to cater to their individual preferences [6, 7].

On the other hand, Direct-to-Home (DTH) technology, also known as Direct Broadcast Satellite (DBS) technology, has revolutionized television broadcasting by allowing households to receive satellite TV signals and services directly through personal antennas. It serves as a competitive alternative to cable TV, offering high-quality signals and a wide selection of channels. The key advantage of DTH over cable is its extensive coverage without the need for additional infrastructure development.

Satellite TV is well-suited for distributing numerous High-Definition Television (HDTV) and Ultra High-Definition Television (UHDTV) channels [2, 7].

Satellite TV and Cable TV were for many years popular in terms of pay TV culture, as subscription services. However, advancements in telecommunications have led to the convergence of media and technology, enabling consumers to access television and video content through various broadband networks [8]. Internet Protocol Television (IPTV) has emerged as a popular subscription-based service, delivering multimedia content over IP-based networks. Broadband service providers utilizing DSL and fiber networks have been at the forefront of deploying IPTV to their customers [9].

The television industry, has undergone a significant transformation, transitioning from traditional cable and satellite models to the emergence of Internet Protocol Television (IPTV) and the subsequent rise of Over-the-Top (OTT) platforms. OTT channels have gained widespread acceptance, offering consumers convenient access to television and video content through fixed and mobile broadband networks [10]. Platforms like NETFLIX have disrupted the industry by directly delivering professionally produced TV series and films to viewers' devices over the internet [11]. In conclusion, the continuous advancements in media technologies have revolutionized the way we consume television content, from the introduction of cable and satellite TV to the emergence of IPTV and the disruptive force of OTT platforms. This transformative journey has redefined the television industry, providing viewers with a diverse and personalized viewing experience.

3 Methodology

The methodology employed in this study is a historical analysis that aims to examine the evolution of pay TV subscription services in Greece. The research covers the period from 2001 to the present day, focusing on the progression from satellite TV to online video streaming and the emergence of IPTV services provided by major Greek telecommunications companies. Additionally, the study investigates the impact of international Over-The-Top (OTT) platforms, such as NETFLIX and AMAZON PRIME VIDEO on the Greek market. This long-term perspective enables the study to capture the gradual progress and major disruptions that have occurred in the pay TV sector over the years.

To ensure the validity and reliability of the research findings, the study relies on a combination of relevant literature and data from specific sources, including Statista, the European Audiovisual Observatory, and the Nielsen Measurement Company. Overall, 12 reputable sources were analyzed. These sources provide valuable statistical data, market reports, and industry insights that are essential for conducting a comprehensive analysis of the evolution of pay TV subscription services in Greece. The research design follows a chronological approach, recording the evolution of pay TV services in Greece over three distinct periods.

Additionally, focusing on the progression from satellite TV to OTT and IPTV services allows for a deep dive into the various technological shifts that have driven the changes in the content consumption. By following a chronological approach, the study can present a cohesive narrative of the pay TV industry's evolution in Greece, presenting a clear timeline of events and changes.

4 The Early Years of Pay TV Services (2001–2008)

Pay-TV in Greece traces its origins back to 1994, with the launch of the subscription service "Filmnet" by Multichoice. "Filmnet", a terrestrial TV platform, provided two channels, one of films and the other on sports (Supersport). In 1999, "Filmnet" became known as NOVA satellite platform. In 2001, NOVA emerged as the dominant player in satellite television in Greece, enjoying a virtual monopoly in the market. Additionally, in 2001, ALPHA DIGITAL was introduced as a short-lived subscription satellite platform focusing on the transmission of live soccer games, giving emphasis to the Greek Super League. It operated by the Alpha TV channel [12, 13]. However, it ceased operations after a year. From 2002 until 2008, NOVA maintained its position as the only pay-TV service in Greece, operating without competition. It is important to note that cable TV is virtually non-existent in Greece, further solidifying NOVA's dominance during this period [12].

In 2001, the TV share of Satellite TV in Greece, according to the Nielsen Measurement Company, was 0.63%. However, there was a decline in 2003 and later. In 2007 it returned to 0.6% [14]. The Greek audience was not very familiar with these services, and TV shares were relatively small during this period.

Since 2007, IPTV development has gradually unfolded in Greece, with new players entering the satellite platform market, intensifying competition with the dominant player, NOVA. In 2008, NOVA underwent a significant transition when it was acquired by FORTHNET, an internet and telephony provider. During the same year, OTE, another telecom provider, launched a trial subscription service called Conn-x TV, leveraging IPTV technology through broadband ADSL connections. It's worth noting that Conn-x TV also offered a satellite package [13]. By 2008, there were three competing IPTV platforms: Hellas Online with HOL TV, Hellenic Telecommunications (OTE) with "Conn-x TV," and ON TELECOMS with "ON TV." Additionally, Vivodi Telecommunications offered its Cable TV package [15].

Table 1 shows the changing landscape of television consumption in Greece from 2004 to 2008. The number of satellite households increased from 398,000 in 2004 to 475,000 in 2008. In contrast, IPTV households started at 0 in 2004 and grew to 84,000 in 2008. Consumer spending on satellite services consistently increased, while IPTV experienced significant growth, reflecting a shift in viewer preferences towards IPTV as a viable alternative to traditional satellite TV.

Table 1 Satellite & IPTV expansion (in thousands): 2004–2008, compilation by the authors [15]

Year	Satellite households	IPTV households	Consumers satellite gross spend (EUR)	Consumers IPTV gross spend (EUR)
2004	398.000	0	160.846	0
2005	418.000	0	172.567	0
2006	437.000	0	191.578	0
2007	458.000	27.000	197.404	3.376
2008	475.000	84.000	204.488	14.076

5 The Market Opening (2009–2018)

By 2009, NOVA had around 300,000 subscribers in Greece and Cyprus. From 2009–2010, three competing IPTV platforms emerged, including HOL TV, Conn-x TV (later rebranded as COSMOTE TV), ON TV, and Vivodi Telecommunications' Cable TV [15]. COSMOTE TV challenged NOVA's satellite TV monopoly since 2010, experiencing significant growth in subscribers, outperforming NOVA [21, 22].

In 2016, Vodafone acquired HOL TV, launching "VODAFONE TV," and Cyta entered the Greek market in 2013 with its IPTV service [12, 13]. In the same year, NETFLIX and AMAZON PRIME introduced the OTT model, and in 2018, Wind Hellas entered the market with "WIND VISION," offering NOVA's channels and NETFLIX, intensifying competition [13].

Based on Fig. 1 between 2013 and 2018, Consumer Revenues from VoD services experienced significant growth, increasing from 1.60 to 27.90 million. Meanwhile, IPTV Penetration Rates showed a more gradual increase, fluctuating between 2.98% and 3.07% during the same period. According to Table 2, between 2009 and 2012, the number of satellite TV households increased from 488,000 to 758,000, while IPTV households fluctuated from 160,000 to 69,000. Despite slight variations, IPTV subscriptions remained relatively low. Consumer spending on Satellite services grew over the years, reaching 179.2 million in 2012, while IPTV spending declined.

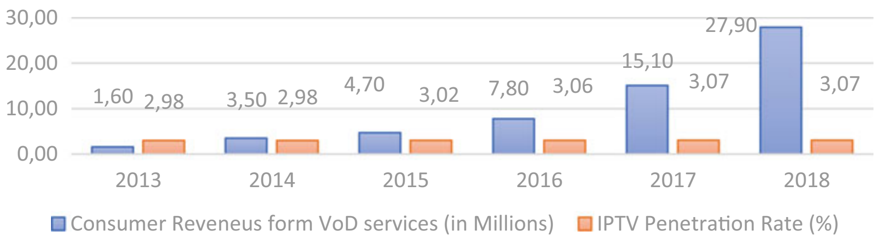

Fig. 1 VoD revenues & IPTV penetration rate: 2013–2018, compilation by the authors [20, 21]

Table 2 General data for subscription services: 2009–2012, compilation by the authors [16–19]

Year	Satellite Households	IPTV Households	IPTV Subscriptions (%)	Satellite gross-spend (Millions)	IPTV gross-spend (Millions)	Total PayTV subscriptions (%)
2009	488.000	160.000	3.70	200	31	–
2010	534.000	147.000	3.40	226	40	11.80
2011	690.000	118.000	2.70	282.4	25,2	11.60
2012	758.000	69.000	1.60	179.2	14	12.30

6 The Streaming/OTT Era (2019–2023)

From 2019 to the present, Greece's pay-TV market has seen significant growth, with the rise of international players and adoption of the OTT model, facilitated by 5G and fiber infrastructure development. Global streaming giant, NETFLIX, entered the market in 2016, gaining popularity by 2019, alongside the gradual growth of AMAZON PRIME [22]. NOVA launched "Nova Go" and "Novaflix," later acquired by United Group and rebranded as EON TV in 2021, transitioning to OTT streaming [13]. COSMOTE TV also embraced the OTT model [13]. YOUTUBE PREMIUM, APPLE TV, and DISNEY + entered in 2019 and VODAFONE TV integrated Disney + and HBO MAX in 2022 [23].

Local platforms like ERTFLIX, CINOBO, and ANT1 + are also prominent. Currently, Greece has 12 active platforms, with NETFLIX being the most widespread [13]. The dynamic landscape reflects the growing prominence of OTT-based streaming platforms. According to Statista [24], the video-on-demand platforms showed impressive revenue and user base growth over five years, starting from 39.27 million euros in 2019 to 64.36 million in 2023, with user numbers increasing from 1.46 million to 1.69 million. This consistent upward trend highlights the platform's successful performance in attracting and retaining users, leading to remarkable revenue growth.

7 Discussion and Concluding Remarks

The evolution of pay-TV services in Greece has undergone a dynamic and continuous process, transitioning from a monopolized market led by NOVA with satellite connections in the early 2000s, to a diverse landscape with 12 competing platforms [23] vying for user attention today. The absence of cable TV in the country played a significant role in sustaining NOVA's dominance in the pay-TV sector for nearly a decade. However, in 2007, technological advancements catalyzed the entry of new platforms, primarily driven by telecom companies, offering video-on-demand services through the IPTV model. This shift introduced a different technological model of TV viewing, enabling local players like COSMOTE TV and NOVA to emerge as key competitors, providing both satellite and IPTV packages.

From 2009 to 2019, Greece faced a challenging fiscal and economic crisis with strict austerity measures impacting the pay-TV industry. While some platforms were forced to shut down, others adapted to the changing landscape [22]. In 2019, platforms like NOVA and COSMOTE TV began adopting the OTT model, while others like VODAFONE TV and WIND VISION made their debut in this sector. Concurrently, international giants like NETFLIX started gaining subscribers. From 2019 to the present, the market witnessed the entry of international platforms like DISNEY + and APPLE TV, alongside domestic players forming alliances and making acquisitions to stay competitive. For instance, VODAFONE TV provides HBO MAX and DISNEY. Overall, in 2023, a notable increase in consumer revenues and user subscriptions was observed.

Despite being a small market, Greece is adapting to global developments, and the competition has expanded, with various platforms gaining a share of the market. Additionally, the development of fiber networks like 5G contributed to their rising popularity. Looking ahead, Greece's subscription services industry is expected to continue evolving and innovating. Advancements in content quality and user experience, and pricing strategies will likely stem from the dynamic and competitive environment created by both domestic and foreign competitors.

The evolution of subscription services in Greece offers insightful insights for the media sector's future. The value of flexibility and accepting technology changes is one of the important lessons. It is clear from the evolution of traditional satellite TV, IPTV, and ultimately the OTT streaming model that media organizations must continue to adapt in order to keep up with shifting customer demands and technical advancements. By embracing new transmission and distribution technologies, platforms like NOVA and COSMOTE TV were able to remain competitive. Furthermore, the success of foreign competitors like NETFLIX highlights the need to appeal to a worldwide trend and consider the impact of global players on the local industry.

The growth of subscription services presents challenges. To retain subscribers amid increasing competition, platforms must stand out with unique value. Media companies must innovate to meet changing preferences and technology. Success hinges on adapting to shifts and predicting customer needs. Advertising becomes crucial for long-term revenue, demanding tailored tactics to enhance user experiences and competitiveness. Data-driven ads resonating with specific audiences are vital.

In conclusion, this study has provided a historical account of the development of subscription services in Greece. The transformation from a single-platform monopoly to a diversified market with various OTT platforms showcases the adaptability and dynamism of the industry. While this study relies on reliable sources, it is essential to acknowledge the limitations of historical data and industry reports, calling for future research that employs statistical techniques and includes insights from market participants and industry leaders.

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Learning Statistics Using Specialized Software Applications

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Abstract In-depth learning of undergraduate statistics by students is very important today, and ways are being sought to achieve this goal. This work examines the contribution of the use of specialized software applications to the effective understanding of statistical concepts and to the development of statistical thinking and ultimately in the improvement of students' statistical literacy. In an introductory statistics course in the University of West Attica, Greece, a teaching intervention was made in which experimental teaching was carried out and specialized software applications were used. The students were divided in two groups. In one of them, in every lecture, specialized software applications were used, while in other group, only general software was used. These applications were designed for these teachings to be easy to use and represent and visualize statistical concepts. The results of these experimental teachings were measured and compared with the results of traditional teachings on the same course. Findings showed that the group in which interactive specific software applications were used had better results in final course performance and understanding of the concepts taught. Implications for higher education are discussed.

Keywords Statistic education · ICT in statistic education · Statistical literacy

1 Introduction and Literature Review

In modern mathematics curricula, the teaching of statistics is carried out from the first years of elementary school. It is reported that [1] it is necessary to prepare students for a world marked by information as they should acquire the ability to understand and manage information with the available tools of statistics, in order to make logical decisions on global issues. The teaching of graphic representations "satisfies" the globalized tendency to visualize the world, with the aim of gaining the maximum possible knowledge, as they make the learning-scientific-statistical

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material attractive, interesting and understandable, and function as an epistemological and pedagogical tool [2, 3]. The student needs to know the techniques of Summary Statistics and data visualization and not to confuse the concepts. This is why a statistics course in a university, should emphasize statistical thinking, focus on understanding concepts, integrate real data into teaching, use technologies and scenarios that encourage discovery learning [4].

A professor should know pedagogical approaches and technologies that he/she can apply [5]. A modern teaching approach is necessary which will take into account the level of knowledge of the students, will use real data so that the results of the processing become understandable and will use appropriate technologies [6].

Modern statistical software can implement the main modern statistical techniques and data processing methods. However, this software has a complexed environment that needs learning, and the anxiety about this learning often acts as a hindrance for the student. For example, in this kind of software, in order to enter data, after learning the environment for entering data and data types supported by the software, rules must be applied concerning the data validation [7]. The situation becomes more complex when students have different levels of knowledge of basic mathematical and statistic concepts. In this case, special attention is needed and the matter should be dealt with in an appropriate way, so that differences of this kind are mitigated in the classroom. Pedagogical learning theories advocate that discovery and cooperative learning can help even weak students understand mathematical concepts through discovery and construction. Learning by observation can bring about a positive result with appropriate software and generally through modeled direct, symbolic or complex behaviors [8].

It has been observed that visualization of concepts and simulations that allow experimentation are suitable tools for the discovery of knowledge. Researchers report that the use of simulations can help in understanding statistic concepts [9–11]. Other research has shown that software that has the ability to visualize concepts and results enables students to make sense of data and results, draw conclusions, and understand concepts [12–14]. It is also reported that the use of specialized software applications can help solve problems of understanding statistic concepts and have positive effects in the teaching of Statistics as well as in environments where students have different backgrounds [15]. These applications can be built using programming tools, but also using spreadsheet software or mathematical software. The usefulness of spreadsheets in the organization, presentation, management of quantitative data and their processing results is proven, as well as that spreadsheets can be used as tools with which models can be built and models already built by third parties can be explored [16].

Also there is Mathematical software that is user-friendly and easy to grasp and has the ability to create interactive applets. This software can be used to create specialized applications that will visualize or simulate concepts and allow experimentation for their users [17, 18]. The aim of this paper is to demonstrate that the use of specialized software applications can motivate and help the students to explore statistic concepts.

2 Materials and Methods

2.1 Research Methodology

This paper studies the effect on understanding and change in performance in Statistics courses when students use specialized software applications to learn statistics concepts. For this purpose, an introductory statistics course was taught in a Business Administration department at a tertiary institution using such applications. The teaching intervention was designed and adapted without making any changes to the course outline. Specialized Software applications were used, simple to understand and use, which were adapted to suit. These applications acted as software that could simulate concepts, and allowed students to experiment with real data and answer the worksheets they were given.

The students who participated in this survey, were divided in two groups for the purpose of the research. The separation was done in such a way that the two groups have approximately the same average level of knowledge and have approximately the same composition in terms of gender and origin. One of these groups, the experimental group, in each teaching unit, used an appropriate designed application together with the corresponding worksheet. This application was used by the students for experimentation and the completion of the corresponding worksheet which contained exercises and questions of exploration and experimentation with data changes. Students usually worked in groups of two.

In other words, during the semester the experimental group used a set of specialized software applications that visualized and/or simulated basic concepts of statistics and probability theory, descriptive statistic measures, and plotted distributions of random variables and created a model for the correlation of two variables that plotted the regression line using the method of least squares. The applications used in this teaching intervention, covered almost the whole course. Students in the experimental group worked in small groups and using the appropriate application explored these concepts and gathered knowledge. Worksheets are distributed weekly for completion by groups of students working together for experimental group only.

The control group, used general statistical software only and teaching was done in the traditional way. Forty-eight (48) students participated in each of the two groups, of which at the end of the semester, 47 from the control group and 46 from the experimental group participated in the final examination of the course and were taken into account in the present study. For all students who participated in the final examination of the course, their performance and the result (pass/fail) were recorded. It was then examined whether the contribution of the use of specialized software applications actually contributed to the result of the final exam of the course.

Table 1 Group statistics

	Use applets	N	Mean	Std. Deviation	Std. Error Mean
Final grade	Use applets	46	6.402	2.3085	0.3404
	Not use applets	47	5.255	2.3771	0.3467

3 Findings

After analysis and statistical processing of the data, it was found that the use of specialized software applications can positively affect the performance of students in the final exam of the course and could be an important factor for understanding statistical concepts and acquiring statistical knowledge (Table 1).

A hypothesis was tested at the 5% significance level as to whether the mean final grade on the course exam was significantly different between those who used specialized software applications and those who did not. As seen in Table 2, it must be rejected that there is no difference between the two groups since it is p-value = 0.02(<0.05) and we must accept in a one-sided test that the average final grade in the course exam is higher for the group that used wrote specialized software applications.

Also, for the difference in the average final grades in the course exam between the two groups with the specific composition, the non-parametric Mann–Whitney test was performed, which concerns two independent samples, so as to ensure, in case it can be considered that there is no normality that again there is a statistically significant difference in the average final grade (Table 3).

This test, which was done at a significance level of $\alpha = 0.05$, as shown in Table 4, gave a p-value $= 0.008 < 0.05$, which means that even in the event that the grade in the final exam of the course does not follow the normal distribution, it can be considered that there is a statistically significant difference in the average grade of the final exam between the two groups.

4 Discussion and Conclusion

To teach an introductory statistics course in the University of West Attica, a set of specialized software applications were built in spreadsheet software and mathematical interactive software was used.

In the basic benefits of these applications is that they make it easy for the student to explore, discover, deepen into concepts and modify data instantly and easily for experimentation. Also, these applets have a user friendly interface that does not present difficulties in its learning and thus the student does not have additional stress for learning commands, rules and tricks of the software. With any changes in the data, recalculations are made and it is not necessary to re-execute commands most of the time, so that the user's attention is not distracted from exploring the concepts.

Table 2 Independent samples test

		Levene's test for equality of variances		t-test for equality of means						
		F	Sig	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
Final grade	Equal variances assumed	0.315	0.576	2.360	91	0.020	1.1469	0.4860	0.1814	2.1123
	Equal variances not assumed			2.360	90.995	0.020	1.1469	0.4859	0.1817	2.1120

Table 3 Ranks

	Use applets	N	Mean rank	Sum of ranks
Final grade	Not use applets	47	39.66	1864.00
	Use applets	46	54.50	2507.00
	Total	93		

Table 4 Test statistics[a]

	Final grade
Mann–Whitney U	736,000
Wilcoxon W	1864,000
Z	−2.661
Asymp. Sig. (2-tailed)	0.008

[a]Grouping variable: Useapplets

According to literature review the use of software that has the ability to visualize concepts and simulations can help in understanding statistic concepts [9–14]. It is also reported that the use of specialized software applications can help solve problems of understanding statistic concepts even in environments where students have different backgrounds [15].

In conclusion, it appears that the use of specialized software applications that visualize and/or simulate statistical concepts, if done in an appropriate way, can lead students to discover statistical concepts and inferences and ultimately promote statistical literacy.

How a person learns, and which didactic approaches and learning theories are appropriate so that the possibilities of acquiring knowledge by the student are great, have preoccupied researchers and are topics for which there are aspects that need to be investigated more [19]. In any case, the teacher, after first investigating and getting to know the knowledge level of the class, should apply modern teaching methods promoting active learning. Specialized software applications can help discover statistical concepts. Further research could take place to examine other potential Implications from use of specialized software applications in learning of statistic concepts for higher education.

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Adapting Constructivist Grounded Theory in the Design of Extended Reality Applications: A Novel Approach to Enhance Cultural Tourism and Actual Visits to the Fortification Architecture of Aitoloakarnania, Greece

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Abstract This study presents the application of Constructivist Grounded Theory in the design of extended reality applications within the Digicult project aimed at enhancing the visibility and accessibility of Aitoloakarnania's unique fortifications. The project developed three primary applications: virtual tours, a virtual reality, and an augmented reality application. Requirements' analysis was conducted using an adapted version of Grounded Theory, leading to well-defined, user-centric requirements and clear user stories. These user stories facilitated the development of technologically advanced, functional, and engaging applications. Simultaneously, the Virtual Street Museum project, sharing the same core development team, aimed to develop an interactive mobile application that provides personalised cultural tourist routes using augmented reality to enhance the user's visiting experience. Unlike Digicult, Virtual Street Museum did not use the adapted version of Grounded Theory. Both projects followed a hybrid Agile/Stage-Gate development methodology, supporting iterative cycles and external collaborations. This study focuses on the initial phases of the development methodology, specifically the requirements analysis, and how Constructivist Grounded Theory can support the procedure and add reliability and quality to the main requirements of a project, as tested in the Digicult–Aitoloakarnania research project. The implications of this study are also discussed.

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Keywords Innovative Platform · Cultural Tourism Guide · Grounded Theory · Requirements' Elicitation

1 Introduction and Theoretical Background

Grounded Theory (GT) has proven to be an extremely useful research approach in several fields, including computer science; however, it is a complex method based on an inductive paradigm that is fundamentally different from the traditional hypothetico-deductive research model [1]. Constructivist grounded theory, a qualitative research methodology primarily developed by Kathy Charmaz [2, 3], emphasises the co-construction of knowledge between the researcher and participants. Unlike traditional grounded theory, which seeks to uncover an objective 'truth' or reality, the constructivist approach acknowledges that both parties bring their own experiences, backgrounds, and perspectives to the research process. This reciprocal interaction results in a richer and more nuanced understanding of the phenomenon being studied. One of the key benefits of constructivist grounded theory is its flexibility and adaptability, which allows researchers to delve deeply into complex social processes and understand them from multiple viewpoints. Additionally, it promotes reflexivity, encouraging researchers to critically examine biases and preconceptions throughout the research process. Charmaz's work highlights the importance of viewing research participants as active agents in the construction of knowledge rather than passive subjects, leading to more authentic and comprehensive insights. The principal distinctions between grounded theorists and other qualitative researchers have historically centered on the matter of preconceptions. Preconceptions hold great importance and influence researchers' analysis. Despite remaining inconspicuous on the surface, a profound bond with research participants can ignite the researcher's passion and drive [4].

Grounded theory is ideal for examining sociocultural and human dimensions in software engineering, offering fresh perspectives. Although software engineering presents certain complexities for grounded theory studies, it continues to be a robust approach for theory construction and software requirement analysis. Developing a solid theoretical foundation is a significant hurdle in software engineering [5]. Grounded theory studies can contribute to the development of comprehensive theories and guide future empirical research in software engineering [6].

This paper proposes a new adaptive constructivist grounded-theory approach for Extended Reality Applications requirements elicitation (ACGTRE). As a test case, "Digicult_Aitoloakarnania. Augmenting Actual Visits and Cultural Tourism of the Fortification Architecture of Aitoloakarnania with the holistic use of Interactive Virtual and Augmented Reality Applications."—project code: Τ6ΥΒΠ-00476 which co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call Special Actions in aquaticfarming-industrial materials- open innovation in culture, was utilized.

Despite promotion, protection, and restoration, fortifications are not linked. To enhance digital visualization, three apps were developed: a virtual tour, virtual reality app, and augmented reality app. An adapted Grounded Theory was used to identify the apps' requirements. Constructivist Grounded Theory was used to co-create knowledge and conclusions. This approach provides a novel way to understand Aitoloakarnania's fortifications and can be adapted to extended reality. It yielded "grounded" requirements and user stories. User stories from grounded requirements gave a clear understanding of user needs and expectations. This enabled the creation of applications that were both technologically advanced and user-centric, ensuring the final product was both useful and enjoyable. User stories connected the technical development team and end-users, ensuring the applications met user needs and expectations, improving the user experience. The team also ran "Virtual Street Museum—StreetMuseum" without Grounded Theory, creating an app with personalized cultural tourist routes. The app uses AR to enhance the user's experience, enabling them to save personal city data. It plans routes based on weather and user preferences. The project involves creating an algorithm for optimal routes, big data analytics, and AR mobile apps.

2 Methodology

Requirement analysis is a demanding process that involves many challenges. For this reason, a methodology which included many meetings between project team members for brainstorming, focus groups, and recording discussions for additional analysis was followed. The focus was then on the visitor's experience in fortifications, the description of his experiences, and what interests him in such a visit. Methods which use visitor-generated visual content (VGVC), like travel photos uploaded to platforms such as Flickr, offers insights into tourists' behavior beyond traditional, costlier methods like surveys [7]. In addition, an important factor is the study and research in literature as well as the utilization of the experience of the project team. All collected data were analyzed using the inductive qualitative research method of Grounded Theory. The constructivist grounded theory method was used as the most appropriate method for which researchers and participants co-constructed the final knowledge and conclusions during analysis and data collection. The key questions of this study were: (a) Is there a need to select content categories specific to fortifications in terms of application development?, (b) How will applications meet the needs of end users beyond the basic level of technologies initially described from the perspective of other stakeholders (Ephorate of Antiquities of Aitoloakarnania and Lefkada)? For the modelling and visualisation of the requirements extraction process, the Business Process Modeling Notation. A diagram in the BPMN divides the process of the proposed adaptive constructivist grounded theory (ACGT) into four main stages:

- Stage 1—Gathering Information.
- Stage 2—Implementation of Methodological Approaches

- Stage 3—Coding
- Stage 4—Create user stories—Record requirements

2.1 Stage 1—Gathering Information

Two groups were identified for the project: internal (project team members) and external (app users and fortification visitors). Sources of information were identified for focus groups (mainly project team members) and external sources (mainly visitors). Original proposal, archaeological material, Google Maps and TripAdvisor reviews of Aitoloakarnania fortifications were selected for analysis.

2.2 Stage 2—Implementation of Methodological Approaches

At this stage, various methodological approaches were used to gather the material to be analyzed and codified in the next stage of the project. More specifically:

2.2.1 Interviews—Meetings

The meetings that took place were mainly online, and those related to wider meetings were recorded and transcribed in an automated way. The meetings can be divided into three categories: technical team meetings with 5–7 attendees, content creation team meetings with 4–6 attendees, and cooperation meetings with 8–10 attendees. All attendees are members of the project team. Automatic transcription, although not entirely accurate, combined with the video in the form of subtitles provides a thorough analysis of the meetings. In the context of this research, two meetings attended by the project team's main members were used.

2.2.2 Focus Groups—Writing Texts

The focus groups worked on and/or created a series of documents following meetings between the software development team and the archaeology team. The research focused on creating texts concerning fortifications in various municipalities of Aitoloakarnania.

2.2.3 Comments of Visitors to Fortifications

As part of the search for information from visitors to the fortifications of the region of Aitoloakarnania, comments were collected from the two most popular platforms, TripAdvisor and Google Maps. More specifically, comments were collected about the fortification monuments for which there were apparent comments registered on the platforms. For the above sites, 90 pages of user comments were collected.

2.3 Stage 3—Coding

The coding stage involves a series of sequential actions of initial coding, focused coding, and theoretical coding. At the same time, throughout the successive actions, the actions of continuous comparison of codes, creation of notes in the form of memos and creation of code categories run—constant comparative analysis [8].

2.3.1 Initial Coding

In the initial coding phase, we explore any theoretical possibilities from the data. This helps us decide on basic conceptual categories. Comparing data reveals participants' issues, which we can then address in detail. The coding follows the data closely. We observe actions on each data point instead of using pre-existing categories. The aim is to code with words that show action. This coding method restricts conceptual leaps and premature application of theories. Wider meetings were transcribed, imported into ATLAS.ti [9], and coded accordingly. The project began with coding the proposal, then the focus groups' texts. This was to study Aitoloakarnania's fortifications. Visitors' comments from Google Maps and TripAdvisor were also coded. Before coding, word frequency was analysed with a word cloud and a table of words frequency.

2.3.2 Focused Coding

Focused coding is the second step in coding. It is more precise, selective, and conceptual than word-by-word, line-by-line, and incident coding. After initial coding, focused coding synthesizes and interprets larger data sets. Focused coding uses essential and/or frequent codes to analyze large data sets. It assesses their adequacy and requires decisions on which source code best categorizes data thoroughly. Focused coding is not a linear process. It involves selecting the most frequent or important codes to categorize data. The following categories were created as part of focused coding: documentation digitization tool, project applications, VR Virtual Tour App: PC Virtual Tour Application, Augmented reality app, monument entities, Spotlight approach, what concerns the visitor?

2.3.3 Theoretical Coding

Theoretical coding is an advanced form of coding that builds on focused coding. Glaser proposed theoretical codes to connect noun codes and form assumptions into a theory. In essence, theoretical codes identify the connections between categories from focused coding. The theoretical codes unify and shape the collected focused codes, creating analytical, coherent narratives and advancing analytical history. Correlating the basic categories (technical, visitor needs, and monument entities) generated grounded conclusions in the form of narratives structured as basic user stories, outlining high-level requirements. Key user stories are used to create more detailed user stories. These narratives will follow the format "As a… I want to… So That…I will achieve this through…" and will be based on data from stakeholder meetings, archaeological/historical and technical approaches, and visitor feedback. The study thoroughly analyzed the app's features, visitor needs, and requested information, reaching a satisfactory level of saturation.

2.4 Stage 4—Create User Stories—Record Requirements

At this stage, having developed the established conclusions in the form of narratives, utilizing the experience of the development team in combination with data visualization (Sankey diagrams, network diagrams, etc.) extracted from ATLAS.ti [9], user stories were created based on the subsystems that emerged from the initial design and during the study. They were captured in tables as shown in Table 1.

The objective was to develop narratives that would interpret central stories based on and supported by the analyzed data. These central stories could be characterized as "Initiatives" and then analyzed into "Epics" and "User stories". The terms "initiatives", "epics", and "user stories" refer to elements of the agile methodology, which

Table 1 Template of user stories—requirements

Initiative Description:	Description	Initiative Code:	Code
Epic story name:	Subsystem Name	Epic Story Code:	Code
User Story Title:	Title	History Code:	Code
As a	I want to	So that	
(Type of User)	(My target)	(For what reason)	
And I will achieve it by:			
Requirement Code:	Description:	Acceptance - verification criterion:	
Requirement Edition:	Essential/ Conditional/ Optional	Grounded/Empirical	
Functional/Non-functional			

is very popular in software development. It is important to note that these specifications will be improved, and, in some cases, new specifications will be added as part of the project development cycles.

3 Results and Discussion

Both projects, Virtual Street Museum and Digicult_Aitoloakarnania, used a hybrid Agile/Stage-Gate methodology. This methodology supports iterative cycles and external collaboration in product development. This study focuses on the initial phases, particularly the requirements analysis. Constructivist grounded theory can improve project reliability and quality compared with traditional requirements elicitation methods. It also supports the visualization of the results (diagrams) and is compatible with the Agile Manifesto principles [10], as described in Table 2.

Agile initiatives are a modern approach to software development that focus on continuous improvement and adaptation to change. An important element of Agile is the use of "epic stories" and "user stories". Epic stories are big tasks that require a lot of time and effort to complete, whereas user stories are smaller functions that the user wants to achieve with the software.

4 Conclusion

The requirements for the extended reality applications of Digicult_Aitoloakarnania were gathered using an adapted version of Grounded Theory, a qualitative research method that is inductive in nature and visualised using Business Process Management Notations. The Constructivist Grounded Theory method was employed to facilitate the co-construction of final knowledge and conclusions by researchers and participants during the analysis and data collection stages. This innovative approach offers a novel way of engaging with and understanding Aitoloakarnania's unique fortifications, and can be tailored to the design needs of extended reality applications. The outcomes of this approach resulted in well-defined and 'grounded' requirements, which led to the creation of clear and comprehensive user stories. These user stories, derived from grounded requirements, provide a thorough understanding of users' needs and expectations. This clarity in user stories facilitated the development of technologically advanced and user-centric applications, ensuring that the final product was both functional and engaging. The user stories served as a crucial connection between the technical development team and end-users, ensuring that the developed applications were aligned with the users' needs and expectations, thereby enhancing the overall user experience. During the same chronological period, a second research program with the name "Virtual Street museum—StreetMuseum" having the same main core of the development team, was running without using the adapted version of Grounded Theory. The methodology described above supports the

Table 2 Comparing Agile Manifesto with Constructivist grounded theory with corresponding visualization

Agile Manifesto	Constructivist grounded theory with corresponding visualization
Our highest priority is to satisfy the customer through early and continuous delivery of valuable software	The co-construction of requirements through an understandable framework (BPMN, soft computing)
Business people and developers must work together daily throughout the project	This methodology promotes the ability of team members (developers, stakeholders, and other project team members) to execute and document their knowledge which is projected in the requirements recording environment under development
Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done	The initial formulation of requirements does not come from a superficial extraction of requirements through classical collaborative methods but follows an open approach to the recording of information. Project team members formulate their opinions based on their abilities and requirements are based on these views
The most efficient and effective method of conveying information to and within a development team is face-to-face conversation	The concept of face-to-face conversation is reinforced through the creation of unique stories—categories and methods of visualization of information that achieve a common understanding of the environment and the pursued goals
Simplicity–the art of maximizing the amount of work not done–is essential	The utilization of the methodology of constructivist grounded theory results in focusing on the characteristics of these applications that are important to the end users and not on features that are usually found in similar applications and are often "repeated" for no good reason, increasing the volume of work
The best architectures, requirements, and designs emerge from self-organizing teams	Self-organization is a concept that is approached and implemented differently by each group of specialties involved in a complex IT project. The use of methodologies that are better understood for each group are the best methodologies for self-organization. A common factor linking the different groups is in the first instance

Digicult_Aitoakarnania development team so that it has a quicker and more focused description of the requirements than the description from the Virtual Street Museum. Both approaches resulted in successfully developed applications, but in Digicult_Aitoakarnania, fewer agile iterations were required, resulting in a shorter development time. Our results are promising and should be validated in more projects. Automation of the methodology using artificial intelligence tools should also be the focus of future studies to improve the process and offer new insights of the data.

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Fundraising and Social Marketing in the Non-governmental Organizations

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Abstract Identifying and accessing funding sources has always been a challenge for non-governmental organizations. Social marketing, through the special techniques taken from the marketing of economic companies and adapted to social organizations, managed to come up with a new perspective for identifying these important revenues for the sustainability of organizations. This paper describes the results of an exploratory qualitative research, the objective of which was to identify the difficulties faced by non-governmental organizations, especially from the perspective of fundraising. The research was carried out in the period 2020–2022, on a number of 15 non-governmental organizations accredited by the Romanian Government, from Brasov County, Romania. Data collection was carried out through interviews, both semi-structured and unstructured with people from the management structures of the non-governmental organizations. The results of the research show that the difficulties of non-governmental organizations are related to the lack of human resources and the lack of finance. Although they make great efforts to have funds to provide social services to beneficiaries, we can observe that most non-governmental organizations do not follow a model or strategies of social marketing and funding, which limits the development of the organizations. This research highlights that social marketing strategies come with ingenious solutions for the financial stability of non-governmental organizations, strategies that need to be known by both, non-governmental organizations, and businesses.

Keywords Social marketing · Fundraising · Non-governmental organizations

1 Introduction

Non-governmental or non-profit organizations (abbreviated: NGOs) are increasingly visible organizations in society, known to the public mainly through the humanitarian actions they carry out with different categories of beneficiaries, but also through their

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involvement in raising awareness among stakeholders and the public of the vital role they play in social service delivery and development [1–3].

This paper focuses on the funding modalities of NGOs working in the social field and connected to the social welfare system. According to the Romanian legislation [4], the national social assistance system intervenes through state institutions and NGOs to prevent, limit, or solve situations that may lead to marginalization or social exclusion of individuals, families, groups, or communities.

2 Theoretical Framework

Through their role in prevention and subsidiary intervention on vulnerable individuals and groups, and through services provided in their proximity [5–7], NGOs stand out for their creative and innovative activities on social work beneficiaries, supported by self-funding. This makes interventions focused on the real social needs and desires of the population and contributes to an increase in social welfare, as proposed by "the parents" of social marketing, Kotler and Zaltman [8]. They advocated taking marketing techniques and translating them into the area of nonbusiness institutions.

French and Russell-Bennett [9] propose a hierarchical and differentiated model of social marketing that includes value through exchange, social behavioral influence goals, citizen/customer/civic society-orientation focus), social offering (idea, product, service experience, policy, etc.), relationship building.

The ways in which social marketing strategies are applied in NGOs can be: donation or sponsorship of a company to a humanitarian cause, social marketing campaigns through which stakeholders and the general public are informed about the causes of NGOs, marketing sponsorship of social programs or projects, marketing of relationship-based social action, social marketing to promote product and brand the company uses the name of an entity or a campaign logo, adding value to your business and generating increased sales (when we talk about the social economy) [10].

The work of NGOs to raise money for the activities they offer to beneficiaries is often extremely intensive and even expensive, research showing that most NGOs lose money from donor recruitment activities and that the overall incomes gained from fundraising are comparatively low [11]. NGOs continuously request money from stakeholders and the public for various humanitarian causes and it is difficult to measure the effects of these requests [12]. Another question related to fundraising is how efficient these methods are among stakeholders and if they are, in the long term, effective applied to the same target audience [13]. What influences the intention to donate is awareness, which can be increased by developing the organization's image and increasing trust in the organization [14]. Permanent information, update information, advertising is crucial to have constant funding sources [15].

One of the tools proposed for building and maintaining funding in an NGO is the Balanced Scorecard, proposed by Kaplan [16] which allows organizations to find the most efficient way to achieve the goals set by their mission and determine the best means to raise their funds. In the case of financing an NGO, the implementation of this instrument involves make the strategy explicit, choose the measure, define, and refine (establishing clear systems and procedures to track the extent to which objectives are being followed) and deal with people (application of the strategy).

Also, to obtain sustainable financing of NGOs, specialists propose cause-related marketing, which involves partnerships between companies for profit and NGOs, for mutual benefits, thus stimulating companies to be socially responsible [17]. The potential influx of money allows the adaptation and expansion of services and the ability to serve more people, making cause-related marketing a positive influence and a useful tool for social change.

3 Methodological Framework

This study presents exploratory qualitative research whose main objective was how and in what ways social marketing strategies are applied by NGOs in the social services sector. The research questions, from which it started, were the following: what are the difficulties faced by NGOs? How do they financially support their activities with beneficiaries? Which social marketing strategies are used by NGOs? The research was carried out in Brasov County, Romania and data were collected between 2020 and 2022. Data collection was carried out through interviews, both semi-structured and unstructured applied with people from the management structures of the NGOs.

The method of sampling respondents was theoretical and the snowball technique was used, taking into account the following aspects: NGOs should be active, offering services to beneficiaries, at the time of data collection; to be NGOs accredited by the competent ministry (Ministry of Labor and Social Solidarity); consent to participate in the research; was selected the NGOs that offer services to several categories of beneficiaries, focusing on identifying challenges from several fields of activity: socio-educational services (4 NGOs), socio-medical services (1), social integration and reintegration services (10); Social integration and reintegration services are addressed to a wide range of beneficiaries, such as: People with disabilities, elderly people, immigrants and refugees, abandoned children, families at social risk. Thus, a sample of 15 NGOs was reached, out of a total of 28, selected from the map of social services in Brasov County [18]. It should be noted that some of the NGOs on the social services map are only in the process of accreditation and therefore have not been accessed.

To collect data, the interview guide was used, which was structured first on themes, then on additional questions, where more data were needed. The research subjects were told about the aim of the research and all participants gave their written consent for their answers to be used for scientific purposes.

During data collection, the data has been introduced into the NVivo 14 software, performing a primary analysis to identify the maximum number of subjects necessary for my research. Data of the interviews were processed and analyzed. Thematic coding was used in the analysis of the data collected, focusing on the challenges of NGOs and their use of social marketing methods.

When theoretical saturation was reached, the data collection process was interrupted, focusing on thematic analysis and interpretation of the information obtained.

4 Findings

The interviews mostly included discussions about the activities carried out by NGOs: the beneficiaries of the organization, the responsibilities of the respondents, the challenges faced by the organization, the ways of financing and promoting, the social marketing strategies used by the organization.

It could be noticed that during the interviews, absolutely all the organizations focused their discussion on funding. It seems that financing NGOs is a constant challenge, both for small organizations, with fewer projects and social services and for specific periods, as well as for large organizations, with constant programs and projects. In fact, from the analysis of the interviews, it emerged that all NGOs face two major difficulties, which influence each other: human resources and financing.

Because there is little money, the NGOs prefer to allocate all the funds for the activities with the beneficiaries, than to hire a person specialized in social marketing and communication or to invest in a campaign to promote the organization, made by a specialized agency, which would increase the visibility between stakeholders and the public and thus, could attract sufficient funding: Establishing, developing, supporting a fundraising department costs money that we currently want to invest in the welfare of the beneficiaries (NGO providing Social Services for mentally disabled people).

In order to survive as organizations, they must always access different sources of financing. From the data analysis, the most used financing sources are, as mentioned by the respondents, in descending order: projects with local, national or international financing; organization of events; sponsorships; 3.5% of income tax; 20% of the company's profit tax; donations by Direct Debit; donations by SMS; subsidies from the government; own economic activities, cause-related marketing.

Projects with local, national or international financing are the most accessed sources of financing, being mentioned by all responding NGOs. It is worth noting that writing projects is challenging, which requires a lot of work and coordination and also, the search for accessible grants: We strive to attract financial resources by writing projects, they are not always successful, but we make efforts in this sense. (NGO providing Social Services for blind people). We had to look for funding from elsewhere, and we implemented European projects, already since 2012 European projects have been implemented, only that they require a lot of hassle and a lot of work and are very cumbersome (NGO providing Educational Services).

The organisation of events is also mentioned by all respondents, although the events are not always organized as fundraising events. However, an event, such as education-information-awareness, through the interaction of the organization with the community and its visibility in the community, can have as a secondary effect and a subsequent funding: We have another special event that we organize annually, called "Dinner in the Dark". It makes us visible among important people of civil society, and every time with the help of the Lion's Club, we organize in one of the nice restaurants in Brașov, to which we invite people we know, from the community, from public institutions. It was the former Mayor, Vice Mayor, doctors, businessmen and they experienced life in the dark for a few hours. I blindfolded them, it was a contest where they had to recognize the food. And it was an impact (NGO providing Social Services for blind people), Organizing fundraising events is expensive and involves a lot of work, human, financial and time resources. Even more, you have to make sure that the event achieves its goal, that of fundraising, that the expenses are not higher than the results.

The last few years have brought innovation in fundraising methods, especially from organizations that have fundraising and social marketing departments, which, in addition to classic fundraising events (balls, auctions, fairs), have introduced crowd-funding sports events, to which the population responded enthusiastically every time, including during the COVID period. It is a way of attracting funds that overlaps with the hierarchical and differentiated model of social marketing [9]: Now, the most extensive and with national impact were sports events. We talk for example about Hope Wellness as a cycling event, we had over 5000 people sign up for the event, which is an extremely large mass of people that we reached with this event (NGO providing Palliative Services).

Sponsorships are an important source of funding for NGOs. The main problem is related to the fact that these incomes are not stable, they fluctuate from one month to the next and at any time one or more sponsors can withdraw for various reasons, mostly financial, caused by crisis situations, such as the COVID period: Financially we are affected, the external fund also fell, and we had to turn to the other directions for the support of the children. The decrease in funds in Switzerland is huge and in addition these finances are fluctuating, as it always has been. This would be a weak point and a problem for us (NGO providing Social and Educational Services).

As a source of funding, sponsorships involve a lot of work persuading NGOs to companies, so that they get involved financially in the organizations' projects, although the Romanian legislation [19] provides tax exemption for the donated amount. It's just that these for-profit companies either don't know or are reluctant to the idea of sponsoring NGOs. So, part of the sponsorships to the social organizations in Romania come, rather from abroad: The funding methods of the organization are mainly from abroad, our main sponsors are organizations of the Reformed Churches from Hungary, Holland, Switzerland, as well as other European countries (NGO providing Social Services for elderly).

Also, as a form of sponsorship, the Romanian legislation [20] provides the posibilitty of allocation of 20% of the company's profit tax, a method quite little known by those who can allocate that percentage. This requires NGOs to present the activities and projects of the organization to profit-making companies and to explain to them that the allocation of 20% of the profit tax does not ask them for anything extra financially, but only helps the organization to be able to carry out its activities. Even more, it can be a good method of promoting the company for profit, which links its name to a humanitarian cause and can increase its credibility and visibility in the community.

Redirecting 3.5% of income tax, another source of funding mentioned by all respondents, applies to individuals and is supported by Romanian legislation, precisely to increase the sources of funding for NGOs. It is an activity that requires from the NGOs great resources of time to distribute the specific forms to the population, and it means good communication skills, because the population is quite reluctant to fill in these forms, not understanding very well what they mean.

Donations as a form of fundraising, although they are the best-known concept among the public, they are not a constant source of obtaining money and work best during the religious holidays of the year (the Christmas and Easter periods): They are individual donations, as I said, which can also be donations in kind, not necessarily money. That is, they bring us clothes, food, sanitary products that we can use for our beneficiaries (NGO Social Services for mental disabilities people). As one respondent points out, only a small part of NGO funding comes from donations: The part of donations and sponsorships is tiny, only 0.2% at the national level in money (NGO providing Social and Health Services).

The least used fundraising methods are: Direct Debit donations (only three organizations, two large and one small, use this fundraising method), SMS donation (only one of the organizations resorted to this financing method, which means monthly donation from the population, which supports long-term and very long-term programs) and their own economic activities (only one organization mentioned this form of self-financing): We have economic activities here within the foundation and we are trying to rent the rooms, we have a room that we rent as a hotel room. We try as much as possible to have economic activity, not to depend one hundred percent on the sponsor in Germany (NGO providing Educational Services).

Cause-related marketing is used by two of the organizations in the current study (NGO Health Services and NGO Social Services for Children). These are the ones that also have a marketing department and have financing strategies: At the national level, the organization has specialized people who deal with these aspects and as far as I know, there is a specific strategy in this regard at the organization level (NGO providing Social, educational and Health services for children). The strategies of the respective NGOs had objectives such as intensive media coverage, being known at the national level and thus, they had the support of profit-making companies for the services they offer through cause-related marketing, as can be seen on the NGOs' websites [21].

It should be pointed out that all respondents mentioned the need to develop the organization in the direction of using a well-thought-out social marketing strategy as an essential component of fundraising and the survival of the organization: The lack of a specialized person on the marketing side, makes the strategies to make our services known not very well targeted (NGO Social Services for Mental Disabilities People); My need is to do something to attract funds, to have a department, a person engaged on fundraising, who has a strategy on programs and who makes us known to attract funds (NGO Social and Educational Services). Organizations often find it difficult to bring the vision and mission of the organisation into fundraising practice, perhaps also because systems such as performance management and budgeting are not linked, as has been found in other research [16].

5 Discussion and Conclusion

The need for financing is so intensely perceived at the level of NGOs, that they are constantly looking for new sources of financing, an activity that they do in addition to the rest of the responsibilities they have in the organization, such as initial social evaluations, case monitoring, carrying out activities with beneficiaries, counseling, campaigns, managing relations with other institutions. This means a huge amount of work for the employees of NGOs.

The biggest difficulties faced by NGOs in Romania are financing and the lack of human resources, the elements that influence each other.

The most used sources of financing are projects with local, national, and international financing, the organization of various events, the redirection by the population of a percentage of 3.5% of the annual income tax, the sponsorship and redirection of 20% of the company's profit tax. The least used fund-raising methods are: Direct Debit donations; SMS donations; subsidies from the government; own economic activities, cause-related marketing.

It is found that most of the organizations in this study do not have a marketing and financing department, as a result they have no model or strategy to follow in accessing funds. As shown by other recent studies done in other countries [22], most NGOs ignore the power of social marketing strategies and use traditional methods of fundraising and promotion. However, it should be emphasized that the organizations that have a person designated for the fundraising activity or have a marketing department, follow specific strategies for social marketing, such as the Balance Scorecard, having a much more stable long-term financing and ongoing services and programs.

Although the present study is done on a relatively small number of organizations, and the results cannot be extended more widely, the research highlights the most commonly used methods of fundraising by NGOs and how new areas for the social field, such as social marketing, can develop the non-governmental sector through interdisciplinarity and the use of innovative methods from other areas of scientific knowledge. The following studies could identify the communication and promotion methods of NGOs and how they can influence fundraising.

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Metaverse and Education for Sustainable Global Citizenship: Ethical Paradoxes

Josélia Fonseca and Teresa Borges-Tiago

Abstract The emergence of the metaverse and the urgent need for educating sustainable global citizenship raises critical ethical considerations. If on the hand, the metaverse has the potential to bring together individuals from diverse backgrounds and cultures, creating an international community focused on sustainability and global citizenship. On another hand, given its characteristics as a virtual metaphor, the metaverse can create artificial societies inhabited by alter egos, capable of violent situations, based on the moral uncompromising of individuals under the guise of a fictitious personality. In this article, we intend to reflect on including the metaverse in the education for sustainable global citizenship, alerting to possible ethical dangers that may arise from it, and supporting this reflection methodologically with a bibliometric study on the subject. The metaverse presents an opportunity to integrate ethics, sustainability, and global citizenship into education. The metaverse paradox comprehends the dialectical relationship between the metaverse, ethics, global citizenship, and sustainability, constituting an excellent opportunity to promote ethics education for global citizenship. Harnessing the immersive and interactive nature of the metaverse, individuals can develop a deeper understanding of the interconnectedness of global issues and their ethical implications. Educating with and for the metaverse can contribute to the development of an ethical and moral digital consciousness, fostering the development of values and skills such as responsibility, fairness, empathy, and digital literacy, which are essential to empower individuals to take sustainable action and cultivate a global community committed to creating a more sustainable future.

Keywords Metaverse · Global citizenship · Education · Ethics

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1 Introduction and Background of Research

In our modern, interconnected digital world [1, 2], the experiences of young people differ significantly from those of previous generations. Many engage in networks that constantly expose them to individuals from diverse backgrounds, encompassing different ethnicities, cultures, communities, and tribes [2]. These encounters offer genuine encounters with various cultural, religious, and ethical value systems, which present an integrated and often persuasive set of expectations, enticing them to adopt these perspectives. However, this exposure to pluralistic attributes can lead to conflicting expectations and moral dilemmas. Particularly for those experiencing uncertainties or becoming aware of social inequalities, navigating these complexities can be challenging. Or, for those who, under the cloak of these inequalities believe themselves superior, capable of perpetuating domineering and oppressive attitudes, true oligarchies in a world that claims to be increasingly democratic.

The transition to Web 2.0 brought about a shift from static websites to dynamic platforms that allowed users to actively contribute, share, and collaborate. User-generated content became a driving force in shaping cyberspace. The widespread adoption of smartphones and mobile devices further extended the reach of cyberspace, enabling people to connect and interact online anytime and anywhere [3]. The integration of IoT devices, such as smart home appliances and wearable gadgets, expanded the scope of cyberspace beyond traditional computers and mobile devices. And, advancements in virtual reality (VR) and augmented reality (AR) technologies added new dimensions to cyberspace, offering immersive and interactive experiences, coined as metaverse. Metaverse is a concept that envisions a fully immersive, interconnected digital universe where people can interact with each other and digital objects in a three-dimensional virtual environment [4, 5]. In the metaverse, users can experience a persistent, interconnected, and synchronous digital space that transcends individual platforms and applications [6]. As technology continues to advance, cyberspace will undoubtedly evolve further, shaping the way we interact with and perceive the digital realm.

The metaverse concept has gained significant attention in recent years as advancements in VR, AR, artificial intelligence, and blockchain technologies have brought the vision of a shared digital universe closer to reality. Major technology companies and gaming platforms have expressed their interest in building and shaping the metaverse, aiming to create the next generation of digital experiences that go beyond the limitations of traditional websites and apps. The metaverse also offers the opportunity to bridge the gap between physical and virtual spaces, creating blended environments that harmonize community and society [3, 4]. Through these blended spaces, informal and formal learning environments can be designed to support the development of citizenship identities better. Overall, the metaverse provides a unique and innovative platform for young people to explore and engage with citizenship in a global and interconnected world [6].

While the idea of the metaverse holds immense potential for innovation and new possibilities, there are also challenges related to privacy, security, digital rights, and the equitable distribution of resources within such a vast virtual space [7]. As technology continues to progress, the metaverse is expected to evolve, and its impact on society and human interactions will likely continue to be a subject of discussion and exploration.

Citizenship in the metaverse can occur using immersive virtual environments that allow young people to explore and develop their understanding of citizenship [8]. These virtual worlds provide a platform for young people to engage with political issues, develop their personal identities, and navigate the complexities of cultural and religious values [8]. By using avatars and real-time interactions, young people can actively participate in discussions and decision-making processes related to citizenship [9].

There is a plethora of concerns regarding citizenship in the metaverse, that rise from the global scale digital networks and global democratization occurred, which allowed individuals to connect and exchange ideas, but also unveiled the need to harmonize community, family, and private blended places with society and public blended spaces [8].

The blending of physical and virtual spaces in the metaverse can impact the sense of community and isolation experienced by individuals [10]. Choi, Glassman, and Cristol [11] recognize that the cyber world has a substantial impact on citizens' civic engagement. Furthermore, citizenship behavior within virtual communities has been recognized as essential for sustainable success, and factors such as social exchange theory and product trial influence can shape individuals' engagement in citizenship behavior [12]. For this empowerment to occur, citizens need to master the same concepts of citizenship [11].

In this context, while reaffirming the importance of increasingly investing in cybercitizenship education, we also recognize the role that the metaverse can play in developing this educational process. However, we do not fail to question and discuss how pernicious this role can be.

2 Methodological Considerations

This article combines two methodological approaches: grounded theory and scientographic analysis. Grounded theory emphasizes the inductive development of theories grounded in empirical data, enabling the discovery of patterns, categories, and relationships that emerge organically from the data itself. Scientographic analysis, on the other hand, entails a systematic examination of existing scientific literature to establish a comprehensive understanding of the topic under investigation. The purpose of combining these methodologies was to build upon existing knowledge and find novel insights that help reflect on including the metaverse in the education for sustainable global citizenship, alerting to possible ethical dangers that may arise from it.

3 Metaverse and Education: Ethical Dilemmas and Challenges

The creation of fictional/parallel realities as archetypes of an ideal society context, where citizens work together for the common good and engage in valuable and productive activities, is no longer a fictional narrative of the sixteenth century, as described by Thomas More in his book *Utopia* (1516) but seems to become a real possibility of being and educating the global citizen of the twenty-first century.

According to Choi and Parks [13, p. 1] "[…] cyber-world is the primary communication and play space for teenagers, where individual identity is expressed, and values are formed. To them, the cyber world is not regarded as a secondary space but a continuum of life and an essential social space for forming relationships". In this context, it is urgent to educate to know how to navigate the cyber world, favoring digital literacy [14], understood both from the point of view of digital access, the development of technical skills, as well as the development of ethical and emotional skills, which enhance knowledge of new socio-cultural realities, openness, and dialogue with them, under the domain of ethical rationality, of social justice.

Therefore, the metaverse is an important space for promoting education for global and digital citizenship. The 3D and interactive dimension of the metaverse favors numerous possibilities for acquiring cultural knowledge [15]. For example, they allow immersion in the realities of pre-classical and classical civilizations, allowing us to go through the realities of these historical periods, experiencing their problems, and their emotions, developing, in fact, a historical awareness that promotes knowledge and hermeneutics of the past in understanding the present and building a better future.

The metaverse also makes it possible to create museums, which can host exhibitions on particular themes and provide visitors with experiences [16], such as the terrible holocaust, the result of the supremacy of a people, the expressed social intolerance, the actual stage of the loss of human dignity and the sense of identity and human morality, so well described by Primo Levi [17], in the work *If this is a Man* (1947).

The avatars created in the metaverse can be real human "monsters", as they allow the creation of alter egos, which end up not identifying with what the person is, but with what is expected in both the real and virtual worlds. The metaverse can change the human mind, bringing new structures of life and interactions [], and these changes can be dangerous [18, 19].

Indeed, the use of metaverse in digital citizenship education evokes an ethical paradox. On the one hand, the metaverse fosters knowledge that enables the development of ethical and reflective awareness and empowers individuals with active citizenship behavior by designing informal and formal learning environments that blend physical and virtual locations. However, there are uncertainties and challenges in implementing digital citizenship, such as political, technological, and psychological factors [12]. One concern is the global inequality generated by cloud communities due to the lack of internet access, although internet access has significantly improved in many countries [20]. Another concern is the potential tyranny of the majority in the cloud, which requires the constitutional design of voting mechanisms [4, 20]. These concerns highlight the need for further reflection and discussion on the relationship between new technologies and the future of citizenship. And, consequently, a review about the use or not the metaverse in cybercitizenship education.

Ignoring the metaverse promotes an empty and useless educational process insofar as it is decontextualized from reality. The metaverse is a reality of the twenty-first century, resulting from today's technological evolution. In contemporary times, technology no longer has the function of dominating nature and being at the service of Man but has become a process of domination of Man himself [21, 22]. Man in technological society has become "a disheveled Promoteu to whom science has never attributed known powers and economics gives the indefatigable impetus" [21, p. 13].

The use of the metaverse in education for digital citizenship is fundamental for the development of ethics of responsibility in the promotion of active citizenship, not only because, as we have already mentioned, it allows the hermeneutics of other spatial–temporal contexts, favoring the construction of an axiological and critical reflection; but also because it is important to use the metaverse to warn of its dangers, developing a digital awareness, in which conditions are created for the development of a culture and an ethical code that establishes the limits and ensures the physical, psychological and emotional well-being of its users, safeguarding culture of peace.

4 Digital and Metaverse Ecosystems from a Scientographic Analysis

To comprehend the trends in research methodology and subject matter over the past 23 years, this investigation employed bibliometric techniques to analyze scholarly publications spanning from 2000 to 2023. This analysis focused on the realm of citizenship, digital literacy, and education within digital and metaverse ecosystems, with methodologies encompassing citation analysis, co-citation analysis, and content analysis supported by the AI tool Dimension.

Research on this trilogy in digital and metaverse ecosystem has grown significantly over the last decade (see Fig. 1), as noted in the graph made with Dimension tool.

This evolutionary path shows a growing interest in the subject. It lets us compare it with the evolution of the web since it has been a remarkable journey of technological advancement and societal transformation. Beginning as a static repository of text and images in the early 1990s, the web quickly evolved into a dynamic platform with interactive elements, giving rise to the era of Web 2.0 (2000–2010), characterized by user-generated content and social networking. During this period, the interconnection between these three components gains interest in research with a clear pique between 2007, reflecting the expansion of social media networks such as Facebook (2004) and Twitter (2006) [23]. Subsequently, the proliferation of mobile devices and the advent

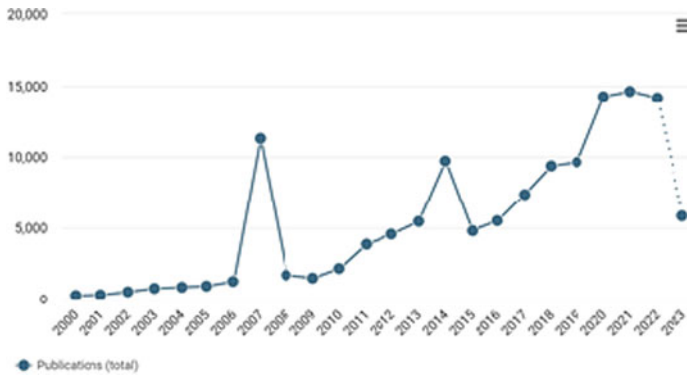

Fig. 1 Number of articles published

of responsive design led to a more accessible and mobile-friendly Web 3.0 (2010–2020). This phase saw the emergence of data-driven and personalized experiences and the integration of emerging technologies like AI and virtual reality, but also promoted the growth of cyberbullying, and fake news, among other less positive social behaviors. Alongside web evolution, the metaverse evolved somewhat boosted by gamers, reshaping how individuals interact, socialize, and engage with digital content.

When examining the fields of analysis, it can be noted that 15.72% of the articles are related to education and 14.8% to human society (see Fig. 2).

Taking as seed article the Erdem, Oruç [3] work that integrates these two main fields, it's possible to observe that digital citizenship has coined many different works along the analysis period, while digital literacy shows less relevance, but more recent works. In the middle of the diagram, it's possible to observe that the articles covered perspectives based on the technology adopted, the user age-cohort, or the educational level (see Fig. 3).

The social dimension and its implications in terms of individual behavior, since this trilogy should give users particular skills to navigate, comprehend, and responsibly contribute to the interconnected and immersive digital landscape, ensuring informed participation, fostering critical thinking, and cultivating a sense of ethical responsibility in this evolving digital realm.

5 Final Considerations

As the web continues to evolve, the ongoing development of Web 4.0 envisions a highly interconnected and intelligent online ecosystem, interweaving the physical and digital realms through the Internet of Things, decentralized technologies, and seamless user experiences, ultimately reshaping how we interact, communicate, and conduct business in an increasingly interconnected world [3]. Promoting digital

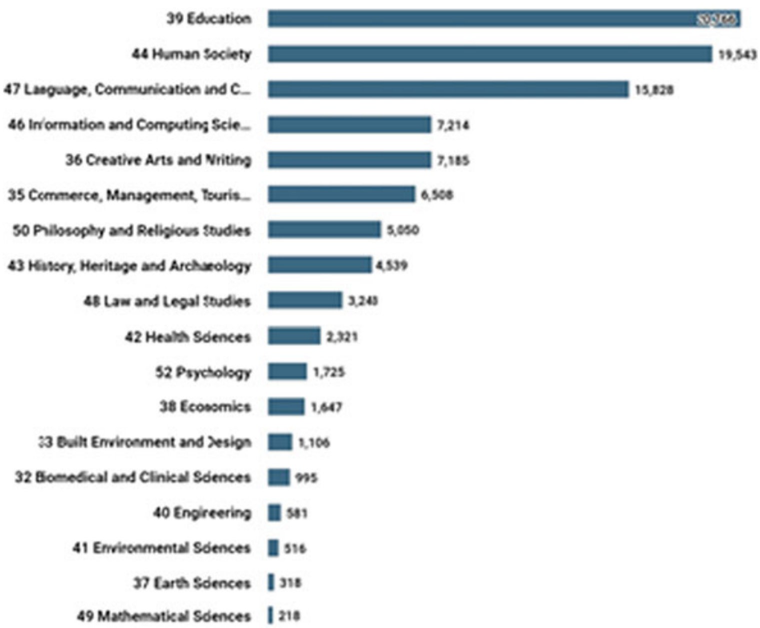

Fig. 2 Article distribution by different disciplines made in dimension tool

literacy, education, and citizenship within the metaverse calls for a multifaceted and coordinated effort across various domains [6], considering the plethora of founded domains (see, Fig. 2). At the core of this endeavor lies developing a comprehensive curriculum that seamlessly integrates digital literacy, metaverse education, and responsible digital citizenship into formal education systems, spanning from primary education to higher academia. To complement this, skill development programs, workshops, and online courses should be established, offering individuals practical guidance on navigating the complexities of the metaverse, discerning credible information from misinformation, and effectively utilizing tools and platforms. These educational initiatives can be reinforced by public awareness campaigns that underscore the pivotal role of digital literacy and conscientious behavior in the metaverse, shedding light on potential consequences arising from the spread of misinformation or cyberbullying. As the metaverse evolves, a commitment to continuous learning is paramount. This study intends to cover only some of it, but to interconnect some concepts and be a reflection exercise to foster future education programs and initiatives (Fig. 3).

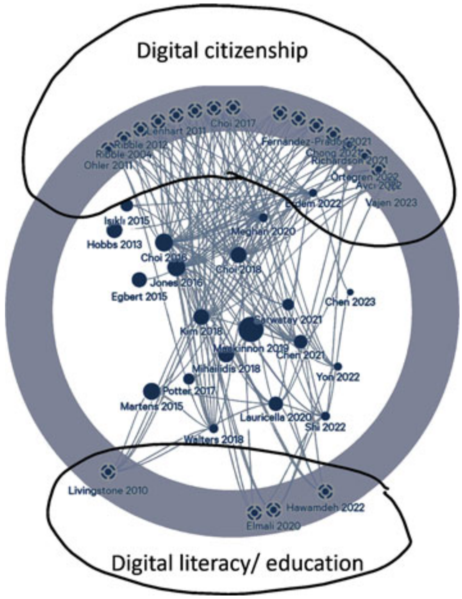

Fig. 3 Fields of research co-occurrence network

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The Impact of Board Diversity on Firms' Performance: The Case of Retail Industry in Europe

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Abstract The aim of this paper is to examine the relationship between board diversity and firms' performance. The board of directors is the highest decision-making body responsible for governing an organization on behalf of its shareholders. It performs key functions like strategy formulation, policy development, monitoring, supervising, providing leadership, and accountability. An optimal board composition is crucial for effective corporate governance and is found to have a significant influence on firms' performance. At the same time, board diversity is reported to have a significant impact on the quality of internal audit. Firms' performance is defined based on three different dependent variables as reported in the relevant literature. These variables refer to Return on Assets (ROA), Return on Equity (ROE) and Tobin's Q. Data of 213 listed firms belonging to the retail industry from eight different European countries have been analyzed using correlation analysis and panel data regression. The research results have shown a positive impact of some of the independent variables on the variables referring to firms' performance. The research results provide useful insights on how firms can benefit from their boards of directors' diversity.

Keywords Board diversity · Corporate governance · Firms' performance

1 Introduction

Corporate governance concerns the actual behavior of firms, in terms of performance, efficiency, growth, financial structure, treatment of shareholders and other interesting parties and the rules and mechanisms under which firms are operating. Their normative framework is determined by the legal and the judicial system, and the financial and labor markets. Effective corporate governance has positive impact on their profitability, on investment returns through the efficient allocation of resources, on market value, on the creation of wealth and on firms' contribution to the overall

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economy [1]. The board of directors is the main institutional mechanism of corporate governance, entrusted with legal obligation by the shareholders, to ensure their interests by taking responsible and accountable strategic decision and improve firm's organizational value and performance [2, 3]. It is the main monitoring and controlling tool to ensure the reliability of the corporate governance structure and prevent fraud with the audit committee, and the adoption and implementation of audit activities [4, 5]. The composition of the board of directors affects the effectiveness of corporate governance concerning one of its goals, which is the elimination of fraud phenomena [6, 7]. The credibility of financial reporting system depends on the quality of board of directors' governance [8, 9].

The number of independent directors, its tenure, its size, and its diversity contribute to disciplining and quality management, increase firms' creativity and innovation and effectively solve problems [10]. Board diversity, as a variety of composition, includes race, nationality, ethnic backgrounds, gender, age, educational, functional, and occupational backgrounds, industry experience and organizational membership, and reflects society [11]. A greater diversity is company's competitive advantage since it enhances information resources, a better understanding of the marketplace, and broadens the cognitive and behavioral range of the board [12, 13]. Differences in opinions, approaches and oversight perspectives encourage critical thinking, bring new ideas and interaction styles, and improve decision making process. Diversity creates more open communication environment and in combination of different qualification background, reduces both financial and nonfinancial information gap [14]. The integration of directors with different characteristics is the key to improve form's performance [15]. Heterogeneous board including people with different demographic characteristics reduce the corporate risk in an uncertain environment by encouraging its monitoring and advisory role [16].

The aim of this study is to examine the effect of firm board diversity on firm performance. To do so, data from European firms operating in the retail industry are analyzed.

2 Literature Review

The board of directors are in charge of corporate governance and monitoring, and its characteristics including the influence of board gender diversity on corporate behaviors, affects firm performance [17], financial statements, and corporate risk, respectively [18]. Heterogeneous boards provide mitigation of conflict of interests between shareholders and managers, curtail the agency problem, raise organizational credibility, and eliminate the fraudulent activities [19].

The percentage of independent and non-executive directors in board of directors determine the likelihood of fraudulent activities [20]. The more independent members participate in the board, the greater its objectivity in decisions making process.

The role of female directors in board effectiveness is crucial since it broadens board's perspective and differentiates its decision-making attitude. Women present different viewpoints and persist in well-informed decisions which are important for effective oversight [21]. They tend to closely supervise audit activities and seek to implement accountable procedures and practices. The are more likely to provide constructive criticism and independent thinking and to join monitoring committees charged with credible and transparent reporting [22]. Their decisions are more moderate, without much risk, risk-averse and less tolerant of self-interested and opportunistic behavior than men [23]. During their management, an improvement in the quality of the financial statements and an increase in the profits of the firms is observed [24]. Their business judgments are more ethical due to their higher ethical standards which strengthen the motivation of obeying the financial statement rules [25]. Gender representation improves board performance as well as corporate accounting and financial performance since women presence reduce accounting fraud and accounting conservatism increases significantly [26]. Higher rate of fraud detection is related to female leaders since they contribute significantly to reduce firms' propensity to engage in fraud. Gender diversity improves financial reporting quality. Firms have better performance and superior governance quality with more female corporate leaders [17].

Age diversity is associated with working experience, impacts the process and the quality of decision making, and has effects on firms' profitability. On the one hand, it improves the resources, knowledge, and networks of the board and on the other hand, it may suffer from cognitive conflicts and lower group cohesion [26]. Age is one of the characteristics that influence individual decisions, including risk taking behavior and commitment of fraudulent activities [27]. Maturity determines the level of prudence and conservative attitude and enhances the quality of the financial statements reported and improves market performance. Older mangers tend to be more conservative and more cautious. Young managers make riskier decisions, they are more creative with a greater risk appetite, and they are more likely to manipulate earnings and committee corporate financial fraud. The older executive age prefers lower risk due to the threat to financial security and is associated more to moral development and accurate diagnosis of information for decisions [28].

Based on the above analysis, the effect of board diversity on firms' performance becomes obvious.

3 Research Methodology

To achieve the aim of this study the Refinitiv Eikon database, which includes financial analyzes from the global economy of listed firms [29] was analyzed. More specifically, the research sample consists of 213 listed firms belonging to the retail industry. This database was chosen as it covers almost 99% of the market capitalization and is therefore considered one of the most reliable. It includes data from 72,000 listed firms from around the world with quarterly and annual figures.

Finally, a random sample of 8 European countries was taken. The country from which most firms originate is Belgium (16%) and the country from which the fewest

Table 1 Research variables

Independent variables	Variable's definition	Dependent variables	Variable's definition
GENDIV	Total number of women/Total board members [Gender diversity]	ROA	Measures the profitability on total capital (equity and foreign)
AGEP	The average age of all board members [Age Profile]	ROE	Identifies the amount of cash a business earns over the course of a year, for every euro of equity capital it owns
BSIZE	Total board members [Board Size]	Tobin's Q	Measures whether a company or overall market is relatively over- or undervalued

originate is Italy (9%). The size of 213 firms was selected based on the analysis of Saunders et al. [30] referring to the definition of a representative sample. Thus, the sample is considered as representative.

The collected data were analyzed using correlation analysis and panel data regression. The level of significance is set to 5%.

Firms' performance is measured using three different variables: ROA, ROE, and Tobin's Q. The variables of the research are presented in the following Table 1.

4 Research Results

4.1 Correlation Analysis

To identify possible correlations between the examined variables, Pearson's correlation coefficient is used.

Based on the following figure we obtain that ROA is positively correlated with gender diversity and board size, ROE is positively correlated with age profile and board size, while Tobin's Q. However, all the above mentioned statistically significant correlations are found to be weak (Fig. 1).

4.2 Panel Data Regression Analysis

Three different panel data regression models are developed: one for each of the dependent variables.

Initially, Hausman's test is used, to decide which model between the fixed effects and the random effects is more suitable [31]. In all the examined cased, the p-value of

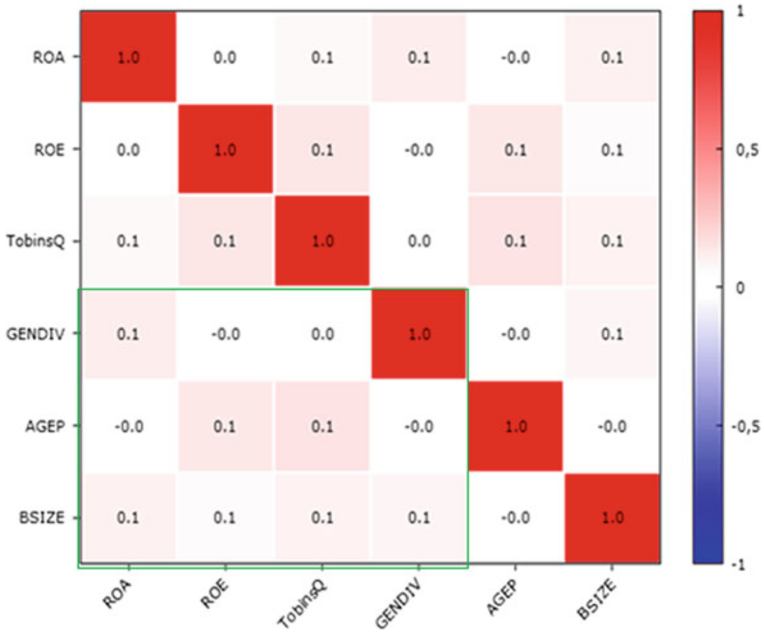

Fig. 1 Pearson's correlation coefficient results

the test is lower than the level of significance. Thus, the test's null hypothesis cannot be accepted, meaning that the fixed effects model is the proper model to be used.

The first model examines ROA as the dependent variable. Based on the results of the following table we obtain that age profile and board size positively affect profitability when defined using ROA ratio (Table 2).

The second model examines ROE as the dependent variable. Based on the results of the following table we obtain that, as in the case of ROA, age profile and board size positively affect profitability when defined using ROE ratio (Table 3).

Last, the third model examines Tobin's Q as the dependent variable. Based on the results of the following table we obtain that also in this case, age profile and board size positively affect profitability when defined using Tobin's Q ratio (Table 4).

Table 2 Fixed effects model for ROA examination results

	Coefficient	p-value
Constant	−848.501	0.000***
GENDIV	15.282	0.121
AGEP	0.396	0.000***
BSIZE	0.300	0.000***

Table 3 Fixed effects model for ROE examination results

	Coefficient	p-value
Constant	−8.653	0.002***
GENDIV	−30.861	0.630
AGEP	13.969	0.000***
BSIZE	29.644	0.000***

Table 4 Fixed effects model for Tobin's Q examination results

	Coefficient	p-value
Constant	−7.042	0.001***
GENDIV	−0.177	0.900
AGEP	0.193	0.000***
BSIZE	0.1611	0.000***

5 Discussion and Conclusion

The nexus of board diversity and internal audit can play a significant role in a firm's performance. The aim of this paper was to examine the relationship between board diversity and firms' performance through the case of European firms operating in retail industry.

In summary, our research findings suggest that the age profile of board members and the size of the board have consistent and meaningful impacts on the financial metrics we examined. Gender diversity, on the other hand, does not appear to exhibit a strong correlation with these financial measures in this specific context. These insights provide valuable considerations for businesses and stakeholders aiming to optimize their financial performance and market valuation.

Despite the fact the regression models did not reveal an effect of gender diversity on firms' performance, this effect is reported in several cases of the relevant literature, and it should not be neglected. This relationship can become even more important since the presence of women in the board of directors is found to positively affect the quality of internal audit as well [26].

Referring to the future research directions of the present study, it should be noted that since accounting variables are often influenced by management decisions, the use of stock market indices is important as well. Moreover, research based on the Corporate Sustainability Reporting Directive in accordance with the European Sustainability Reporting Standards would provide useful results, considering the importance of sustainability in firms' performance [32, 33].

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Cruise Passengers' Expenditures in Relation to Satisfaction Levels in a Mediterranean Port of Call

Spyros Polykalas, Aggeliki Sgora, and Agisilaos Konidaris

Abstract Tourist satisfaction has been recognized as a key element for tourism growth and promotion in all sectors of the tourism industry. Although several studies have been published analysing the importance of cruise tourism to local and national economies, only few of them address the relation between cruise tourist satisfaction and tourism expenditures, especially in new ports of call. This paper examines such interrelations to passengers' expenditure on goods and services during their stay in a port. The analysis is based on a survey on cruise passengers porting in Argostoli, which is the main port of Kefalonia island (Greece). Findings indicate that cruise passengers' satisfaction is a key element to elevated levels of expenditure during staying on a visited port, since there is a strong correlation between tourists spending and level of tourist satisfaction. This empirical evidence provided from the analysis of the data present implications for policymakers in search of methods to stimulate economic growth and development on tourist destinations.

Keywords Cruise tourism · Tourists' satisfaction · Expenditures · Tourist survey · Spending behaviour

1 Introduction

Tourism is a catalyst for the economic growth and social development of a region, a state or a country [1]. Cruise tourism is the fastest-growing sector of the global tourism industry, with Mediterranean to be the second most popular cruise destination after the Caribbean [2].

According to the Hellenic Ports Association (ELIME) the 48 Greek ports welcomed 4614 cruise ship arrivals and 4.38 million passengers in 2022, with top cruise destinations the ports of Santorini, Mykonos, Piraeus, Corfu and Rhodes.

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Moreover, predictions from the cruise Lines International Association (CLIA) estimate that the number of passengers at the port of Piraeus will exceed 1 million in 2023.

Several studies indicate the positive impact of cruise growth in local societies in terms of job opportunities increases, financial benefits for local economies, development of new attractions and facilities for tourists [3]. Empirical findings suggest that in the case of ports of call the economic impact on local communities is mostly affected by cruisers' expenditure [4]. In addition, there has been a lot of empirical research concerning cruise passenger satisfaction [5] and publications relating passenger expenditure to perceived quality of provided services and satisfaction. In regard to Greece, a campaign ran at the port of Argostoli [6] with the aim to examine the benefits and costs of developing cruise tourism in local communities, such as Kefalonia island. However, the sample size of this research was small (304 valid responses).

The analysis of tourist satisfaction is a key aspect, as it provides valuable information about the purchasing process and has been proven to be an excellent predictor of tourist behaviour and, therefore, of tourism expenditure at the destination. In this end, our paper contribution is to examine the correlation between cruise passengers' satisfaction and expenditure during their visit, considering other variables such as yearly income, nationality, age, gender and ease of access to places of interest. In addition, we have highlighted the sectors concentrating the expressed dissatisfaction of cruise passengers that should be the basis of a future collaboration between private sector and local competent authorities in order to achieve a deep impact on the qualitative characteristics of the tourist product of the island.

2 Methodology

The analysis is based on a survey on cruise passengers porting in Argostoli, which is the main port of Kefalonia island (Greece). Personal interview (face to face) was the chosen questionnaire distribution/collection method (convenient sample size 1198 responders) [7]. Research team members were stationed at the pier and/or the main port and asked passengers to complete the questionnaires upon their return from their visit on the island. Our sample methodology was based on the simple random sample principles. Although convenient sample, the high number of responders in combination with the long period duration of our survey, allow us to argue that the selected sample fulfils the requirements of a representative sample.

It is important to note that whenever a ship was at anchor (off pier), the number of passengers willing to participate in the survey was significantly lower. This is probably due to induced stress related to the lack of direct access to the ship and the possibility of increased waiting time in the event they missed the tender boat back to the ship. Moreover, a large number of questionnaires was collected during relatively high environmental temperatures and intense sun, due to summer weather, and while the pier site was partially protected from direct sun exposure, research team members stationed at the main port were not allowed access to the shaded waiting area (since there is no passenger terminal at the main port). This had an obvious effect on completed questionnaires ratio, since cruise passengers were less willing to extend their wait under the sun.

The sample consisted of 40% men and 60% women, a ratio consistent with international experience on cruise demographics [6, 8]. We also observed that almost 3 out of 4 passengers belong to the 30–65 age group and about 1 out of 5 is younger than 30 years old, indicating that cruise tourism is an attractive alternative to productive age groups and young people at least during tourism peak periods. In contrast the 66 + age group ratio, usually associated with pensioners, is just 8%.

Another interesting characteristic and an essential tool for the interpretation of survey's data is the sample's annual personal income: data analysis shows that 28% of the sample had an annual income of less than 25.000€, while 29, 21 and 22% have an annual income of 25.001–50.000€, 50.001–75.000€ and exceeding 75.000€ respectively.

It should also be stressed that annual personal income is not always possible to be directly connected to issues regarding general consumer behaviour, as this research does not link subjects' annual income to data concerning family size or living costs by country of origin, to convert nominal income in terms of real income and consumer power. Regardless the abovementioned weaknesses of income related data, annual income can be used to portray the economic profile of cruise passengers and their consumption patterns and potential. Although there seems to be a uniform distribution of the sample to these income groups, it does not mean that the representatives of each group are equally represented. Further analysis is required to verify our considerations about the economic profile of cruise tourists.

3 Satisfaction Versus Spending

As stated earlier the main aim of this paper is to examine the correlation between cruise-passengers satisfaction and expenditures during their stay in Kefalonia. Therefore, some of the questions included in the questionnaire were focused on tourists' satisfaction. Tourists were asked whether they are satisfied about the services and goods provided during their stay in the island. The services/activities were grouped in the following categories: restaurants (food/beverages), local tourist agents (services provided by local agents), state (services provided by local authorities), shopping and sightseeing.

In addition, one question was broadly focused on sheer satisfaction as expressed by the willingness of tourists to recommend or not Kefalonia as a stop-over tourist destination to a friend. In relation to the latter question the great majority of passengers were satisfied from their visiting experience and a 95% stated that they would consider recommending Kefalonia as a stay over destination to a friend.

All tourists were asked whether they want to mention an unpleased experience (if any) during their visit in the islands. Only the 8% of the sample replied that had

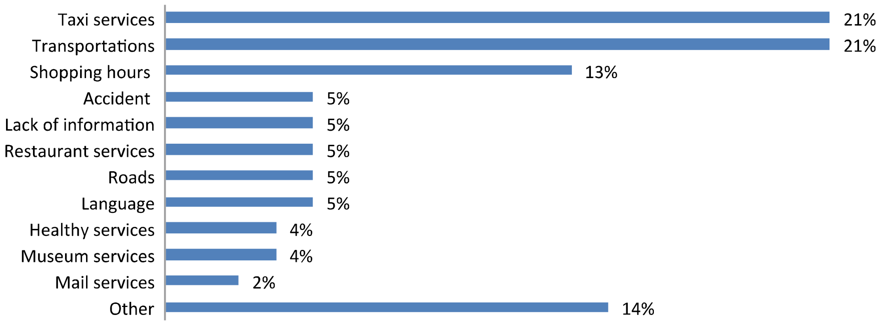

Fig. 1 Breakdown of complaints

some sort of unpleasant experience during their visit on the island, which they were then asked to describe. The relevant answers are shown in Fig. 1. We should bear in mind that in general cruise passengers expect high quality services since while on board, they are in a controlled environment of luxury and security “a tourist bubble” which may “burst” if the situation at destination port is disappointing as expressed by dirty and disorganized towns, unavailable basic infrastructure services, archaeological sites’ opening hours etc.

The sector with the greatest dissatisfaction reported is transportation services, including taxi services, public transport (density and routes) and car rental agencies, equally sharing almost 42% of cruise passengers’ expressed dissatisfaction. It should be noted that in tourism context, satisfaction is primarily referred to as a function of pre-travel expectations and post-travel experiences. When experiences compared to expectations result in feelings of gratification, the tourist is satisfied. However, when they result in feelings of displeasure, the tourist is dissatisfied. Complaints about taxi services consider the relative scarcity of taxis at the pier during cruise arrivals, communication difficulties with taxi drivers (linguistic barriers) and more than often cases of profiteering. Passengers also expressed a discomfort because of lack of information regarding routes and timetables of public transports (buses). There were also complaints concerning car rental agencies’ policies. Based on passengers’ oral comments most of the agencies refuse to rent out cars (or motorcycles) for periods shorter than 3 days during high season (mainly due to shortage of cars available and administrative costs), to the frustration of cruise passengers who would prefer a private daily trip to the sites of their preference. In addition, several complains were expressed regarding the working hours of the souvenir shops.

On that same list, although with a significantly lower frequency, there was an expressed dissatisfaction concerning a number of other issues, such as road signs, quality of the roadways, catering services, linguistic barriers in communication, health services offered by the hospital, opening hours of museums and post office, while another 14% mentioned several other issues not related to services provided by public or private industries (e.g. weather conditions, prices).

Passengers' consumption pattern analysis and family/personal expenditure distribution on local products and services are important for research purposes regarding both the evaluation of cruise passengers' responses on locally offered services, but also a guide for future targeted marketing strategies concerning Kefalonia's tourist product. From the analysis, it is computed that each respondent spent about 24€ on average during his/her visit on the island. It is important to note that these expenditures concern only cash-flow generated by cruise passengers during their visit in Kefalonia and do not include other services purchased by cruise-passengers while on board (eg. shore excursions). These expenses are broken down to 9.6€ for catering (food/beverage) services, 7.7€ for purchases from local stores and 6.7€ for transports (excluding on board island-tour bookings) with either private (taxi) or public means (bus). Transport costs usually concern individuals or small groups who choose to explore the destination on their own, since most passengers will purchase tours offered onboard (quality of the tour is guaranteed by the cruise line and they are certain that they will get back on time) This kind of distribution shows that the economic benefits from the addition of Argostoli to the cruise port of call list, diffuse throughout the local economic circuit to cover all businesses with a direct or indirect link to tourism.

About the real expenditures, the distribution of individual expenditure per visitor ranges from zero and may exceed 120€, with a higher concentration in small and medium sums. As depicted in Figs. 2, 3 out 10 spent less than 30€, 1 out of 4 spent amounts ranging from 31 to 60€, while 15, 10 and 16% spent amounts ranging from 61 to 90€, 91–120 € and over 120 € respectively. A 6% of the passengers did not spend anything on their visit, while on the other hand a substantial 26% showed high consumption patterns, spending more than 90€. This is indicative of several cruise passengers' intentions to spend large sums on entertainment/recreation, as long as services and activities offered correspond to their interests.

Beyond the preliminary study of the raw data provided, there is evidence of a correlation between satisfaction and spending, meaning that passengers with better impressions of the quality of services provided, tend to spend more on their visit. During the survey we asked subjects to rate the services and activities provided

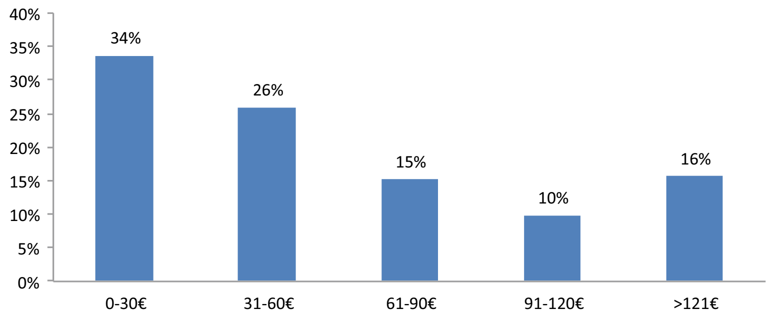

Fig. 2 Distribution of individual expenditure

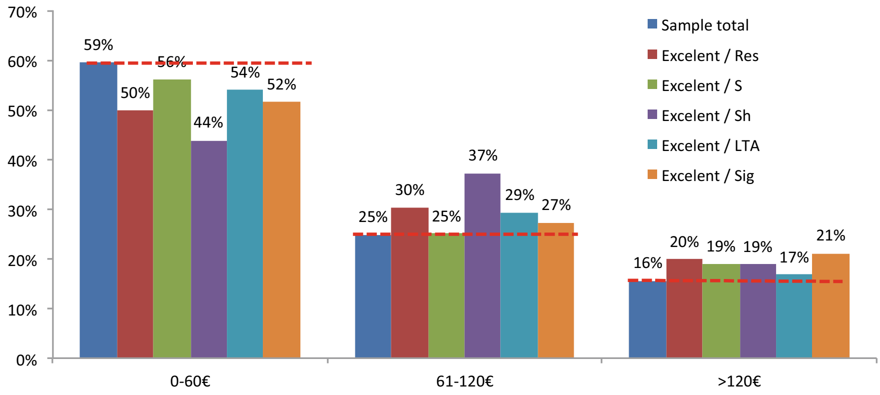

Fig. 3 Expenses per category

during their visit in Kefalonia. As stated earlier the services were grouped in the following categories: Restaurants /food—beverages (Res), Sightseeing (Sig), Local Tourist Agencies (LTA), State infrastructure (S) and Shopping attractiveness (Sh).

To explore whether there is a correlation between spending and satisfaction, we examine the data in relation to spending in combination with the satisfactory data. The following Fig. 3 shows expenses by category regarding the sample's size, after we divide it to three distinct subgroups according to spending. The first sub group (59% of the sample), consists of those whose spending was less than 60€, while the second (25%) and the third (16%) consist of those who spent between 61€ and 120€ or over 120€ respectively. We then relate each subgroup's spending to excellent ratings of services and activities provided. It becomes apparent that the percentage of excellent ratings in the low spending subgroup, is in all service/activities categories lower than subgroup's total sample percentage (blue column and dashed red line), while on the other hand medium and high spending subgroups clearly indicate higher percentages of excellent ratings compared to the relevant percentage of the total sample.

Focusing on the services/activities more related to direct cash- flow expenditures, in Fig. 4 is presented the relation between the highest spending (above of 120€) with the level of satisfaction for each service/activities category. It is more than clear that passengers showing higher levels of satisfaction also showed a propensity of increased spending (over 120€), while on the other hand subjects showing low satisfaction levels were more likely to spend less during their visit. It is also obvious that increased spending is influenced by satisfaction levels (the dashed-blue-line indicates the percentage of the total sample spent more than 120€). Indeed, less than 5% of dissatisfied passengers spent more than 120€, a percentage which is well below than the relevant percentage (16%) of the total sample. On the other hand, high spending proportion clearly increases along satisfaction levels and is constantly over 16% for all rating services "good" or "excellent".

To explore further the relation between the level of satisfaction and the amount of direct cash spent by tourists, during their visit in the island, from a more quantitative

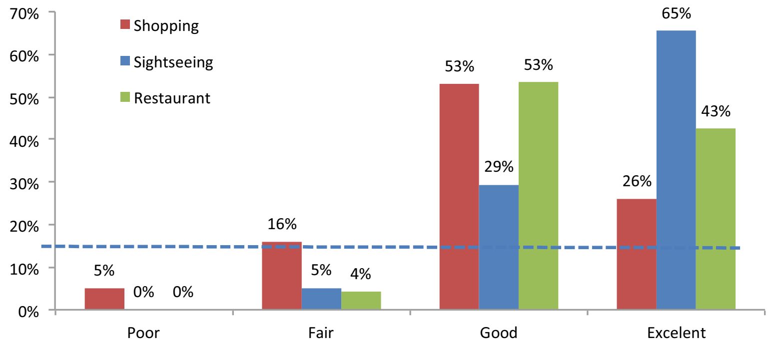

Fig. 4 High spending and satisfaction

point of view, the following graph presents the scatter diagram of the total direct spending and the average level of satisfaction. The average level of satisfaction is determined by the average of the levels of satisfaction for the three activities more related to direct cash spending (Restaurant, Shopping and Sightseeing), while the total direct spending represents the total amount of money spent by tourists during their visit. The positive slope of the relevant linear regression trend line reaffirms our initial findings regarding the existence of a positive correlation between spending and satisfaction (Fig. 5).

Taking into account the findings of the qualitative and quantitative analysis presented previously and although there may be other variables influencing spending such as weather conditions, visit time etc., we strongly believe that there is a indisputable correlation between satisfaction levels and expenditure. This is a very interesting point to stress indeed, since besides its value in terms of analysis, it can also point to actions that need to be taken from competent authorities and local business alike to augment tourist experience and increase passengers' expenditure. Kefalonia like most Greek islands has many touristic competitive advantages deriving from its

Fig. 5 Spending versus satisfaction

scenic landscapes and unique culture, most of which remain latent due to lack of information and targeted touristic marketing. Since a large portion of cruise passengers belong to high income groups with a higher expenditure propensity and expenditure is directly linked to overall tourist experience, it is of the outmost importance to promote quality and diversified touristic services to maximize the touristic gains for Kefalonia.

4 Discussion and Conclusions

Considering data deriving from a face to face survey, this paper has investigated the relation of satisfaction to cruise passengers' expenditure during their visit in a port. The main findings of this paper clearly indicate that cruise passengers' satisfaction has a strong correlation with the level of satisfaction. Regardless the profile of a cruise passenger our analysis reveals the major role of the cruise passengers' satisfaction to the relevant cash-flow expenditure generated by them during their stay. Cruise tourists are willing to spend large sums on entertainment/recreation, as long as services and activities offered correspond to their interests and quality standards. We established that although there may be other variables influencing expenditure, higher satisfaction levels lead to increased expenditure.

A passengers' satisfaction monitoring system that will take into account theses variables would be a very useful tool to this direction for the assessment of current situation and to indicate future measures and actions. Cooperation between competent authorities and tourism related entrepreneurs would be crucial in regulating matters as the qualitative characteristics of provided services, working hours for cultural sites and stores and initiatives targeted to increase passenger information (distribution of tourist maps and brochures) on points of tourist interest.

Various questions concerning the total impact of cruise tourism in local and regional economies, social media the internet and tourism marketing have been raised through this survey allowing us to continue our research in various aspects of the cruise tourist.

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Wine Tourism in Montenegro in the Post-COVID-19 Era

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Abstract The aim of this paper is to explore the level of wine tourism development in Montenegro, focusing on the challenges emerged by the COVID-19 pandemic. More specifically, this research examines the motivation for (or not) engaging in wine tourism, the annual volume of visitors, the services offered to visitors, the promotional actions, the critical factors for the further development of wine tourism in the country, the impact of the pandemic on wineries and the strategies the winemakers followed to cope with it. In order to meet this aim, a survey was conducted via an online questionnaire in a sample of 41 wineries from different wine-producing regions in Montenegro. Results indicate that most of the wineries have been actively involved in wine tourism, providing different activities to their visitors, as winemakers recognize both the potential of wine tourism as an economic activity, as well as specific benefits for their wineries. However, winemakers admit that wine tourism in Montenegro is still on its infancy, proposing specific measures for its further development. In addition, the majority of winemakers reported that the pandemic has heavily affected their wine tourism activity, forcing them to take multiple measures to cope with these effects and adapt to the 'new normality'. Findings and discussions of this study are useful both to wine industry practitioners and to academic researchers interested in wine tourism.

Keywords Wine tourism · Wineries · COVID-19 · Montenegro

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1 Introduction

Wine tourism—also referred to as oenotourism, enotourism, or vinitourism—is a form of tourism which in the last decades has attracted intense academic and business interest, as it has developed to such an extent that today it is a distinct part of the global tourism industry. It refers to tourists visiting vineyards, wineries, cellars, wine festivals and shows to taste, consume or purchase wine, and/or engage in wine-related activities, and thus experience the culture and lifestyle of destinations [1]. Due to its nature, wine tourism is linked to many other tourist activities and alternative forms of tourism, such as agritourism, culinary tourism, cultural tourism, educational tourism, etc. Practically, this means that the target group of wine tourism does not only include wine enthusiasts, wine experts or tourists whose main motivation is wine, but visitors for whom wine and the related activities around it are a secondary activity in the destination they are visiting.

The interconnection of the wine and the tourism sectors can bring positive effects for both wineries and wine-producing regions, at local, regional and national level [2]. Many wineries and wine-producing regions around the world have recognized the benefits arisen from wine tourism development (i.e. sales, employment, profit, sustainable development), although the conversion of a wine-producing area into a wine tourist destination is not an easy task.

On the other hand, COVID-19 pandemic has heavily affected the global wine industry, especially the wine tourism activities. According to recent data [3], in 2000, 47.3% of wineries worldwide experienced a drop in visitor numbers of more than 90%. This resulted in 52.9% of wineries losing more than 50% of their income from wine tourism. To deal with the disruption caused by the pandemic, wineries had to apply new resilience strategies [4].

In this context, the aim of this paper is to investigate the level of wine tourism development in Montenegro, focusing on the challenges emerged by the COVID-19 pandemic. Even though winemaking activity has a long tradition in Montenegro and despite the growth of interest in recent years, there is a lack of research on wine tourism, in terms of demand and supply. This study aims to fill this gap, as one of the first attempts to explore the opinions and perceptions of winemakers in Montenegro around an issue of great interest in recent years.

2 Wine Tourism in Montenegro

Montenegro is the smallest country on the coastline of the Adriatic Sea located in Southeastern Europe with the population of 616,695 inhabitants [5]. When it comes to wine tourism in Montenegro there are still no significant research contributions [6] but despite that fact a more active approach to the development of wine tourism started with the realization of wine routes in Montenegro in 2006/2007. Organization of many different wine festivals, events, saloons and projects in the last decade are starting to embrace the importance of this segment within the most important industry for Montenegro. In The Program of Rural Tourism Development of Montenegro with the action plan 2019–2021 [7] wine tourism is placed on the list of the priority products of rural tourism in Montenegro in the group three which refers to other products related to rural cultural heritage. This program also emphasizes the importance of formation of different clusters related to tourism among which a cluster of wine should be considered.

On the basis of a conducted study during 2017 [8] about the reionization of the viticulture geographical production areas of Montenegro, 3 viticulture regions with their 10 sub regions and 1 potential viticulture region with its 5 potential sub regions were defined. This study thus covers the coastal, central and northern part of Montenegro and in this way unified the possibility for the development of wine tourism in all the main regions of the country. The wine-growing regions defined in this study are the Montenegrin Basin of Lake Skadar, Montenegrin Primorje, Nudo and the potential region of Montenegrin North. The area of vineyards grows from year to year and in 2021 was 2850 hectares with the overall production around 400,000 L per year and about 300 different wines on the market [9].

3 Methodology

This paper aims to explore the level of wine tourism development in Montenegro, focusing on the challenges emerged by the COVID-19 pandemic. More specifically, this research examines the motivation for (or not) engaging in wine tourism, the annual volume of visitors, the services offered to visitors, the promotional actions, the critical factors for the further development of wine tourism in the country, the impact of the pandemic on wineries and the strategies the winemakers followed to cope with it. For the purposes of the research, a self-completed structured questionnaire consisting of three sections and fourteen questions (closed and 5-point Likert scale questions), based on literature review [1, 10–12] was designed on the Google Forms platform. The first section includes questions about the main characteristics of the wineries, i.e., brand name, region, year of establishment, annual wine production. In the second section, the questions focus on the involvement of wineries in tourism activities, and in the third section the impact of the pandemic on the operation of wineries is examined. According to official data [9] the total number of wineries in Montenegro is 88. The questionnaire was emailed to 80 wineries, as no contact information was found for the other 8. The survey conducted from April to June, 2023. A total of 41 valid questionnaires were collected, a response rate of 51.2%, which—given the nature and challenges of the research—is considered a satisfying percentage. The collected data were statistically analyzed using the Statistical Package for the Social Sciences (SPSS) version 26.0.

4 Results

The wineries that participated in the survey come from all three winemaking regions of the country. The vast majority of them (90.2%) are located in the Crnogorski Basen Skadarskog Jezera region, which in not surprising since most of the country's wineries are located in this region, 3 wineries come from the Crnogorsko Primorje region, and just one winery from the Nudo region. Regarding the wineries' year of establishment, the oldest winery was established in 1912 and the newest in 2020. As can be seen, many new wineries have been established in recent years, as only 5 of the 41 wineries in the sample were established before 2000 (1912, 1932, 1963, 1966 and 1990, respectively), while 16 wineries were established in the period 2000–2010 and the remaining 19 in the period 2012–2020. Almost nine out of ten wineries (90.2%) are very small in size, producing less than 50,000 L of wine per year. Only three wineries are very large with an annual wine production of more than 500,000 L, and one winery produces 50,000–100,000 L.

Of the 41 wineries that participated in the survey, 33 (80.5%) are open to the public. The other eight wineries cited lack of state support and inclusion of wine tourism in national tourism planning as the main reason for not being involved in wine tourism. Secondary reasons reported were in order of importance the lack of appropriate infrastructure for the reception and hospitality of visitors, the need for extra staff/increased operating costs, the high cost required (lack of capital, lack of financing for expansion), and finally the business philosophy, as emphasis is placed on production and sale of wine rather than other tourism related activities. 21 of the visitable wineries are open all year, while the other twelve are open for five to eleven months a year. The number of visitors received by wineries varies and is indicative of the level of development of each winery's tourism activities. This number ranges from 10 to 30,000 per year, while 17 wineries receive less than 1000 visitors. It is also noteworthy that 25% of wineries do not keep data on the number of their visitors.

Subsequently, participants were asked to indicate their level of agreement with a set of reasons for getting involved in tourism activities. They recognize multiple benefits and reasons that led them to the decision to develop wine tourism activities. The main reasons for this relate both to the expected benefits for their own business and to their region and also Montenegro as tourist destinations. Regarding the benefits to their own business, they expect that by engaging in wine tourism they will raise the brand recognition of the winery and its wines (mean = 4.23), get in contact with the consumers receiving feedback (mean = 4.18), improve the image of the winery (mean = 4.05), achieve cellar door sales (mean = 4.03), and attract new customers (mean = 4.03). As far as the benefits for their region/country, they consider that their tourism activities contribute to the tourist development of the region and the enrichment of the offered tourist product (mean = 4.26), contribute to the seasonality mitigation and extension of the tourist season (mean = 3.95) as well as the sustainable development of the region (mean = 3.94), strengthen the local economy through increased agricultural production and employment (mean = 3.73), and finally offer jobs to the locals (mean = 3.65).

Having recognized several potential benefits of wine tourism, the 33 wineries that are open to the public offer multiple services to their guests. Wine tasting and cellar door sales are available in all the wineries, while a slightly lower number of them offer also guided tours in the winery and the vineyards. Interestingly, 13 wineries provide accommodation.

Results show that participants use multiple methods to promote their wineries. Social media seem to be the most popular way of promoting (34/41), while other common promotional activities are participation in exhibitions (32/41) and wine contests (26/41), the company website (24/41), and cooperation with travel agencies and tour operators (24/41). More traditional ways of advertising, such as brochures, are still popular (23/41), while some wineries are adopting more innovative marketing tools, such as smart phone apps (7/41).

The participants were asked to rate a number of factors on a scale from 1 (not at all important) to 5 (very important), concerning the future development of wine tourism in Montenegro. Winemakers were quite positive in their responses, agreeing that most of the factors are crucial for the future development of wine tourism in the country. More specifically, they believe that the number one factor that could boost wine tourism in the country is the greater promotion of Montenegro as a wine tourist destination (mean = 4.59). The promotion of the unique wine identity and the recognition of Montenegrin indigenous varieties is also considered a very important factor (mean = 4.56), followed by the better promotion of the country's wineries (mean = 4.49).

The last part of the survey examined the impact of the COVID-19 pandemic on the operation of wineries. Wineries reported that the pandemic had a significant impact on their operations. The greatest reduction seems to have been in sales, either within the winery (mean = 1.32) or to hotels and restaurants (mean = 1.46), which resulted in a reduction in the wineries' turnover and profits (mean = 1.46). Consequently, as is logical, wine tourism activities were also negatively affected, as the reduction in the number of visitors (mean = 1.54) resulted in a drop in turnover from tourism activities (mean = 1.51). Finally, wine exports (mean = 1.71) and online wine sales (mean = 1.83) seem to have suffered the smallest decrease.

In order to cope with these impacts, wineries in Montenegro have taken a number of measures and actions. Half of them (21/41) had to reduce or completely cancel any plans for new investments. Subsequently, 18 wineries implemented the relevant health protocols and protective measures, such as masks, COVID-19 tests, social distance, hygiene measures, etc. The decline in wine sales forced several wineries (15/41) to reduce their production, while in terms of wine tourism activities, some wineries (15/41) turned to domestic tourism to make up for the lack of international tourist arrivals. Other measures mentioned were a reduction in wine prices together with special promotions (9/41), staff reduction (7/41), development of online sales channels (7/41), promotion of a sense of security (6/41), development of delivery services (6/41) and a reduction in staff salaries (3/41). Only two wineries did not need to take any of the above measures, while on the other hand a significant number of wineries (11/41) forced to take more drastic measures, temporarily suspending their business activity.

5 Discussion and Conclusions

This paper contributes to the existing literature on wine tourism, as one of the first studies in Montenegro examining the development of wine tourism, especially after the COVID-19 pandemic. The findings present very interesting aspects of the interrelations between wine production and tourism in the country.

First, the survey revealed the profile of wineries in Montenegro. The majority of them are located in a specific wine-producing region of the country, they are small in size and were established after 2000. Eight out of ten have been actively involved in wine tourism. Most of them are open to visitors all year round offering a variety of activities to their visitors. These activities, in addition to the popular expected activities of a winery described by other authors [1, 2, 13] such as wine tasting, guided tours in the winery and the vineyards and cellar door sales, include other interesting activities that correspond to the modern concept of wine tourism and form a complete and authentic wine tourism experience. The linking of wine tourism with other special and alternative forms of tourism such as gastronomic tourism or agritourism is also proposed by many authors [14, 15]. Some winemakers seem to have grasped the above, as they offer multiple active experiences to visitors.

Winemakers recognize both the potential of wine tourism as an economic activity, as well as specific benefits for their wineries. Brand enhancement, customer feedback, improving the winery's image, attracting new customers and winery sales are among the main benefits that winemakers recognize from their involvement in wine tourism. On the other hand, benefits also exist for the destination itself, such as greater tourism development through the enrichment of the offered tourist product, the reduction of seasonality and the extension of the tourist season, the sustainable development of the destination. These findings confirm the results of previous research [2, 10, 16, 17] on the benefits of wine tourism to wineries and destinations. On the other hand, important obstacles are recognized that prevent some wineries from developing wine tourism activities, the most important of which are the lack of state support and the non-inclusion of wine tourism in national tourism planning, the lack of appropriate infrastructure for the reception and hospitality of visitors, the need for extra staff/ increased operating costs, the high cost required (lack of capital, lack of financing for expansion), and finally the business philosophy, as emphasis is placed on production and sale of wine rather than other tourism related activities. The same problems have been highlighted in previous research [10–12], so they seem to be common in other countries as well.

In general, winemakers admit that wine tourism in Montenegro has not yet developed as much as it could, proposing specific measures for its further development. These measures include the greater promotion of Montenegro as a wine tourist destination, the promotion of the unique wine identity and the recognition of Montenegrin indigenous varieties, and the better promotion of the country's wineries. Regarding the latter, winemakers already apply multiple techniques and tools for their promotion, such as social media and websites, participation in wine exhibitions and wine contents, and cooperation with travel agencies. Greater use of digital marketing tools which have been highlighted by other authors [18–20] as crucial for the promotion of wineries, especially during and after the pandemic [21] is suggested, but also closer cooperation with travel agencies which have been shown to play an important role in the promotion of special and alternative forms of tourism in Montenegro [22]. In order to embrace the importance of the development of wine tourism in Montenegro, previous research [6] also emphasizes that tourists should have the possibility to buy wine at a lower price directly in wineries than in stores which is not still the case.

In addition, the majority of winemakers reported that the pandemic has heavily affected their wine tourism activity, forcing them to take multiple measures to cope with these effects and adapt to the 'new normality' [23]. The most common of these measures include the partial or total cancellation of investment plans, the implementation of health protocols and virus protection measures, the reduction of wine production and the shift to domestic tourism. Similar measures were implemented by wineries in other countries [11, 12, 24].

Although this study provided valuable insights into the wine tourism development in Montenegro, it has one basic limitation. It examines the opinions and perceptions of winemakers only. However, the development of wine tourism in a destination involves many more stakeholders. Future research could widen the research to include also other stakeholders, such as local authorities, national and local tourism bodies, national and local wine networks and associations, the local community and the wine tourists themselves. Furthermore, future research could focus on the role of networks and synergies as well as wine routes in the development of wine tourism in the country, which is acknowledged as crucial by other authors [25].

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Artists and the University Heritage: The Case of the Athens University History Museum and the Exhibition "Opy Zouni: In First Person"

Evangelos Papoulias and Theoklis-Petros Zounis

Abstract The university museums protect, conserve and present the cultural heritage related to education. The paper presents the initiative of the Athens University History Museum of the National and Kapodistrian University of Athens (NKUA), a university museum that organizes for the first time in a university space a temporary exhibition dedicated to Opy Zouni, a painter with international recognition in the contemporary art of geometric abstraction. The exhibition "Opy Zouni: in first person" presented selected works by Opy Zouni with the main purpose of attributing the artistic dimension of the creator through the interpretation and analysis of her works by herself in the first person. The idea was conceived on the occasion of the tenth anniversary of the loss of the internationally renowned painter Opy Zouni with the consent of the family for a cultural event that would give the public a different perspective of her work. The paper presents a good example (useful for art curators and art managers) of a temporary exhibition of a university museum which connecting the contemporary art with the university heritage.

Keywords University heritage · Athens university history museum · Opy Zouni

1 Introduction

In the 80s, university museums began to recognize the importance of their collections, and in the 90 s more emphasis was placed on the collections and their organization [1]. In the 2000s, numerous studies highlighted the university collections and recognized that universities possess objects of great value, not only national but also international [1]. Universities preserve and enhance their cultural heritage

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by promoting a sustainable management of their collections and by engaging local community [2]. University museums are a special category of museums as they exist and operate within a university educational unit and are an integral part of the educational process. A University Museum concerned with the history of education, as it is oriented towards many underground or postgraduate university students [3]. The collections of the University Museums testify the historical development of scientific researches in different disciplines: the several collections are archives of knowledge [4]. Characteristic of the great interest in university museums is the establishment of national, European, and international organizations dedicated to the upgrading and promotion of university museums, such as the European network UNIVERSEUM and the international committee ICOM-UMAC, with extremely increased activity. Many Greek university museums have joined the International Council of Museums (ICOM) as well as its University Museums and Collections Committee (UMAC).

There are three basic dimensions of modern museums, that is, research, educational dimensions and entertainment, while extroversion must be developed in the desired direction [5].

2 The Athens University History Museum and the Role of University Heritage in the Present Era

The Athens University History Museum is the main cultural organization of NKUA that promotes and highlights the history of the University of Athens [6]. The museum was inaugurated in 1987 and is housed in the historic building of the historic center of Athens known to the public as "Cleanthis House" or "Old University". The Athens University History Museum on the ground floor has a free space for cultural events and temporary exhibitions. The mission and main purpose of the museum based on strategic planning (2016–2020) are as follows [7]:

- Protection, maintenance, management, and development of the permanent collection of the museum.
- Promotion of the history of the institution and work of the founders of science and research of modern Greece.
- Collaboration and coordination with other museums of the NKUA.

The vision of the museum is summarized as follows [7]:

1. To be the starting point for knowledge and critical thinking in a friendly environment for different types of audiences.
2. To strengthen ties between society and the NKUA enhancing temporary exhibitions in visual arts.
3. To enhance collaborations between museums of the NKUA and other museums in Greece and abroad to highlight the collections through an interdisciplinary approach.

Within the framework of an exhibition of modern art, how paintings could inspire a wider audience and curators with new techniques? The university museum combines academic theory and practice, especially for students who are the first audience to approach various educational topics through museum's collections [8]. In the last decade (2010–2020), the exhibitions "Sanatorio Project," "The banner of the Athens University, contemporary visual approaches," and the "Emotions" are dynamic cultural actions of the Athens University History Museum that create new perspectives. The cultural event "Opy Zouni: in first person" gives an added value and encourages the connection of art, education, and entertainment with contemporary art.

2.1 Opy Zouni: The Artist

Opy Zouni (1941–2008) was a Greek international artist. Opy Zouni, used in her work an abstract geometric game with a pronounced mysticism, while the rendering of her themes is eminently minimalist and quite often of an experimental disposition contact with two classical cultures, first in Cairo and then in Athens, which can be distinguished in her works [9]. Opy Zouni uses geometrical motifs in her designs in order to express the concept of depth, space, and perspective [10].

The temporary painting exhibition of Opy Zouni (1941–2008) entitled "Opy Zouni: in first person" is a tribute to the contemporary painter Opy Zouni on the tenth anniversary of her loss; it was held for the first time (8 May–8 July 2019) in a university museum at the Athens University History Museum located in the historic center of Athens. The exhibition was curated by Evangelos Papoulias, director of the Department of Museums and Historical Archive of NKUA who wanted with the article to enhance and introduce the meaning of an exhibition to a new audience like students and modern artists. In order to understand the meaning and significance of the exhibition, we have to analyze the new role played by university museums and the potential that a curatorial proposal in contemporary art could inspire a wider audience. In the varied course of her life, the artist Opy Zouni distinguished herself in geometric abstraction, filling with her color palette the concepts of perspective, deepening of symmetry, and geometry of space. Acclaimed in the international community, she dared to speak, analyze, and explain her multifaceted work, liberated in her geometric patterns and in the perspective of her compositions. On the occasion of the exhibition, the Athens University History Museum hopes to expand its cultural impact in the broader context of developing the museum's difficult work in multidisciplinary cultural activities of interdisciplinary nature aiming at the extroversion and promotion of the university heritage. The exhibition was a challenge for the modern audience, students, and visitors to listen again to the ideals and messages of Opy Zouni's painting with her starring in a different role and the presentation of her work in her own words, offering a new pedagogical tool to understand her perspective on contemporary painting.

2.2 Unknown Works of the Artist in the Exhibition

The idea of the exhibition and the positive response from the management of the NKUA and the family of the artist gave rise to the next stage of implementation. The main issue of the design was the selection of works that would frame the exhibition. In the varied course of her life, Opy Zouni starred with her works in sixty-seven exhibitions around the world with many artists and scholars who have referred to her art. Therefore, the search for unknown material was of particular importance for the style of this exhibition. The family provided a digital archive of all Opy Zouni's works in order to find works that have not been presented in an exhibition. Nine objects, exhibits of unknown material from the personal space of Opy Zouni in her house, at the urging of her family, gave rise to the completion of the final list of thirty-seven works of the exhibition. From the creator's workshop, we found her work clothes, a robe, which from everyday use was filled with touches and colors. Opy Zouni's idea of turning a garment into a work of art (1990) in the specific style of the creator was our source of inspiration for her first unpublished work.

3 Methodological Considerations: The Performance of Opy Zouni's Works Through Three Dimensions

This paper is organized into five sections, each of which refers to the Athens University History Museum, the personality of Opy Zouni (the artist), the unknown works of the artist, the performance of the artist's works through three dimensions and the development of the exhibition "Opy Zouni: in first person" in six dimensions.

Even if the distance that separates us from the chronological and school presentation of the exhibits (as established by Eastlake) is great, the educational and aesthetic dimension of the museum always remains important. Solo exhibitions and rooms with works by a single artist play an important role, especially in terms of the spectator's self-concentration. In Serota's opinion [11] "we still need the curator to inspire us with the way we approach an exhibition, to create those 'climate zones' that can help us appreciate and to better understand the art of the twentieth century." Our goal should be to create the necessary conditions for the spectators/visitors of the exhibitions and museums to have the feeling of discovery when they look at specific works in a specific place and time and not to feel as if they are in a kind of conveyor of the museum's history [11]. The success of this exhibition was of additional artistic interest as many exhibitions were held internationally for the creator Opy Zouni that engaged the public in the art and style of the artist. For the History Museum, the case of the painter Opy Zouni created additional expectations based on the fact that she as a creator had mentioned and analyzed her works in various ways with a very thoughtful and spiritual approach. With full awareness of the intellectual entity of the authors, the following question was raised from the beginning: What will be the style of the exhibition that is realized for the first time in a university space. At the museological level, the exhibition space is dominated, most of the time, by the work of art as an exhibit as well as the title (name) given to it by the author with the appropriate details. In our case, based on the research carried out on the painter in publications, scientific articles, interviews, lectures, and anecdotal testimonies, bringing to light unknown aspects (at multiple levels) of analysis of her work, the idea of rendering the third dimension was formed. The third dimension concerns the presentation and interpretation of the work in the very words of the creator, placing the audience in the first person with her.

4 The Development of the Exhibition in Six Dimensions

The exhibition, Opy Zouni, in first person, took place on the ground floor of Athens University History Museum where temporary cultural events and actions are hosted. The exhibition presents selected works of Opy Zouni with the main purpose of attributing the artistic dimension of the creator through the interpretation and analysis of her works by her in the first person. The exhibition is divided into six sections dedicated to the subject matter of her work. The first section "Artist's Studio" invites the visitor to the artist's creation space. This section occupies the first space on the route of the visit to the ground floor of the Athens University History Museum and represents a small corner of a deeply personal space, such as the artist's studio. The second section entitled "Geometry-Cubes" is dedicated to the Opy Zouni's geometry and one of the main topics of her work, the cube. A typical exhibit of the section is the book-object that she created for the 15th Biennale in Sao Paolo in 1979, and it has not been exhibited again since then. In the third section entitled "Space-Perspective," it is evident that Opy Zouni is obsessed with researching space in her work and, in particular, perspective. Special mention should be made of the project "Cube-Sea," a wooden construction in the shape of a cube inside which there is a mirror. The fourth section "Symbolism" presents the effect of symbolism in the work of Opy Zouni and with the use of symbols as the cross. The fifth section "Light" is dedicated to the persistent observation of light that was decisive for the transition of Zouni to the three dimensions and is presented with five works of different styles (wooden constructions). In the sixth and last section "Epilogue," there are selected works from her latest work in which the artist, always serving the geometric abstraction, gives a dynamic presence of open environment with bright and vibrant colors. The exhibition is completed by a screen where the video "Wandering in Forms" ("Ramble in Form"), lasting 6.5 min (inspired by the total works of Opy Zouni in 2006), runs through its themes, structuring and deconstructing the compositions of her works with movement and sound. Finally, a particularly recognizable construction project ("Sculpture in Reflection") was placed in the space of the permanent exhibition of Athens University History Museum on the first floor of the museum in order to inform the visitors about the periodic exhibition that takes place to the ground floor and to achieve a connection (dialogue) between the work of Opy Zouni and the exhibits of

Picture 1 The museum of the history of the national and Kapodistrian university of Athens

Picture 2 The main work of the exhibition "square—sky reflection"

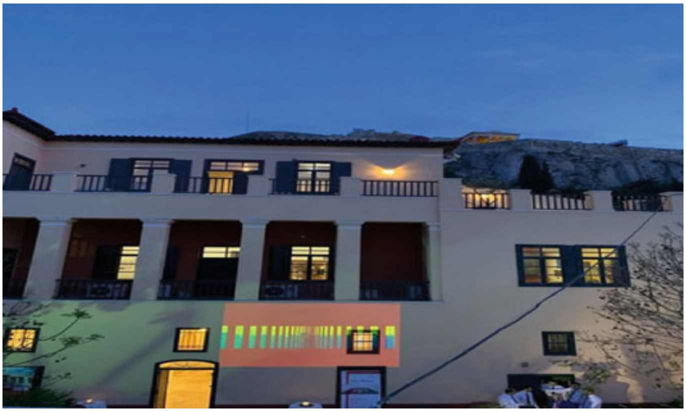
the Athens University History Museum. Five pictures follow to present the museum and the exhibition (Pictures 1, 2, 3, 4, and 5).

5 Discussion and Conclusion

The exhibition of Opy Zouni that was presented at the Athens University History Museum of the NKUA aimed at the integration of the academic heritage in the new era with a contemporary perspective that touches on contemporary art. Many a time we wonder about the possibilities of art in its potential development environment. The university space in the new environment gives the public the opportunity to

Picture 3 The section “artist’s studio” in the exhibition

Picture 4 The fourth section (“symbolism”) of the exhibition



Picture 5 The opening of the exhibition on 5th May 2019

learn the principles and values of contemporary art. Opy Zouni's exhibition was the starting point for the university community and the public to get to know geometric abstraction, geometry of the designs, and the concepts of depth, space, and perspective. The exhibition presented key fundamental issues in the art of Opy Zouni. The linearity and symmetry of her shapes and works highlight the value of her work with a mysterious character and a multitude of accumulating obsessions. The final result is translated first into a line drawing, then into colors creating specific optical illusions. Creating cultural activities in university organizations with internationally recognized artists is one of the challenges of university extroversion in modern times. The future of museums is changing radically, and as cultural actors they are called to adapt to a changing environment, dominated by new technologies, digital applications, evolving cultural activities, and new educational practices. The spirit of the new era proposes the opening of museums to the public with actions that respond to the new data and can lead to entertainment and the spiritual empowerment of society. University museums are invited to look for the new narrative with cultural activities that highlight and promote all of their exhibits and wealth.

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Exploring the Motivation to Follow Small Brands on Social Media

Maria Grigoriadou and Agisilaos Konidaris

Abstract Social media have impacted numerous aspects of consumers' social life, including consumer behavior and the consumer—brand relationship. Consumer behavior is evolving though social platforms and is shaping the perceptions and the actions of customers towards brands. As a result, more and more brands are seeking visibility through social networks, establishing an online presence, trying to trigger interaction and engagement with consumers. This paper explores consumer motivation to interact and engage with small travel brands on social media and highlights elements of the brands that make them more appealing to consumers. The paper also identified consumer attributes that make them more willing to engage with small travel brands on social media. The findings of this paper help map the factors that play a key role on the intention of a consumer to follow and engage with a small brand, while there are clear strategies indicated on how a small brand can meet the consumers' expectations and leverage on potential cross sell opportunities. The research outputs indicate that there are distinct follower groups in terms of interaction with travel brands with unique characteristics that can be leveraged for a more effective brand positioning. In addition, there are remarkable findings on the repetitive nature of buying behavior for people following small travel brands and the potential cross sell opportunities that arise. The findings of this paper may be considered as a roadmap for small brands to improve customer engagement and consumer buying behavior.

Keywords Social media · Travel brands · Consumer motivation

1 Background and Context

Consumer motivation to follow a small brand lies on the wider context of behavioral science and is a critical topic of study in today's marketing landscape. The multiple niches in the market whose unique needs are served by small brands [1], have as a

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result an increasing growth of the popularity of small brands and provoke an inherent need to understand the underlying mechanisms that make consumers choose to follow those brands.

Even though smaller brands usually operate on a lower scale and with more limited resources than established brands, under circumstances, they can attract consumers who are more loyal. Research on consumer motivation to follow small brands has focused on identifying the key drivers of consumer behavior, such as brand authenticity, social influence, and emotional connection. Maslow has proposed a "pyramid" that consists of five levels, representing different categories of needs that are drivers to consumer motivation (Physiological Needs, Safety Needs, Love and Belongingness Needs, Esteem Needs, Self-Actualization [2]. Other scholars propose a variety of factors that affect the motivations of consumers: (a) Cultural factors as a fundamental element of consumer buying behavior [3], (b) Personal factors that are unique to each individual and can have a significant impact on consumer behavior [4, 5], (c) Psychological factors that are perhaps the most complex element of consumer buying behavior [6], and (d) Situational factors that refer to specific circumstances that influence a consumer's purchasing decision [7]. In addition, studies about consumer attitudes lead the way to consumer motivation. For example, a study about consumer perceived value [8] found that consumers who valued authenticity were more likely to follow small brands over larger, more established brands. Other consumer behavior research indicates that social influence, such as word-of-mouth and online reviews have been proven to be key factors in motivating the consumers to follow a small brand [1].

Social media platforms such as Facebook, Instagram, Twitter, and Tik Tok have millions of users worldwide, which makes them an important customer touchpoint enabling businesses and brands to connect with their audience. Specifically, 70% of the US citizens use social media extensively. These platforms have fundamentally changed the way businesses interact with their customers, providing an unprecedented level of access to consumer data and insights. Social media analytics tools have made it possible for businesses to track consumer behavior, identify trends and preferences, and create more targeted marketing campaigns. One of the most significant impacts of social media on consumer behavior is the way it has transformed the purchasing journey, changed the way businesses engage with their customers [9], shaped consumer trends and preferences (making it easier for businesses to identify emerging trends and adapt their marketing strategies accordingly) [9].

Understanding consumer motivation to follow a small brand can be very impactful especially for small businesses seeking to attract and retain customers. By identifying the key elements that drive consumer behavior, small businesses can develop targeted marketing strategies, tailor their products and services to meet consumer needs, and thus engage with their customers more and build on brand loyalty. Moreover, research on consumer motivation to follow small brands can contribute to a broader understanding of consumer behavior and preferences, helping to inform marketing and business practices broader.

2 Research Methodology

The data analyzed in this paper were collected through a “Google forms” questionnaire. The questionnaire was disseminated to the users of a small social media travel brand (@extramilers) on Instagram and remained live for a week. After collecting 137 answers from a convenient sample, the collected data were analyzed via data analysis tools. The outputs were evaluated to identify patterns, trends, and insights. The findings were interpreted in the context of the research objectives and hypothesis to inform useful conclusions. In addition, the Instagram account of @extramilers was evaluated for social media analytics and real world insights to help formulate a global aggregated view on consumer preferences.

3 Research Outcomes

The five most important immediate key outcomes are demonstrated below, followed by answers to specific questions that aim to provide business value.

3.1 Five Key Points to Set the Ground

Point 1. Almost half of the participants (49.1%) claim to dedicate 1–3 h per day in social media, 21.4% say they dedicate 3–5 h daily, 21.4% say they spend less than an hour daily, while 8.2% say they spend more than 5 h daily in social media usage.

Point 2. Instagram was selected as the No1 social platform where the participants choose to engage with travel content by 67.5%. Youtube is the second option (27.7%) followed by Facebook (23.3%) and Tik Tok (17.6%). The above data lead the way for the strategy of travel brands, assisting them to answer the question on “which social media to choose to position for my small travel business?”.

Point 3. On the question “Which is your relation to travel brands on social media”, more than 1 out of 2 people (53%) responded that they choose to watch travel content without following or engaging with brands, justifying the fact that many people prefer to be watchers rather than followers. 37.1% answered that they follow specific travel brands to engage with travel content and another 9.4% say they are not interested in travel content at all. This gives a specific direction to small travel brands to focus on the reach of their content and promote their businesses through popular hashtags or the feed, that can be proven as effective customer touchpoints.

Point 4. 10.7% of the participants claim they interact almost every day with travel brands, another 32.1% denote they interact once or twice on a weekly basis, 19.5% answered they interact once or twice on a monthly basis, while 37.7% of the participants claim they interact never or almost never.

Point 5. On the question about motivations to follow a small brand, the highest percentage (28.3%) claimed they want to stay up to date with travel trends and special offers, another 20.8% claimed they follow a small travel brand to get inspired from beautiful images, while another 18.2% claim their motive is to be aware about unique and incredible travel experiences.

3.2 Five Research Questions and Answers with Business Value

Frequency of Interaction Depending on Age. Data indicates that the age groups that interact almost every day with travel brands are the following: (a) 33% of the respondents belong to the age group of 18–24, (b) 10% of the respondents of the age group of 25–34 and (c) 14% of the respondents of the age group of 35–44.

No other age group mentioned they interact almost every day with travel brands. It is remarkable that people who choose to interact almost every day with brands on social media mostly belong to the Millennial and GenZ generations. It is also remarkable that 36% of respondents of all those groups mentioned that they consider as important or very important factor the "feeling of community building" in their decision to follow a travel brand while 47.7% of respondents claim they feel more connected to a travel brand that interacts with their followers. In addition, 52.3% of them claim they value the strong commitment of a brand in the ethical responsibility in their decision to follow.

A third (1/3) of respondents on average, across age groups, prefer to interact once or twice per week with travel brands on social media, while a lower percentage (almost 20% across age groups) prefer to interact with travel brands once or twice per month on average. The content most of them prefer to see on social media is mostly related to inspirational travel photos and videos, advice about travel destinations and travel in general and personal stories and travel testimonials.

A remarkable outcome is that respondents below 18 years of age are less keen to interact with travel brands. Specifically, 67% of respondents claim they rarely interact with travel brands and 33% of respondents claim they never do. The social media platforms all these participants prefer are: Instagram, Tik Tok and Youtube. All claim to use social media mainly to keep in touch with friends and family. In addition, what motivates them to follow a brand is mainly gifts and competitions and that a brand is followed by their friends, too.

Buying Behavior Depending on Frequency of Interaction. People that interact more with a brand are generally the ones who have the highest percentages of past booking/purchases from a small brand. This is rational as they tend to be more engaged with the brand, thus they can be influenced to buy. It is remarkable that there is a spike in the purchases for the group that interacts once—twice per month with travel brands, indicating that 4/10 (40%) from this group may be interacting

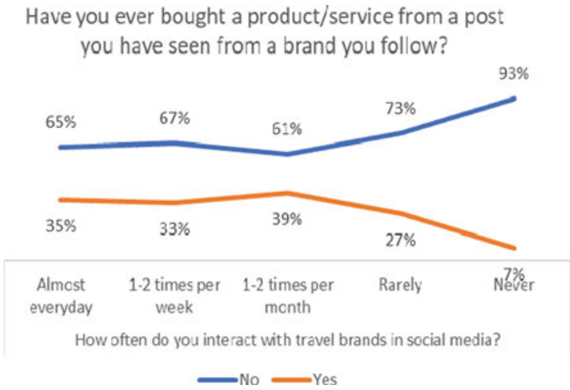

Fig. 1 Buying behavior depending on frequency of interaction

with a travel brand specifically to explore their options to book a trip or buy a service (Fig. 1).

Intention to Recommend Depending on Frequency of Interaction. Generally, the lower the interaction, the lower the intention to recommend a travel brands to friends and family. There is a spike depicting the highest interaction for people who choose to interact once or twice monthly. This spike can be interpreted by the fact that, as mentioned above, people who interact once or twice per month, are most probably more focused on requesting specific things from a brand (e.g. discounts and offers for travel [10]) and they are more willing to recommend a brand when they are pleased with it. Brands should keep in mind that regarding this particular group, travel brands should establish a great customer experience to leverage on the once per month touchpoint and make them engaged followers/potential buyers. This group is mostly motivated to follow a travel brand from getting inspired from travel photos, getting aware of new destinations and having discounts and offers.

Focusing on the last tier group that never interact, their motivation to follow is mainly discounts and competitions. A point to mention for brands is that this shows a brand can motivate people to follow through discounts and competitions, but in order to engage them it will take time and a percentage of them will never engage with the content and brand actions.

Intention to Recommend Depending on Engagement. Despite the fact that no significant differences occur from the value of community building, when we check the matrix of the questions: "Do you feel more connected to a travel brand that interacts with their followers?" and "Would you recommend a small travel brand to friends and family?" we found the following patterns:

a. We can observe the highest percentages (almost 50% for each distinct groups) in the diagonal of the matrix, which indicates a direct correlation between the answers to the first question and the answers to the second question.
b. 53% of people who would recommend a travel brand, also feel more connected to a travel brand that interacts with their followers.

c. Only 15% of people who would recommend a travel brand claim they don't feel more connected to brands that interact with their followers.
d. 45% of people who are not sure if they would recommend a travel brand, are also not sure if they feel more connected to brands that interact with their followers. However, data indicate that those who are not sure if they feel more connected to a travel brand that interacts with their followers, tend to be more positive to recommend a travel brand to friends and family. Given the strong correlation that is indicated between those two answers, it is possible that a great percentage of those who are not sure if they feel more connected are actually more connected but do not necessarily perceive it as such.
e. Half of the participants that answered they wouldn't recommend a travel brand to friends and family, also answered they don't feel more connected to travel brands that interact with their followers.

Given that a strong relationship is indicated between the two metrics "Do you feel more connected to a travel brand that interacts with their followers?" and "Would you recommend a small travel brand to friends and family?", further investigation is needed to map all dependencies (Table 1).

On the intention to buy additional products/services depending on frequency of interaction we found the following: In most groups, the greatest percentage (around 60% for all groups that have at least minimum interaction) mention they may be interested in buying other relevant products/services from a travel brand, given that the products/services match their interests. This insight demonstrates the high importance of creating niches and finding ways to match the needs of the followers/customers. The rarer the interaction, the lower the percentage of participants who are positive to buy other products/services from the travel brand. We also observe that positive answers are relatively low also on the extent of interactions of the participants with the travel brand. Regarding the trend, we can easily see that the percentage of participants who answered would be open to see other related products and services, given they are consistent with the travel brand values, is higher in more engaged groups that interact more often and generally becomes lower for groups that interact more rarely. We also found that the participants who never interact have the same

Table 1 Intention to recommend depending on engagement

	Would you recommend a small travel brand to friends/family?		
Do you feel more connected with brands that interact with followers on social media	Yes (%)	Not sure (%)	No (%)
Yes	53	14	38
Not sure	33	45	13
No	15	41	50

percentage (33%) of “intention to buy based on their interests” and “no intention to buy at all”. In addition, this group has the highest “no preference” percentage (27%). Finally, as shown above, the most engaged groups seem to be the group that interacts almost daily and the group that interacts once or twice per month. It is remarkable that those groups have a strong opinion on their preferences that may shape the brand strategy of the small travel brand. This is indicated from the fact that those 2 groups are the only ones which have zero “no preference” percentages.

4 Main Contributions and Future Research

This paper aimed to map the consumer attitudes regarding small travel brands in Greece. It has provided insights into the factors that attract consumers to small travel brands, the role of content and social media, and the importance of niche marketing strategies for specific target groups that arise from the analysis of the findings. Contributions include: Understanding of consumer preferences in the social media landscape regarding the small travel brands, uncovering the role of interaction patterns in driving buying behavior (notable contribution is the recognition of interaction as a key motivator for consumers to engage with small brands), revealing the role of social media (the influence of inspiring content, authentic experiences and engaging storytelling, along with competitions and gifts have been shown as important factors that motivate consumers, and all these are enabled by social media platforms), identifying niche marketing strategies (the diversification of small brands often comes by operating in niche markets, targeting specific consumer segments with unique needs, preferences, and motivations) and driving innovation and competition. Brand and companies can create online brand communities that can bring people with similar interests together [11–15].

Future research can further deepen our understanding of consumer motivation to follow small brands, uncover new insights, and provide practical implications for small businesses aiming to engage and connect with their target audience effectively. Some potential extensions of the current study include but are not limited to the following: Cross-cultural and cross-national comparisons: The current study mainly focuses on the Greek audience, which has specific cultural stimuli and values regarding cultural decisions. Culture plays an important role in formulating consumer behavior and driving consumer motivations. Investigating how consumer motivation to follow small brands varies across different cultural contexts and national boundaries can give us valuable insights into the impact of cultural values, norms, and preferences on consumer behavior. Comparative studies can help identify commonalities and differences in motivations and inform marketing strategies tailored to specific cultural contexts. The role of social influence: Exploring the influence of social networks, peer recommendations, and social proof on consumer motivation to follow small brands can provide insights into the mechanisms behind the peer pressure and word-of-mouth in the digital era. The role of perception: Further research could examine consumers’ perceptions of a small travel brand and the factors that influence their judgments. An interesting question arises regarding the actual value that people get and actually influences their decisions and the perceived value they believe that influences their decisions.

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Centralization of Information to Understand the Consumer Within the Restaurant Sector

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Abstract The proliferation of online restaurant reviews presents a challenge for consumers seeking valuable insights amid scattered and decentralized information. Despite the potential in these reviews, businesses often decline to explore such information due to perceived expense and unclear future impact. This study integrates technological tools within McKinsey's consumer decision journey model to navigate this digital landscape effectively. Through analysis of influencer reviews on Twitter and Instagram, as well as objective evaluations on rating platforms like TripAdvisor and Yelp, the study aims to present the information in a centralized and objective way, closer to the reality of a user regarding the aspects of a restaurant in the attempt of helping the consumer decision-making. The paper also provides the restaurant sector relevant information about diner consumption habits, consumer behavior related to multiple factors or improvement areas according to what is reviewed, thus, suggesting a business improvement.

Keywords Rating platform · eWOM · Reviews · Restaurant · Aspect · Opinion · Opinion leader

1 Introduction and Theoretical Framework

The web is a mass communication medium that makes digital social interaction easily accessible and available to a global community of users. Particularly, when it is used to generate content based on people's experience in acquiring and consuming a product or service, it becomes highly relevant as it produces information called "electronic Word of Mouth" (eWOM) referring to Online Consumer Reviews (OCR) [1]. Its importance is such that this source is recognized as a direct influence on the sales of any product [2].

One of the important places established for collecting those reviews and for eWOM communication are consumer opinion platforms [3, 4]. However, there is

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another resource that influences the decision-making of a potential consumer: the recommendations of opinion leaders [5].

From the consumer's point of view, with the significant increase in the availability and variety of reviews on the web, it becomes a challenging task for users to find useful reviews that can help them decide among the restaurants of their interest. One of the main reasons for this is that web content on this topic tends to be extensive, scattered, and decentralized, which leaves users interested in certain information unsure of where to look.

On the other hand, restaurants and companies in the restaurant sector have a valuable asset in the form of reviews and opinions on social networks and rating platforms. However, it is underutilized because investing in its management and interpretation is an expense that few are willing to pay because it is not considered a priority for the business; furthermore, there is little understanding of the direct impact that the analysis of the information would generate. In short, a valuable area of opportunity in the restaurant sector that resides in the enormous amount of data, is being wasted, particularly in the consumer's opinion.

The use of technological tools within McKinsey's decision-making model—the consumer decision journey—is relevant and paramount for the times we live in. To understand and truly measure consumer behavior in their purchase decision, it is no longer sufficient to only consider the performance of activities that generate direct sales, as such evaluations are made in isolation from the commercial context [6]. This is where the user experience in instances with a high flow of information, as occurs in digital platforms, becomes particularly relevant.

Social media platforms with their followers also influence the decision-making process of people through the opinions and reviews influencers make; this phenomenon is known as "social media influencer marketing" [7]. This type of relatively new marketing has had huge impact, as statistic study results found: 49% of consumers rely on the recommendation of an influencer to make a purchase; if consumers feel confident in an influencer's opinion, they are more likely to make a purchase, in this approach, brand managers need to make a smart decision when selecting the influencers to be engaged with the brand to gain meaningful trust among their customers and better sell their products or services, as findings suggest that online marketing strategies should be based on long-term relationships with influencers in order to achieve the said trust [8, 9].

Figure 1 shows a influencer marketing report from 2019 to 2023 in the United States, it is relevant as it shows a great insight on how much money it is being invested and how fast it increases, being almost $1 billion per year. Growth has also been higher than what was previously anticipated, driven by higher spending by companies already using influencer marketing, as well as new marketers leaning into it [10].

In the matter of restaurants, they can extensively benefit from influencer partnerships as they can provide exclusive invitations and pleasurable experiences, consequently, influencers will express satisfactory opinions in their social media on aspects of the restaurant such as food, service, location, comfort of the place, prices, style, etc. When a restaurant initiates a marketing strategy with an influencer, it would quickly

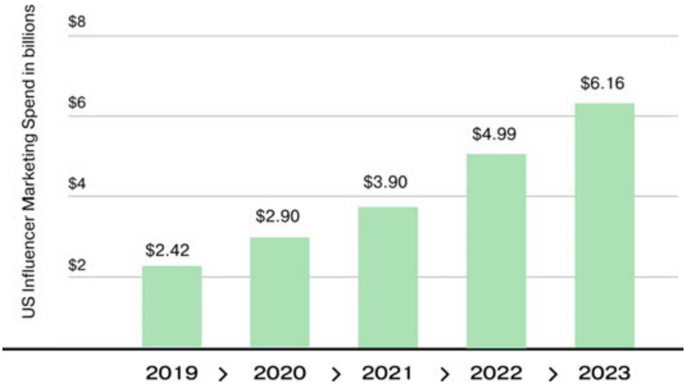

Fig. 1 United States influencer marketing speed

increase the number of followers on the restaurant's page on the social network and the number of bookings [11]. In this sense, it can be assumed that the number of restaurant reviews on social media is not only large but is also increasing, then it results in a great opportunity to collect them for their analysis.

This research focuses on centralizing restaurant reviews, analyzing this set of opinions and recommendations to obtain information that can be beneficial to the consumer when deciding about where to go, however, the seller also benefits if it improves the negative reviewed aspects.

2 Methodological Considerations and Results

Twitter and Instagram social media platforms were considered in this research, focusing on accounts with one thousand followers or more. The criteria considered were if influencers were reviewing specific aspects about the restaurants such as: the food, place or service, in other words, if influencers were expressing an opinion about aspects of any restaurant.

This project adopts qualitative research with a descriptive exploratory approach for which, as a first step, the identification of the candidate tools to be used as a source for the collection of reviews was carried out, in this case the social networks Twitter and Instagram and the rating platforms TripAdvisor, Yelp and Google Reviews were proposed. The coincidence criteria by which these tools were chosen is that, even though the main purpose of each of them is different, in all of them it is possible to find a significant number of restaurant reviews, which is the target information. The following Table 1 shows the characteristics according to each source.

The collected reviews were strictly written in Spanish since the cohort of restaurants were from Mexico City. Once the reviews had been compiled in one same place, each one was analyzed. The elaboration of this task was completely manual,

Table 1 Relevant characteristics of the proposed information sources

Sources	Reviews retrieved	Type	Main objective
Yelp	7160	Evaluative	Connect people with businesses
TripAdvisor	425	Evaluative	Spread people's opinions on tourism services
Google reviews	1415	Recreation	Gather people's opinions on registered businesses
Instagram	1029	Recreation	People interaction through multimedia content
Twitter	200	Recreation	People connection through public conversation

since analyzing more than 10,000 reviews would have been costly in terms of time and effort, a web tool was developed. The tool facilitated the analysis and extraction of information from each review; the criteria defined to quantify the amount of information obtained was that the number of "aspect—opinion" pairs identified by each review should be at least one; understanding as "aspect—opinion" pair to an adjective (opinion) that describes an entity (aspect). For example, in the sentence "The food is delicious", the entity or aspect is "food", and the adjective or opinion is "delicious". Figure 1 shows the mentioned web tool with an example of its operation (Fig. 2).

On the left, one can see the retrieved review to be analyzed, separated into tokens for an easier comprehension. On the right, the identified pairs "aspect—opinion" are shown as the review analyst selects them from the left section. Each pair "aspect—opinion" has a positive or negative interpretation, for example "decoration incredible" would be categorized as positive.

According to this, it was observed that not enough information was collected from the proposed social networks, Twitter and Instagram. For instance, for Twitter it was observed that most of the reviews were negative. This is attributed to the following phenomenon: Twitter is known for being a space where people can express themselves freely, which leads to a higher probability of finding hate speech and negativity in what people can say.

Fig. 2 The analysis web tool in use, showing examples of "aspect—opinion" pairs

On the other hand, on Instagram there are several accounts intended to capture their experience through multimedia content such as photos with caption, which is where the review is written. However, in contrast to Twitter, most of them turn out to be positive. Instagram is a space in which you can easily show, and even pretend, a certain lifestyle or status, so it lends itself to showing only those pleasant, joyful and desirable experiences.

Given the circumstances, the decision was made not to include reviews from social media as part of the information collected. In relation to the evaluation platforms Yelp, TripAdvisor and Google Reviews, the reviews were more objective. It can be explained by understanding that the objective of the evaluation platforms is to transparently communicate whether they recommend a restaurant or not, through the narration of their experience and the presentation of the aspects of the restaurant that stand out, whether due to satisfaction or dissatisfaction of the product or service.

The case study analysis exercise began in January 2022, the review collection began in August 2022 and ended in June 2023, using automated processes to extract reviews using web scrapping, in addition to APIs provided by the rating platforms themselves. They were collected in text format, and was the same for both extracting forms, thus consolidating a single repository with these reviews.

3 Discussion

This research highlights the use of different information sources to gather diverse restaurant reviews, relevant for the acquirement of surfaced key observations about how the subsequent review analysis process enabled a better comprehension about the quality of the retrieved information in accordance with the purpose of delivering a good information repository. Consequently, social media reviews were omitted in favor of more objective reviews, predominant on rating platforms.

In addition, the adoption of technological tools has become pivotal, as said review analysis would not have been possible in the same way without the developed web tool investing the same resources. Furthermore, its incorporation into the understanding and measurement of the consumer behavior when he makes purchase decisions should now be mandatory, since valuable information can be obtained that at first sight and in a singular way, is not clearly perceptible until it is analyzed in a set.

4 Conclusions

In conclusion, this project manages to address this area of opportunity by centralizing both recommendations from opinion leaders (influencers) on social networks and consumer reviews on rating platforms, presenting them in a way that closely approximates the objective reality for a user regarding the aspects of a restaurant. Nevertheless, it also provides relevant information to the restaurant sector, therefore two fields are expected to be benefited, consumers and restaurants; while diners can improve the time and the way they decide where to eat based on the set of reviews by not having to look for information on each existent platform, restaurants can evaluate aspects of their own business such as consumer consumption habits, their behavior in relation to various factors as it could be weather conditions, and most importantly, improvement areas based on what is reviewed and the opinions of the consumers.

Finally, the analysis of this information leads to the necessity of a software tool that implements a Natural Language Processing—Artificial Intelligence (AI) subarea—learning model. The information collected in this project would be effective for training the AI model, therefore, the analysis of the reviews could be done in a faster and automatic way; thus, a new global review could be generated based on all the reviews of each restaurant, facilitating the customer's decision-making process.

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Web Application Prototype for Tourist Travel in the State of Querétaro, México

Jorge Ferrer Tenorio, Idalia Maldonado Castillo, and Jessie Paulina Guzmán Flores

Abstract Digital marketing studies, artificial intelligence and tourism make a theoretical and practical contribution to the applied customer journey model. This model examines the influence on the purchase decision in the virtual context, where traveler's share their experiences through reviews, interact with other customers and potential customers. This allows the tourist to examine, evaluate, buy, recommend, and build brand loyalty. In this work qualitative research was conducted, with the intention of evaluating the feasibility of using twitter information to design a progressive web application. The functionality of the application considers identifying tourist sites in Querétaro on the map, integrating the reviews with an artificial intelligence model that catalogues the sentiments in a text using hashtags; and traces a route to facilitate the visit. Tourists can record the emotions experienced before, during and after the service provided to continue feeding information into the app. This allows companies to get real-time customer feedback, user preferences, as well as to evaluate and compare their services with those of competitors.

Keywords Rating platform · Ewom · Reviews · Aspect · Opinion · Opinion leader

1 Introduction and Background of Research

Tourism has a great relevance in the national economy representing 8.7% of Mexico's GDP, coupled with the widespread use of smartphones in our society, this represents an area of opportunity for innovation in this sector. Also, one should consider the extension of the national territory, as well as the variety of tourist attractions [1]. The state of Querétaro has been chosen in this study because it offers a series of tourist options ranging from: The Biosphere Reserve "Sierra Gorda", The Art, Cheese and

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Wine Route, The Six Magical Towns (Amealco, Bernal, Cadereyta, Jalpan, San Joaquín and Tequisquiapan) [2], as well as visits to museums and other activities that visitors may enjoy.

According to Google Trends, by May 2023, travel searches in Mexico are returning to pre-pandemic levels with annual peaks every July. And interest in the state of Querétaro between July 2022 and March 2023 surpasses destinations such as Cancun and Puerto Vallarta [3].

The tourism sector today faces new realities, supported by technology for decision-making when selecting a tourist destination. The choice is not determined exclusively by cost, distance, or the quality of the facilities, but also by the experience and opinion shared by other tourists in those places. The use of technological tools to promote tourism has been limited to the use of repositories or websites containing generic publications and information submitted by some institution or organization to "promote" tourism.

Nowadays, the selection of a tourist destination is related to the use of smartphones and different mobile applications. This represents a frequently used tool by visitors to different tourist areas, often focusing on the most visited or promoted places. Part of the success of the most visited sites is based on the opinions and recommendations that are read and heard on different social networks.

Social networks have become a tool for tourism promotion, "the means of dissemination involve both traditional media and virtual spaces, within which social networks and the various mechanisms of interaction with groups of people with the support of technology (blogs, wikis, etc.) stand out" [4]. Unfortunately, tourism promotion supported by social networks is limited to the publication of opinions, photographs, location of a place or location on a map and the evaluation of the place or service.

The main social networks cover different needs, which range from language selection, the ability to issue opinions, having a personal profile account, being able to establish direct contact between users, adding photographs of their experiences, the existence of discussion forums, all of this based on the personal experiences of users in tourist sites.

It should be noted that the information published on social networks is not focused on the experience lived in the place, and tourists are forced to manually search for information on multiple sites or social networks; thus, those interested must filter, highlight, analyze, compare and evaluate the information obtained from these sites, and in the case of the opinions provided by other visitors, they must go through a similar process to be able to make a decision and express a personal assessment of the site.

Depending on the type of user, communication strategies, contact or promotion of a tourist site will also be used, we can also find that depending on the type of information that you want to know or share, you should choose between the different applications of the existing social networks.

Among the most popular free applications is Twitter, which offers users the possibility of knowing information on different topics or people in real time, the preferences, desires, needs and opinions of other users, as well as allowing rapid connectivity between them and stands out for its simplicity of use.

We have used McKinsey's decision-making model as a reference to diagram the consumer's decision-making journey, as it allows us to understand and truly measure the consumer's behavior in their purchasing decision with a high flow of information on Twitter.

In the model, we can see how the customer begins to learn about a product or service they have been thinking about trying or buying from search engines and social networks to their interaction on social networks to express their feelings about consuming the product or service before, during and after the purchase. This information remains static on multiple platforms and social networks, the analysis work can be exhausting to identify the criteria that are decisive for your purchase.

Therefore, we developed an application that performs the analysis of the opinions or comments (perception) made by tourists on a social network (Twitter), to make a concentrated and a positive, negative or neutral classification of the tourist towards the travel experiences to the various tourist attractions, such as: landscapes, endemic products, hotels, restaurants, archaeological sites, churches, ecotourism, tourist information, festivals and events using segmented hashtags to classify the information and create a high-impact strategy that serves for tourists and entrepreneurs.

2 Methodology

In this study we used mixed research methods that allow us to integrate different techniques such as desk research, surveys, and interviews. The triangulation of these research and data methods allows for a holistic understanding of reality and increases the degree of credibility of the analysis of qualitative information that allows us to design a web application that enables potential customers to make decisions based on customer experience. In this methodology, theory and data constantly interact to have a holistic understanding of reality based on the behavior, feelings, and discourses of the researched people. We have carried out the analysis of secondary information to help us contextualize the problems raised. In the following, we will present the multiple case study and the secondary analysis.

2.1 Multiple Case Study

a. Survey of tourists who use social networks to select products or services.
b. Analysis of the interactions of tourists on social networks sharing their feelings before, during and after the purchase.
c. Analysis of the functioning of mobile applications for the tourism sector in Querétaro.

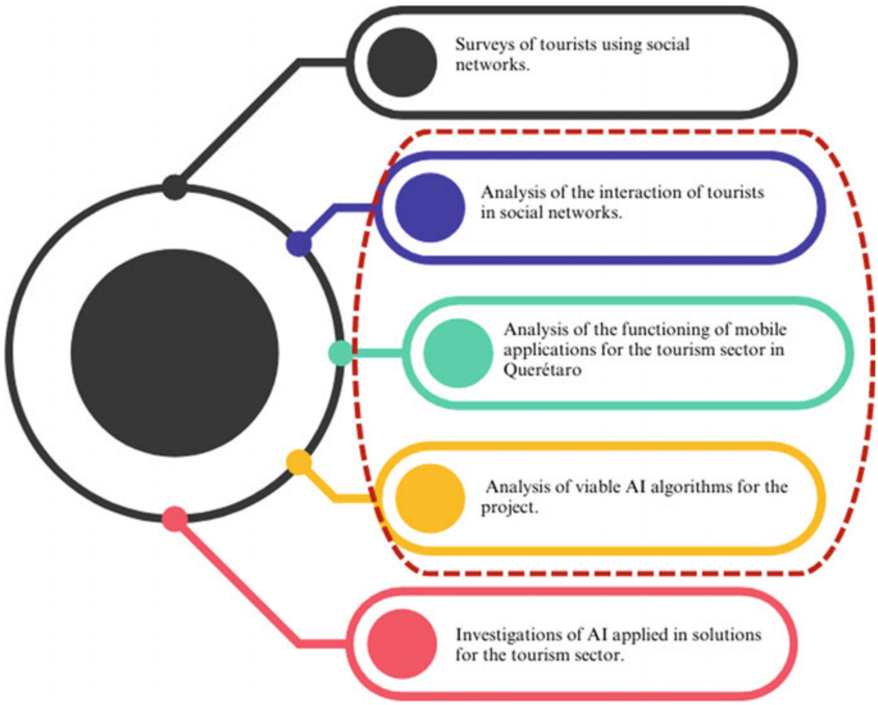

Fig. 1 Methodological triangulation of the research

2.2 Secondary Data Studies

a. Analysis of feasible artificial intelligence algorithms for the project.
b. Investigations of artificial intelligence applied to solutions in the tourism sector.

Figure 1 summaries the research methodology, triangulating the boxes grouped in the ellipse of dashed lines used for this study.

3 Discussion and Results

A survey of twenty questions was developed to answer the applicability of social networks to expose their feelings regarding their consumption of tourism products and services. Responses were given on three types: rating scale, yes/no, and open-ended questions. A survey designed on the Google Form platform was shared in Facebook groups for traveler's during the first half of 2022. An interpretative and descriptive analysis of the data obtained from the 680 survey participants was carried out. A comparative table of the functionalities of the applications was also made Querétaro Enamora and Querétaro (Tourist Guide); with the intention of assessing the viability of the proposal that introduces a technological novelty in tourism promotion and planning. Referring to the social context and the purpose of the creation of this system, even though Mexico has a very large tourist industry, the very title of the present work is limited to a single case study, in this case the state of Querétaro. For this case study we will have the information of some of the tourist attractions, highlighting that the system only contemplates the registration, the tracing of the route, and the possibility of registering a new perception on Twitter, a social network from which we will obtain and capture information on perceptions that have been made before within the same progressive web application. Specific sites will be delimited according to the coordinates, and in case of having additional information, the address of the site or place will be available.

As for the documentary analysis, different books and scientific articles on artificial intelligence tools and systems were reviewed to detect the areas of application and limitations. Thinktur's definition of Artificial Intelligence, Artificial Intelligence is defined as the ability to process and interpret information to carry out actions considered intelligent by replicating characteristically human behavior and reasoning [5]. For this study, we consider that the incorporation of artificial intelligence systems has modified marketing and distribution channels, creating new paradigms when it comes to offering experiences and customizing the offer, the diffusion of which is being accelerated even more since the pandemic.

From the user's perspective, the following spheres of interaction can be differentiated: the personal, delimited by the person's own physical body; with the immediate environment and with the surroundings, destination, nature, or city. Offering new opportunities to connect the physical world with the digital world, enabling a more active interaction between tourists and tourism products and services and destinations [6]. The services most used by these systems in the tourism field of application of this type of tools are geolocation technologies, virtual concierges, virtual tours and globalizers. It is also frequently used by retail distributors to better understand and personalize the tourists' experience throughout the travel cycle, through dynamization, promotion, sales, and loyalty actions [6]. Therefore, these tools help the real personalization of the service and experience, allowing the optimization of the user's offer to achieve an increase in sales globally, according to the capabilities and knowledge of each company [5].

For this tourist travel mobile application, we obtained the comments and opinions on Twitter that belong to a hashtag (#) of a locality or tourist site in the state of Querétaro, the hashtag identifies digital content associated with a particular topic, related to a specific tourist site. The comments associated with the hashtag of the site or location are processed with an Artificial Intelligence model that allows classifying each of the comments obtained as positive, negative, or neutral, resulting in a concentrated classification of all the opinions of the site. Figure 2 shows the operation process of the application described above.

To understand the implementation of the model, we will explain how the "sentiment analyzer" was implemented in Fig. 3, which a priori is described as a classifying algorithm (in this case and for this project) of texts that once processed through mathematical models used by the algorithm, numerical values are obtained that, with the correct interpretation, can indicate whether the text has a positive, negative or neutral connotation or perception related to the text itself.

As mentioned above, this parser is implemented thanks to the Naive-Bayes Theorem, Python programming, the TextBlob library and NLTK. These two together contain a sentiment analyzer based on the Naive-Bayes Theorem that has been trained with comments on English movie reviews. The Naive-Bayes Theorem is described by the following Eq. 1. Naive-Bayes Theorem.

$$P(A\backslash B) = \frac{P(B\backslash A) * P(A)}{P(B)} \tag{1}$$

Which is entirely based on Bayes' Theorem of probability, and which is usually very efficient even in diverse situations and statements. This Naive-Bayes Theorem can be clarified by using an example. When a text is analyzed, we have 2 actors:

- Text 1
- Text 2

Fig. 2 The environment and the use of the progressive web application can be visualized from the installation on the cell phone to the feedback interaction on twitter to re-evaluate the tourist sites

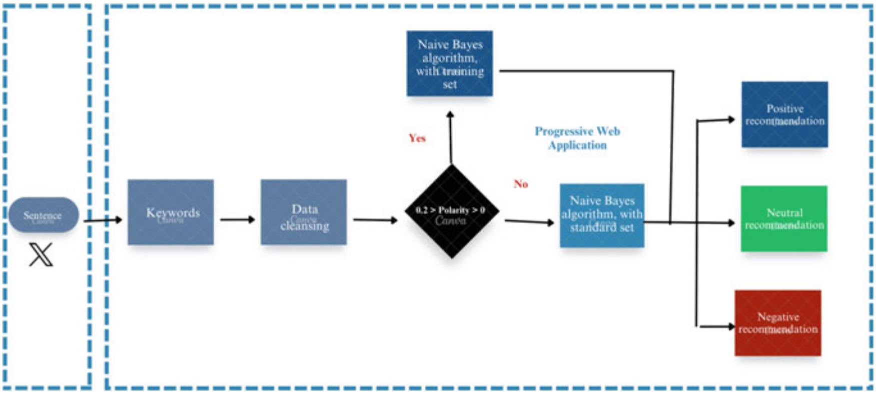

Fig. 3 The diagram visualizes the general operation of the text parser/classifier algorithm, which interprets sentiments to identify whether the text is of a positive, negative or neutral nature

And 2 premises:

- Text 1 already has an assigned percept
- Text 2 already has an assigned percept

Naive-Bayes theorem, requires finding P(A|B) which can be interpreted as A given B and for practical purposes, we can interpret it as knowing that text B already has a percept and A is estimated to have a percept, what is the probability that A has that percept knowing that B, a similar text, already has the percept assigned to it? This is basically the reasoning that follows the analysis with many comments, until a value is obtained. This value is calculated and is called polarity, while the percentage that has been given right in the calculation is called subjectivity.

For the programming done, the polarity value is between -1 and 1, having as a suitable reference that if the polarity is less than 0, the analyzed text is negative, while if it is greater than 0, it is positive, but if it is exactly 0, it means that it has a neutral perception.

This, as mentioned, is an ideal situation, but given the characteristics of our language, idioms, slang, and the use of different words does not allow the analyzer to obtain a very accurate result, in fact it is estimated that the efficiency of this algorithm is 50% due to the ranges obtained. Fortunately, and thanks to the NLTK library, it has been possible to refine the results obtained by the algorithm. This is achieved by implementing a new dataset that already has a perception assigned to it from the beginning. This is achieved by using an additional JSON file in which we add those texts that we know have already been checked and are not in the initial set of references for the calculation.

Another factor that we must take care of when deciding on the perception based on the numerical values obtained is to choose the correct permissive ranges for the decision making. In this system, an adjustment had to be made for the use of polarity and subjectivity, since polarities above 0 cannot always be positive. For this purpose, an offset of 25%, i.e. a value of 0.25, was made, resulting in the following ranges:

- From -1 to 0 the analyzer will interpret and decide that the text is negative.
- From 0 to 0.25 the parser will have to do an extra step, which consists of using the additional set of references that has been created to add sentences or texts that have already been checked.
- From 0.25 onwards the parser will roundly decide that it is positive.
- If it is exactly 0 it is an ideal where the interpretation is neutral.

For when this value is between 0 and 0.25, the parser should check if there are any additional references to the initials that have a resemblance to the original text. If so, the parser will calculate the probability with better certainty and the error rate is reduced to 1 in 4 comments.

This is the work of the sentiment analyzer, which will trigger and provide the subjectivity, which, interpreted, we can identify whether the originally analyzed text is of a positive, negative or neutral nature.

The interaction with the maps was also a milestone for the application to have a correct visualization and representation of places, making them well located.

In addition, the magical towns represented in the application also helped from the beginning to express whether they were good or bad to visit. This was part of the objectives that tried to better represent when the registered sites complied with the opinions that had been expressed on Twitter and analyzed with our implementation of the text analyzer or classifier algorithm.

4 Conclusions

In this work, the authors set out to investigate the feasibility of using twitter, to assess the artificial intelligence model suitable for handling the volume of information, as well as the classification of sentiment in the customer sales and post-sales process; thereby allowing the validation of the data obtained for the development of the functionality of the tool. In the case of the Twitter study, there are windows of opportunity to achieve a greater correlation between tourist sites and reviews to know the opinion of tourists in real time, the preferences of users, as well as evaluation and comparison of service providers in Querétaro.

Overall, this paper is the first step for the analysis of the artificial intelligence model and twitter in Querétaro State Tourism. The methodology can be improved in the future with the integration of new tools to access other social networks and the input of the actors in the system that are related to the tourism sector. In conclusion, artificial intelligence can innovate in the tourism sector and the productive use of twitter can provide analysts with low costs for a large volume of information; fast and real-time access to many users; contextual information, considering the site of data extraction.

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Factors Influencing the Use of Digital Marketing by Telemedicine Services

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Abstract Digital Marketing has offered additional existence to Telemedicine Services as well as health care services by improving their visibility in the virtual frame. Digital Marketing has offered unbelievable opportunities in the present decade. The concept of e-health service, e-patient, e-health, e-healthcare providers are more than familiar to individuals. In the matter-of-fact telemedicine has enhanced substantially, reaching over a percentage of 30% comparing the conventional medicine. The need to use telemedicine in times of pandemics, natural disasters, earthquakes and even war is also deemed imperative. For instance, during the period of the COVID-19 pandemic, the health system has changed radically as result of digitization processes and produced not only innovative products, but also new service practices and business models, replacing conventional structures. The quality of digital services and the customers' satisfaction, e-patience's, in our case, are the most principal parameters for digital marketing. Also, important elements for digital marketing are the willingness of customers to recommend telemedicine services to family, relatives, friends, colleagues, on social media, the addition for future use of the services, etc. The factors included in this research were the result of an extensive review of the international literature. This process resulted in a conceptual framework consisting of 9 factors (e.g. Perceived innovation (Compatibility), Willingness to recommend (Advocacy), Perceived Credibility, Perceived Risk, Use Intention, Risk Acceptance, Information Sharing, Perceived Risk, Perceived Usefulness). To test the research hypotheses, a survey was conducted on 412 participants. The results confirmed the proposed model. Digital marketers can use the above model to design and organize digital healthcare services for the benefit of the e-patient.

Keywords Digital · Marketing · Telemedicine · Services

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1 Theoretical Framework

Digital marketing has benefit healthcare services in the point of view of visibility regarding online space [1]. It enables individuals to choose healthcare services because of their immediate response to their problems [1]. Telemedicine not only permits medicine services to employ technology and telecommunication links which enable people, patients having healthcare services at a distance [2] (but ensures quality, profitable and is equally distributed to all people asked for it [3]. Telemedicine offers access to individuals to health care at any time, any distance, any job and family barriers and obligations [4]. Telemedicine is easily used by individuals because is available at digital stores and mHealth (mobile Health) applications are easily download to smart phones, laptops etc. and enable distance communications between medics, experts and patients [5, 6]. It is convenient for patients in case of lining in rural areas to catch up on the issues via mHealth (mobile Health) application [7]. In addition, telemedicine systems may can save a life in case of emergency [8]. The role of telemedicine services was of a great importance in during the COVID-19 Pandemic [8].

Health industry has reached a new era due to digitalization and digital networks, nowadays known as telemedicine. Telemedicine involved, digital, technological, legal, economic sides [9, 10]. In the digitalization era, the patience became e-patience or an online patience. e-health service, e-patient, e-health, e-healthcare providers are more than familiar to individuals nowadays. In addition, telehealth is considered as an assistive machinery applicative way to relieve the absence of healthcare personnel and professionals [11]. In Whitten and Sypher [12] it is claimed that telemedicine could be classified in three categories. The first one refers to synchronous versus asynchronous. The second one refers to data transfer and storage. The last one refers to robotic telemedicine services [12]. Digital marketing efforts to enhance telemedicine services success is outstanding. In addition to this digital media tried to offer better and quicker access to telemedicine platforms [13]. Digital marketing efforts are based on Image [14], communication tools [15]. Furthermore, internet permit physicians to acquire numerous supports from medical marketing [16].

More specifically it evaluates the impact of Perceived innovation (Compatibility), Willingness to recommend (Advocacy), Perceived Credibility, Perceived Risk, Use Intention, Risk Acceptance, Information Sharing, Perceived Risk, Perceived Usefulness on Commitment, Perceived Quality, Satisfaction conceptual constructs.

Commitment is the long-enduring willingness toward a product or a service [17] and warrant to echo purchasing [18]. In Servetkiene et al. [19] quality evaluation grounded on patients' perceptions, ponders and occurrences regarding health care system. Patients' satisfaction must be defeated by former experiences as well as hopes that could probably at least partially defeated by assessing patient perceived health care quality [19]. Patient perceived healthcare quality approaches a wider range of perception toward healthcare system [20]. Consequently, Patient perceived healthcare quality can be viewed as a collaboration between expectation and real experiences [19]. Crow et al. [21] claimed that Patient perceived healthcare quality is strongly connected with patients' needs. The difference between consumer expectations and real situations is expressed as satisfaction [22]. Amin et al. [3] claimed that satisfaction I strongly related to customers behavior intentions, plus loyalty, plus continues persuasions and word of mouth. Satisfaction has a positive effect on patients' continuous intentions [23, 24] usage intention and m-health emergency use [25]. Still, Amin et al. [3] supported that satisfaction could be seen as the patients' and individuals' favorable feeling toward telemedicine services.

2 Methodology

2.1 Statistical Hypotheses

The research hypotheses are the following ones: Ho1i: Perceived Innovation (Compatibility) has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho2i: Willingness to recommend (Advocacy) has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho3i: Perceived Credibility has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho4i: Perceived Risk has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho5i: Use Intention has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho6i: Risk Acceptance has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho7i: Information Sharing has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho8i: Perceived Risk has a significant effect on Commitment, Perceived Quality, Satisfaction. Ho9i: Perceived Usefulness has a significant effect on Commitment, Perceived Quality, Satisfaction.

2.2 Sample-Methodology-Instrument

To test the research hypotheses, a survey was conducted on 412 participants who answered a questionnaire, which was distributed electronically in the format of a google form. 200 (48.5%) were females whereas 212 (51.5%) were males. For the data analysis the study used Pearson coloration coefficient [26].

The purpose of the study a questionnaire/instrument was constructed. It is defined by 12 conceptual constructs named Perceived Innovation (Compatibility) (3 items, e.g. Use of the Telemedicine Services is compatible with all aspects of my medical needs), Willingness to recommend (Advocacy) (4 items, e.g. I would be happy to recommend Telemedicine Services to others), Perceived Credibility (5 items, It is safe for me to use telemedicine services), Perceived Risk (3 items, It is dangerous for health to use the Telemedicine Services), Use Intention (3 items, e.g. For future medicals I will be using Telemedicine Services), Risk Acceptance (3 items, e.g. There is a possibility of loss of control over private data due to the use of Telemedicine

Services), Information Sharing (3 items, I clearly explained to Telemedicine Services my medical conditions), Perceived Risk (3 items, It is dangerous for health to use the Telemedicine Services), Perceived Usefulness (4 items, I believe that using telehealth would enhance his or her health status), Commitment (4 items, I do not choose other forms of health services if I have the option to choose Telemedicine Services), Perceived Quality, (4 items, Telemedicine Services offer services whose quality is consistent and Satisfaction (4 items, I am pleased with my experience with telemedicine services).

3 Results

Inventory reliability was assessed by the very well coefficient named Cronbach alpha (α). Coefficient α for the research Instrument equals to 0.907 that confirms reliability ([27–30]. Coefficient α for Instrument conceptual constructs named Perceived Innovation (Compatibility), Willingness to recommend (Advocacy), Perceived Credibility, Perceived Risk, Use Intention, Risk Acceptance, Information Sharing, Perceived Risk (PeR), Perceived Usefulness, Commitment, Perceived Quality and Satisfaction counts for 0.896, 0,843, 0.901, 0.893, 0.825, 0.837, 0.813, 0.840, 0.806, 0.812, 0.879 and 0.921 respectively suggesting internal consistency [31–39].

According to correlation analysis results the posed Ho1 null hypotheses is confirmed. More especially Perceived Innovation (Compatibility) has a significant effect on Commitment ($r = 0.823$, $p < 0.01$), Perceived Quality ($r = 0.689$, $p < 0.01$) and Satisfaction ($r = 0.714$, $p < 0.01$). In addition, the posed Ho2 null hypotheses is confirmed. More especially Willingness to recommend (Advocacy) has a significant effect on Commitment ($r = 0.796$, $p < 0.01$), Perceived Quality ($r = 0.691$, $p < 0.01$) and Satisfaction ($r = 0.802$, $p < 0.01$). Furthermore, the posed Ho3 null hypotheses is confirmed. More especially Perceived Credibility has a significant effect on Commitment ($r = 0.976$, $p < 0.01$), Perceived Quality ($r = 0.778$, $p < 0.01$) and Satisfaction ($r = 0.845$, $p < 0.01$). Also, the posed Ho4 null hypotheses is confirmed. More especially Perceived Risk has a significant effect on Commitment ($r = 0.534$, $p < 0.01$), Perceived Quality ($r = 0.597$, $p < 0.01$) and Satisfaction ($r = 0.578$, $p < 0.01$). Additionally, the posed Ho5 null hypotheses is confirmed. More notably, Perceived Use Intention has a significant effect on Commitment ($r = 0.809$, $p < 0.01$), Perceived Quality ($r = 0.836$, $p < 0.01$) and Satisfaction ($r = 0.829$, $p < 0.01$). Moreover, the posed Ho6 null hypotheses is confirmed. More especially, Risk Acceptance has a significant effect on Commitment ($r = 0.654$, $p < 0.01$), Perceived Quality ($r = 0.503$, $p < 0.01$) and Satisfaction ($r = 0.624$, $p < 0.01$). Likewise, the posed Ho7 null hypotheses is confirmed. More particularly, Information Sharing has a significant effect on Commitment ($r = 0.675$, $p < 0.01$), Perceived Quality ($r = 0.692$, $p < 0.01$) and Satisfaction ($r = 0.631$, $p < 0.01$). As well, the posed Ho8 null hypotheses is confirmed. More specifically, Perceived Risk has a significant effect on Commitment ($r = 0.562$, $p < 0.01$), Perceived Quality ($r = 0.589$, $p < 0.01$) and Satisfaction (r =

0.601, $p < 0.01$). Finally, the posed Ho9 null hypotheses is confirmed. More specifically, Perceived Usefulness has a significant effect on Commitment ($r = 0.816$, $p < 0.01$), Perceived Quality ($r = 0.834$, $p < 0.01$) and Satisfaction ($r = 0.856$, $p < 0.01$). All these results are supported by other authors [1–13, 17–21, 23–25]. There are dozens of healthcare applications on the internet to improve people's access to healthcare.

4 Discussion and Conclusions

There are thousands healthcare applications easily downloaded on mobile phone, tablet, or laptop that facilitate individuals' entry to healthcare provided by telemedicine services [3]. According to the authors in [3] telemedicine guarantees quality, profitable and straightforward healthcare services for every individual. Portnoy et al. [7] strongly believed that telemedicine services are useful, economical care for anyone needs health care services, especially in a case of emergency. Telemedicine and e-health services have increase patients; involvement regarding their own health care [5]. Thus, the aim of this paper was to provide the most determinant factors influence the Use of Telemedicine Services. The results of this study confirmed that Perceived Innovation (Compatibility), Willingness to recommend (Advocacy), Perceived Credibility, Perceived Risk, Use Intention, Risk Acceptance, Information Sharing, Perceived Risk and Perceived Usefulness has a significant effect on Commitment, Perceived Quality, Satisfaction. Digital marketers be able to employ the model regarding Factors Influencing the Use of Telemedicine Services to design and organize digital healthcare services for the benefit of the e-patient. These results are in line with authors in [25] claimed that use intentions and satisfaction are strongly connected. In addition, authors claimed that performance expectation effects e-patient satisfaction.

Notwithstanding countless study should be done employing additional investigation procedures concerning big data groups of e-patients [38] and big data procedures [40–43]. Totaling, AI and Cloud Computing Procedures might scrutinize [11, 43–47] telemedicine platforms and networks vis-à-vis regarding e-patients from different demographical, cultural, economic and educational levels applying machine learning techniques.

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Attributes of Effective Online Promotion Strategies: Case Study of European Universities

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Abstract Living in the age of technology, universities are in need of keeping up with the development of the means of communication and the way new generations of students use these means. The purpose of the research was to identify the online promotion strategies used by the best European universities that provide master programs in communication based on a top made by Times Higher Education, in order to create an online promotion and communication procedure for Transilvania University of Brasov and other universities. Firstly, we analyzed the way the first 20 European universities with master programs in communication, according to a top made by The Times Higher Education, promote themselves online. Secondly, in order to be able to make a comparison and break down rules of good practice we analyzed the online promotion of 5 universities that occupy lower positions in the top. The universities were analyzed based on an adapted content grid with 29 criteria, including: contact information, real time assistance, social media instruments, information about: study programs, campus, employees, admission. Our results showed that the best European universities offering masters programs in communication, use various integrated online promotion and communication strategies and utilize combinations of tools that match their profile. Therefore, while there are similarities between the strategies used by the best European universities and the European universities with lower positions in the top, strategies of the best ranked universities and their promotion and communication methods can be adapted and used by other universities in order to improve their procedure of online promotion and communication.

Keywords Online promotion · European universities · Official websites

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1 Introduction

Nowadays, due to the rapid development of technology and implicitly the means of communication, Higher Education Institutions must find ways to meet the expectations and desires of new generations of students. In this regard, online promotion has become an essential tool for all organizations, institutions and companies. Considering the aspects mentioned above, the aim of our research was to identify the online promotion strategies of the best—ranked European universities, according to a top made by The times Higher Education in order to establish and improve the procedure of online promotion for Transilvania University of Brasov, Romania. The development of online communication has had and still has a significant impact on society. Creating an online presence in the contemporary era, is more than a way of promoting the values and principles of a brand, but it is a way of communicating and interacting with consumers at national and international level. The concept of promotion represents the transmission of information by the seller, to potential customers, in order to influence their attitude and the way they behave [1].

The main online promotion channels that universities use in order to interact with students and prospective students are websites and social networks. The website of a company or institution, also called corporate website, is designed to receive feedback from customers, to maintain favorable relationships with them [2]. Related to a website, there are certain factors that can determine its performance. A site must have a first page easy to understand, the transition from one page to another must be made easy and fast, the pages should not be overloaded, the letters used and their size should facilitate the reading of the text and sound and colors must match the identity of the brand [3]. Furthermore, the importance of a website is also highlighted by the fact that, in the online environment, people mostly rely on the information they find on a website, in order to assess the quality of the products or services offered [4]. Another online promotion channel that is used more and more among universities is represented by social media networks. Social media networks represent web based services that allow people to (a) build a public semi-public profiles, (b) to have access to a list of other users they can contact (c) view and include in their list of connections, the connections that other users make [5].

Hence, the way universities use online communication channels such as websites or social networks in order to communicate with their students and prospective students became a subject of interest for many researchers. A study [6] that focused on the website communication of Canadian universities about sustainable actions and programs, showed that universities adopted an integrated online communication when sending information about their sustainability policy and actions. Thus, the study showed that on their websites, 59% of them made reference to their Facebook accounts dedicated to posting information about sustainable actions, 50% percent of them made reference to their Twitter pages, and also 73.4% percent of them offered information about opportunities to volunteer in the universities' sustainability programs or plans. Another study on online communication of universities, revealed that 63% of websites analyzed contained links to social media pages of universities', that many of them did not have updated contents, and that public universities had the most professional online communication, compared to private universities [7]. While analyzing the marketing communication mix of Czech universities and their faculties, a study [8] revealed that when asked where they found most of the information related to their studies, 28, 4% of students stated that they found it on the website. In addition, the researchers concluded that online promotion and communication with the help of an official website, or university rankings are essential elements for universities and their efficient marketing communication plans.

Even more, other researchers studied, with the help of certain tools, the overall performance of the websites of universities in Punjab, India, finding that from twelve universities analyzed only 4 scored maximum points when it comes to their performance [9]. A similar study on the website performance of Islamic Azad University Branches, that was made according to multiple criteria among which were: navigation, authority, ac-curacy, accessibility, interaction and functionality, showed that the websites analyzed were well designed, and that they better complied with the navigation and coverage criteria, then with interaction [10]. It can be inferred that the websites were easy to navigate, that they covered and offered a wide range of information, but they lacked interaction with the users.

Furthermore, while studying the experiences of students with university websites, researchers stated that on a website, a university should present very clearly the contact information, that special attention should be given to the design of the website, to the position of each category of information and that the websites should include concise information about the history of the institution, and its activities [11]. Other researchers focused on students' intentions to use websites, and found that the website plays an essential role in the process of deciding which university they will enroll at, students included in the study stating that they firstly visited and analyzed the website before going on campus for more information [12]. Therefore, as shown by a previous study, it is important for an institution to constantly carry out brand management action in order to make sure that the identity it created and its promotion is in line with the brand as it is experienced by employees as well as with the image that the public has about the brand [13]. The purpose of our research was to identify the online promotion strategies used by the best European universities that provide master programs in communication, in order to create an online promotion and communication procedure for Transilvania University of Brasov, Romania.

2 Material and Methods

2.1 Objectives and Hypotheses

The objectives of the research include: identifying universities that use promotion strategies based on social media networks and identifying elements of online promotion that require improvements. Research hypotheses present expectations regarding the fact that European universities with master programs in communication: (1) promote online both their activity and study programs, using both the official website and social media platforms, (2) that they register a greater promotion activity during the admission period, (3) that they offer the possibility of applying to a program even before obtaining the degree from the Bachelor's examination, (4) that they offer real time assistance on their web-sites, and (5) that they offer information about career possibilities, campus and other options of accommodation. In doing so, we expect to find out that the best ranked universities use an integrated online promotion by providing information both on their websites and their social media platforms, that they have more online activity during the admission period, and that they allow prospective students to chat with representatives on their websites in order to receive assistance.

2.2 Methods and Instruments

The method used in order to carry out the research was content analysis, while having as an instrument an adapted content analysis grid, which has been previously used by two other researchers in analyzing the activity on Facebook of ten museums [14]. Adapting the grid proposed by the researchers mentioned above, to the topic of the research, we created a content grid, with 29 criteria that allowed us to conduct a comprehensive analysis of the online communication of universities. The criteria included in the grid referred to: contact information, real time assistance, video testimonials, news and announcements, research projects, social media instruments, promotional video, information about: study programs, campus, off campus accommodation, employees, admission, career options, taxes, competitions, open days, city lifestyle, ways to equate grades, internships, slogan, international mobility.

The universities included in our research were chosen from the World University ranking 2020, made by Times Higher Education. In this regard, we chose the first 20 universities from the ranking made by Times Higher Education, in order to see how the best rated universities managed to promote themselves online. Next, we chose 5 universities which occupied lower positions in the ranking, in order to make a comparison between their promotion strategies and the promotion strategies of the first 20 universities. Furthermore, our focus was on Transilvania University of Brasov, because it was a university which offered master programs in communication, but it was not present in the ranking. By looking at the way universities included in the ranking promote themselves online, we believed we could improve the online promotion of Transilvania University of Brasov, so that the university would communicate better information about its specificity and its activity.

Within the research, a total number of 25 universities were analyzed. The first best 20 European universities with master programs in communication: London School of Economics and Political Sciences (LSE-PS), Kings College London (Kings college) KU Leuven (KU Leuv.), University of Manchester (Univ.Man.), Wageningen University Research (Wageningen), University of Amsterdam (Amst.Univ.), Erasmus

University Rotterdam (Erasm.Univ.),Utrecht University(Utrec.Univ.), University of Gronigen (Groningen), University of Warwick (Warw.Univ.), University of Glasgow (Univ.Glas.), Lund University (Lund.Univ.), University of Helsinki (Univ.Hels.), Free university of Berlin (Univ.Ber.), University of Sheffield(Univ.Sheff.), University of Durcham (Univ.Durh.), University of Birmingham (Univ. Birm.), University of Copenhagen (Univ.Cop.), University of Oslo (Univ.Oslo.), University of Aarhus (Univ.Aarhus). Then, we analyzed another 5 universities with lower positions in the top: Tomas Bata University in Zlin (Th.Bata Univ.), Sofia University (Sofia.Univ), Vilnius University (Vilnius.Univ), Pablo de Olavide University (Pablo de Olavide Univ.), University of Seville (Univ.Seville), as well as Transilvania University of Brasov (Unitbv) (https://www.timeshighereducation.com/world-university-rankings/2020/world-ranking#!/length/-1/sort_by/rank/sort_order/asc/cols/stats) [15].

3 Results

Taking into consideration the analysis of the first 20 European universities that offer masters programs in communication, from the top made by The Times Higher education, firstly we identified the fact that the universities combine communication in their master programs, with other domains such as: politics, strategy, culture, education, which confirms the fifth hypothesis of the research. Another result showed that the universities used an online integrated communication strategy. For example, Durham University promotes on its website, its Instagram page, and University of Amsterdam referred on its website to its WhatsApp account. (https://www.uva.nl/en?cb) [16].

Thus, the research illustrated that all 20 universities:

- Offer contact information on their online platforms
- Offer information about study programs, admission process, necessary documents, campus and taxes, research projects, international mobility opportunities, news and announcements, and city lifestyle on their website
- Integrate social media tools into their online promotion strategy
- Describe their research projects on their website and Facebook page

Furthermore, the results showed that from the best ranked 20 universities with master programs in communication, the university which fulfilled the most categories was London School of Economics and Political Sciences (25), it being followed by University of Amsterdam, Erasmus University Rotterdam and Utrecht University (24) and the university with the least fulfilled categories was University of Durcham (21).

Considering the analysis of the universities with lower positions in the top, similar to the first 20 universities, the 5 universities that occupy lower positions in the same top, offer contact information, use social media tools, offer information about campus, employees, admission, international mobility, lifestyle, research projects, taxes and none of them provides information about ways of equating grades. Unlike the 20 universities, none of the 5 universities offer information about off campus accommodation, provide real time assistance on their website or in-formation about open days.

4 Discussion

The results of our research revealed that European universities with master programs in Communication have an online integrated communication, and that they offer online multiple types of information. In this regard, the universities analyzed use multiple online platforms to promote themselves, they register a greater promotion activity during the admission period, and they also have a winter session of admission which shows that students from other countries, can register to the programs before taking their Bachelor's degree. Thus, the results confirmed our initial expectations. Next, in the case of real time assistance, the fourth hypothesis was only partially confirmed because only 9 of the 20 universities analyzed offer real time assistance on their website. The fifth hypothesis was also only partially confirmed because not all the 20 universities analyzed offered information about off campus accommodation.

In line with the studies [6, 7] our research also shows that the universities analysed, make reference on their websites to the pages of their social networks such as Facebook or Twitter, and thus, they use an integrated online communication. Even more, similarly to a study [10] whose findings revealed that websites analyzed were well designed but they better complied with the navigation criteria than with the criteria of interaction, our research also shows that the websites of the European universities analyzed cover a wide range of information, but often lacked interaction with the user due to the fact that some universities do not offer real time assistance on their websites. Moreover, in light of the previously mentioned aspects, considering the results of our research, and drawing upon the findings of the study [12], regarding the major role of websites in developing an efficient online promotion and an efficient online communication with the public, we argue that for a university, effective online communication on its website is essential and necessary in order to maintain a favorable relationship with students and prospective students.

Following the research conducted on 25 of the best European universities offering master programs in communication in 2019, we identified different online promotion strategies and tools used by them to ensure their success in the online environment. Transilvania University of Brasov was also analyzed, and the research showed that there are some aspects that can be improved in its online promotion. Thus, the university does not offer information about open days, off campus accommodation, real time assistance, video testimonials, ways of equating grades, lifestyle in Brasov, and it does not have a Twitter page. Using as frame of reference the relevant elements that the universities analyzed have chosen to promote, we propose, with the aim of improving its online promotion, an online procedure for Transilvania University of Brasov, in the shape of recommendations and practical suggestions. In this regard, it is recommended for Transilvania University of Brasov to:

- Offer real time assistance on its website, in order to facilitate the collaboration with students and prospective students
- Offer information about open days or a virtual tour of the university
- Offer information about accommodation alternatives, in order to support students that did not receive accommodation on campus
- Integrate video testimonials from students and former students on their website. The role of testimonials is to increase the trust people have in the activity and specificity of the university
- Create a Twitter page in order to increase its visibility among international students
- Present information about lifestyle in Brasov: costs, entertainment, in order to familiarize the students with the environment they will live in.

5 Conclusion

The paper aimed at identifying the online promotion strategies used by the best European universities that provide master programs in communication, in order to create an online promotion and communication procedure for Transilvania University of Brasov. The research revealed that universities which occupy higher positions in the top use integrated online promotion strategies, that they have a more consolidated promotion and communication strategy than universities with lower positions in the top. In other words, while there were similarities between the two groups analyzed, the universities with lower positions do not offer on their websites as much information and support as the best ranked universities. In this context, it can be inferred that higher positions in the ranking can also be related to effective communication and promotion. According to the research it can be affirmed that prestigious universities understand the necessity of online promotion and communication nowadays, and through the information they provide, through the way they send messages, they increase student's interest, they provide answers to their questions and try to create a connection with them by ensuring them that the decision they are about to make is the right one. Even more, the universities analyzed understand the essential role of websites in maintaining favorable relationships with students and in improving the quality of the learning process, for they use their official websites not only for informing students, but also for providing knowledge, by sharing news, information about events organized, about certain research projects conducted and their results.

Furthermore, although the ranking from which the universities were chosen does not measure directly dimensions and indicators related to communication, we argue that there is a connection between the rank of a university and its communication strategies. Hence, effective communication can help universities acquire students, maintain favorable relationships with them, promote the research projects developed, and can indirectly help them become better in terms of numbers of students, research, international outlook and implicitly can help them gain higher positions in the top.

Therefore, the analysis conducted allowed us to extract some guidelines regarding how Transilvania University of Brasov should promote itself online in order to maintain a favorable relationship with students and prospective students. Thus, considering the fact that the strategies used by the best ranked universities have brought them, so far, success among students, the guidelines we extracted from them could be further used for improving the online promotion and communication of other universities. Hence, based on the promotion and communication strategies used by other universities, Transilvania University of Brasov could even update its policies regarding the online promotion of the institution and of the educational offer. Furthermore, considering the promotion strategies of Transilvania University of Brasov, the university could also adopt strategies through which it could promote the university brand.

Considering the limitations of our research, they refer to the number of universities analyzed, to the fact that we included in the research only universities with master programs in communication and we focused only on websites, and to the fact that we did not gather information from students or prospective students. In this regard, a future research could be extended to other issues and aspects such as the way universities communicate on social networks, it could analyze a larger number of universities without focusing specifically on the domain of communication, and it could also focus on gathering information from students, regarding the way they interact with the university through such platforms. Covid-19 also may have influenced their promotion. Therefore, further research could focus on the comparison with this study. Furthermore, when analyzing the online communication of universities, other factors such as internal control or transparency are also important, and thus, a future research could also take into account this factors when analyzing the communication process universities.

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Students' Perception About the Role of Universities' Online Informal Communication Platforms in Improving the Connections Between Students and Institutions

Claudiu Coman, Andreea Guta, and Maria-Cristina Bularca

Abstract From a simple channel through which people can communicate at a distance, the Internet has been transformed, evolved and slowly started to dominate different aspects of their lives. In this regard, people in general, and students and universities in particular, began using online platforms for different purposes. The aim of our paper is to examine students' perception regarding the informal online platforms used in the name of Transilvania University of Brasov, in order to identify the way in which such platforms can influence the collaboration between students and the university. Students' perception about the Facebook page entitled "Unitbv Crush" -a page created with the purpose of helping students interact and date with each other- were analyzed. A mixed method approach included interviews with 15 top fan students based on the Facebook algorithm of the same university as part of a pilot study and a questionnaire that was applied to 848 students. Results of the research showed that most students thought that the page was created with the purpose of posting fun content and of dating, and that they did not agree with the idea that the page should be administrated by the university. Therefore, the page managed to improve the collaboration between students, but by showing that students did not want for the page to be administrated by the university, the page has little to no influence on improving collaboration between the institution and its students. Universities could benefit from the results of this research, in the case in which they would like to take control over the Crush pages created by students.

Keywords Facebook crush · Online dating · Romanian university students

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1 Introduction

The rapid development of the Internet managed to impact almost every sector of people's lives. The online environment, and the varied online platforms can help people carry out their personal and professional tasks, and can facilitate collaboration and communication between them. In other words, convenience and extended access to information through the Internet has led to the penetration of technology into the private spheres of people's lives. Users have a "technological privacy" with many devices, transporting and using them wherever they go. Traditional hierarchical structures have flattened, accessibility to public institutions has been improved and the ability to build personal and professional connections has increased [1]. In the context of the use of websites, forums, reviews, social networks, information no longer respects the traditional (top-down) one-sided communication style, but migrates towards an equal and bilateral communication [2]. Considering the many types of platforms that people have access to, one of the most used type of online platforms is represented by social networks. Thus, the online environment and social networks have removed certain communication barriers, such as those of a geographical nature, and thanks to them, individuals have the possibility to communicate at any time in real time, both with a lot of other people they have not met face to face, as well as only with close friends and acquaintances [3]. In this regard, social networks can be considered node structures that are represented by people or organizations and structures that are based on the trust between members and how strong the relationships between them are [4]. Being known as the most popular social network, from the moment it was launched Facebook registered a significant number of users, an according to the Digital 2023 report, Facebook remains the most used social network in the world, with over 2.9 billion of active users per month [5].

Internet has also given users the opportunity to make friends or even have romantic relations. An increasing number of people have the opportunity to seek their love in the online environment, although this is limited by the digital divide of inequality between those who have or do not have access to technology [6]. Online dating is a unique way of interacting with a person in order to form an interpersonal relationship. The connection between those people develops differently from that of traditional dating, because each online message starts becoming more and more intimate than the previous one. As a result of online dating, it has been noticed that some people might go through an emotional upset if they face rejection or they are found to use such platforms [7]. Given the use of social networks with the purpose of dating, one social network that offers people the opportunity to find potential life partners is Facebook. A large part of Facebook users prefer to spend time on this social network because they find in it comfort and ease [8], and because it is not necessary for them to leave their comfort zone [9]. At the same time, on platforms like Facebook, one can observe the phenomenon of need for approval, which is reflected in the frequency of posts, in posting comments to the posts of other virtual friends [10]. However, while being initially created in order to help people connect with their friends, Facebook has become a platform used by people in order to establish romantic relationships [11].

In the academic context, over time, students created Facebook confessions pages, or Facebook Crush pages, which are associated with the name of the university in which they study. Hence, according to Birnholtz et al. [12], confession pages are Facebook pages in which students can send messages to the administrator, who will then post them in an anonymous way on the page. The users who follow the page will then be able to see the message and interact with the post. In this regard, such pages offer students of the same university, the chance to interact in an informal way, in an environment in which they feel comfortable. Furthermore, the results of the study [12] also highlighted that on such pages, students can have constructive conversations, and suggested that designers and researcher should further examine the constructive role of such pages. Considering this aspect, universities could pay more attention to the way students communicate on their Facebook Crush pages, and could try to use such type of collaboration with their students. In light of this matter, a previous study [13], also emphasized that universities could use the Facebook Crush pages in order to be aware of the needs and interests of students. For example, by observing the content and the type of interaction that students have on these pages, a university could tailor its communication or promotion strategy in order to meet the needs of the students. However, the same study [13] also pointed out that, universities should have a cautious approach if they want to be officially involved in the Facebook Crush pages, or become administrators, because the students might react in a negative manner, and they might feel that the universities are invading the safe space they have created for themselves. Taking into account the ways in which students use Facebook Crush pages, a study conducted on the pages of Egyptian universities revealed that students mostly used the page in order to have fun, to express their feeling anonymously, or because they felt the need to talk to someone about different subject without the risk of being embarrassed [14]. Given the aspects mentioned above, the purpose of our paper was to examine students' perception regarding the informal online platforms used in the name of Transilvania University of Brasov, in order to identify the way in which such platforms can influence the collaboration between students and the university. Specifically, we questioned students on their opinion about the Facebook Crush page of Transilvania University of Brasov, which is entitled: Unitbv Crush. The page was created in 2019 by students, it is administrated by students, and its aim is to help students connect with each other. Currently, the page has 2.2 thousands followers. Thus, with our study we could highlight the gap that exists when it comes to analyzing social media pages created by students in the name of the universities, without the universities having control over those pages.

2 Materials and Methods

2.1 Purpose and Objectives of the Research

The purpose of our paper was to examine students' perception regarding the informal online platforms used in the name of Transilvania University of Brasov, in order to identify the way in which such platforms can influence the collaboration between students and the university. In order to fulfil the aim of the paper, we also established a series of objectives which referred to: analyzing students' knowledge of the Unintbv Crush page, identifying students' opinion about the purpose of the Unitbv Crush page, analyzing the students' opinion about the possibility for the page to be administrated by Transilvania University of Brasov.

2.2 Methods and Instruments

In order to conduct the research we used a mixed method approach. A questionnaire was applied to 848 students of Transilvania University of Brasov. Considering the qualitative research, 15 interviews with students of Transilvania University of Brasov were conducted. To take part in the interviews, only people who have the status of "top fan" were selected, a status granted by the Facebook algorithm, which certifies that that member of the community is very active by posting comments, appreciating the content; consequently, only these type of users were selected because the opinion of those who spend the most time on the page were considered the ones who can provide the research with a broader perspective regarding the Unitbv Crush page. Given the sampling procedure, we opted for a convenient sample, meaning that those students who had the desire to answer were included in the study.

3 Results

The results of the quantitative research are further presented according to the objectives of our research. O1. Analyzing students' knowledge of the Unintbv Crush page In order to find out if students from Transilvania University of Brasov had knowledge about the Unitbv Crush page, they were asked if they have heard of the page and also from where or from whom they have heard about the page. The results of the research showed that almost all students questioned (91.3%) were aware of the existence of the page, and only 8.7% of them did not have knowledge about the page (Table 1).

Furthermore, most of the respondents (48.9%) learned about the existence of the UniBv Crush page through the Facebook algorithm that allows the user to observe in the "Feed" section, what activities his friends are undertaking. For example, if a person on the user's friend list has been tagged in a UniBv Crush page post, liked

Table 1 Students' knowledge about the Unitbv crush page

Valid	Frequency	Percent	Valid percent	Cumulative percent
Yes	773	91.2	91.3	91.3
No	74	8.7	8.7	100.0
Total	847	99.9	100.0	
Missing system	1	0.1		
Total	848	100.0		

a page post, or interacted in any way with a post, the Facebook user will be able to see this. Next, 23.16% of the students found about the page from their faculty colleagues and 19.4% found about the page from their friends. Table 2 presents the means through which the students found about the page.

O2. Identifying students' opinion about the purpose of the Unitbv Crush page. Results showed that the purpose of the page, from the perspective of the students, is more of an entertainment one than one dedicated to dating, as the name suggests. Out of the total number of respondents, 335 (43.3%) associate the UniBv Crush page with the idea of creating funny content, in second place in terms of volume of answers is the idea of dating (219–28.33%), 108 (13.97%) of respondents associate the page with the idea of an informal communication channel and only 92 (11.90%) respondents associate the page with the idea of creating new friendships and connections with other students. Table 3 presents students' opinion about the purpose of the page.

O3. Analyzing the students' opinion about the possibility for the page to be administrated by Transilvania University of Brasov. When it comes to matter of who should administrate the Unitbv Crush page, most respndents declared that they do not agree with the idea of the page being managed by the university 78.01% (603 students claimed that they do not want the page to be managed by the university), and if this were to happen, the image of the university will not be affected or could be affected in a negative manner. Thus, only 22% (170 students) considered that the page should be administrated or managed by the university. Table 4 presents students' opinion

Table 2 The means through which the students found about the Unitbv crush page

Valid	Frequency	Percent	Valid percent	Cumulative percent
Friends	150	17.7	19.4	19.4
Faculty colleagues	179	21.1	23.2	42.6
Teachers	2	0.2	0.3	42.8
Facebook feed	378	44.6	38.9	91.7
I was mentioned in a post	60	7.1	7.8	99.5
Work colleagues	4	0.5	0.5	100.0
Total	773	91.2	100.0	
Missing system	75	8.8		
Total	848	100.0		

Table 3 Students' opinion about the purpose of the Unitbv crush page

Valid	Frequency	Percent	Valid percent	Cumulative percent
Creating funny content	335	39.5	43.3	43.3
Dating	219	25.8	28.3	71.7
Making friends	22	10.8	11.9	83.6
An informal communication environment between students	108	12.7	14.0	97.5
Other	19	2.2	2.5	100.0
Total	773	91.2	100.0	
Missing system	75	8.8		
Total	848	100.0		

Table 4 Students' opinion regarding the administration of the Unitbv Crush page by Transilvania University of Brasov

Valid	Frequency	Percent	Valid percent	Cumulative percent
Yes	170	20.0	22.0	22.0
No	603	71.1	78.0	100.0
Total	773	91.2	100.0	
Missing system	75	8.8		
Total	848	100.0		

regarding the administration of the Unitbv Crush page by Transilvania University of Brasov.

Considering the results of the qualitative research, most of the respondents declared that they found out about the page from their friends. Some of them follow the content of the page only to have fun and see how other students try to interact with each other, while some of them used it to find someone they have seen at the university or on campus. Furthermore, most of the students declared that they believe that the purpose of the page was to entertain students but also to help them establish relationships. Even more, most of them were of the opinion that the page should not be administrated by the university because the students could feel that "their anonymity is at risk or that the safe space they have created could be ruined".

4 Discussion

Considering the results of the quantitative and qualitative research, most of the students were aware of the existence of the Unitbv Crush page. Most of them found about the page from their Facebook Feed, while many of them found out about it from their friends. When it comes to the opinion of the students about the purpose of the page, most of them declared that they think the page was created to entertain students and help them have fun, but a large percentage of the respondents believed the page was created for dating purposes. In other words, students believed that the main purpose of the page is to amuse students, while dating or romantic purposes came in second. From this perspective, our paper is in line with a previous research [14], which showed that students used the Facebook crush pages mostly to have fun. Given the matter of the Unitbv Crush page being administrated by the university, both the results of the qualitative and the quantitative research showed that students did not like the idea of the page being managed by Transilvania University of Brasov. In this regard, our paper is in line with a previous study [13], which highlighted the fact that if universities were to decide to manage the Crush pages created by students, they should consider the fact that such action could determine negative reactions from students. However, even though the students did not agree with the idea that the Unitbv Crush page could be managed by Transilvania University of Brasov, we still argue that there could be some advantages for both sides if the University would pay more attention to the content posted on the page. Thus, in the context of managerial implications, the University could try to collaborate with the administrator of the page on the matters or issues that are being discussed by the students, (while still protecting the identity of the students) in order to find out or keep up with the problems that students are facing. By doing this, the University could adapt is communication strategy in order to meet the needs of the students properly. It should be taken into account that information and communication technologies are well adopted in higher education and their further implementation can take place [15].

5 Conclusion

The purpose of the paper was to examine students' perception regarding the informal online platforms used in the name of Transilvania University of Brasov, in order to identify the way in which such platforms can influence the collaboration between students and the university. In this regard, students' opinion about the Unitbv Crush Facebook page was analyzed. The findings of the research showed that the page can help students collaborate, meet new people, and also has entertaining purposes. From this point of view, the page could have a positive influence on the collaboration between students. However, the result of the research revealed that the students were not keen on the idea of the page being administrated by Transilvania University of Brasov, mainly because they would feel that their privacy or anonymity could be at risk. From this point of view, the page might negatively influence the collaboration between students and Transilvania University of Brasov. However, we argue that, if carefully handled, the matter of how the page is managed by the students or by the university could bring benefits for both parties. Considering that the paper draws attention to the perception of students about the Facebook Crush page and their attitude towards the matter of who should administrate the page, universities could benefit from the results of this research, in the case in which they would like to take control over the Crush pages created by students. Considering the limitations of the study, one limitation is represented by the fact that we only analyzed the Unitbv Crush Facebook page, and thus a future research could focus on examining the content of more "Crush" pages. Another limitation is represented by the fact that we only gathered students' opinion by applying questionnaires and conducting interviews, and a future research should focus on using the content analysis too, in order to assess the content of the posts and how the students interact with them.

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Sustainability Through Local Gastronomy: The Case of Wild Rabbit's Consumption in Lemnos Island, Greece

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Abstract For more than two decades in Lemnos island an overpopulation of the European Wild Rabbit (WR) (*Oryctolagus cuniculus*) is recorded despite its sustainable presence from ancient times. This disruption of ecological balance is causing significant economic loss in farmers and social conflicts among local stakeholders. Various actions to reduce WR population failed, resulting a yearly compensation for farmers' production loss, a policy that manages the impact but not the problem itself. This study aims to re-evaluate the WR issue in Lemnos by studying the socio-economic and ecological dynamics of re-introducing WR meat as a commodity of the local gastronomy. Data from agricultural and hunting associations and local restaurants were collected and a purposive sample of thirteen stakeholders was chosen for semi-structured interviews. Results showed (a) increasing numbers of WR in the island, (b) declining interest in hunting them by hunters, (c) institutional restrictions on processing and selling their meat, and (d) reluctance to introduce them to restaurant menus by their owners, with only two restaurants offering traditional recipes of WR. In contrast to negative existing situation, most of the stakeholders could understand the potential of utilizing the WR meat in various modern ways, with and beyond its traditional use as rabbit stew (stifado), even though they were reluctant to take action until now. Implementing sustainability is a complex task demanding participatory processes and holistic understanding of the system involved. The WR problem in Lemnos has all the potential to be solved through local gastronomy, but to implement it will take a little bit longer.

Keywords *Oryctolagus Cuniculus* · Lemnos · Sustainable development · Hunting · Local gastronomy · Gastro-tourism

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1 Introduction

European Wild Rabbit (WR), i.e. the *Oryctolagus cuniculus*, is a species of great importance in the ecosystems of Mediterranean region [1], where it is generally recognized as playing a significant role in biodiversity conservation and ecological stability of ecosystems [2]. WR is a resilient and adaptive species with high birth rate dynamics and vast variety of food choices on plants wild and cultivated, which makes it a significant prey for more than 20 predators [3, 4]. Worldwide, WR is sustainably managed in various diverse ways depending on the size of its population. It is a species under conservation if its population decreases such as in Iberian Peninsula of Spain [5], but when the WR is overpopulated it is treated mainly as a pest such as in Australia where the negative impact of WR to natural and agricultural ecosystems is significant [6, 7]. In some cases, the WR are used as a resource of local gastronomy with such a success story recorded in Ischia island of Italy where the Coniglio all' Ischitana (Rabbit Stew) has become a famous dish due to the WR abundance [8, 9].

For more than two decades, in the island of Lemnos, North Aegean of Greece, a significant overpopulation of the WR is recorded, despite its sustainable presence from ancient times [10, 11]. The reason for this continuing increase in the population of WR is the decline of presence of its main predator, which in the case of Lemnos island is none other than humans [2, 12]. The large migration of the rural population from the island in the past decades resulted the abandonment of agricultural crops and disruption the local agri-food chain. The predator–prey relationship that had been established for centuries between the wild rabbits and humans has been disturbed, causing the former to move from the rocky hills to the fertile plains to feed on the remaining agricultural crops. This disruption of the ecological balance is causing significant economic loss in the agricultural sector of the island and social conflicts among local stakeholders. Various actions from the authorities to reduce the WR population has failed over the years, resulting the implementation of a yearly compensation for the farmers production loss by the WR, a policy that only manages the impact but not the problem itself.

This study aims to re-evaluate the WR issue on Lemnos by studying the social, economic and ecological dynamics of re-introducing the meat of WR as a commodity and especially as part of the local gastronomy of the island. Specifically, the impact of WR population will be assessed by the study of information collected from multiple sources in a mixed-methods approach using both quantitative and qualitative data.

2 Methodology

Our research was organized by (a) collecting multivariable data from agricultural and hunting associations to study the source and evaluate the impact of the WR overpopulation, and (b) conducting interviews with local restaurants owners and key local stakeholders to detect the potential dynamics of local gastronomy as a key-driver for reducing the WR population through the increase of its consumption.

Statistical raw data were acquired from the Hellenic Agricultural Insurance Organization (in Greek called ELGA) database for a period of over 10 years (2011–2021). This analytical information refer to the compensations paid to Lemnos farmers for the loss of their production and the damage caused in their crops by the WR overpopulation. Additionally, data were collected from the Hellenic Hunters Confederation (HHC), acquired from ARTEMIS project database [13] from the hunting period 2010–2022. These data refer to the average annual game hunting opportunity, average annual harvesting of game per hunter and per expedition and demand for game in Lemnos island. All raw data were acquired after personal communication with the organizations, and they were statistically analyzed to interpret the dynamics and the spatial distribution of the phenomenon.

Furthermore, semi-structured interviews were conducted with thirteen stakeholders of the local community, chosen by purposive sampling [14, 15]. The interviewees were local restaurants owners and key local stakeholders. The interviews revealed the main thematic areas about stakeholders' perceptions about WR overpopulation problem providing a mixed methods approach alongside with the statistical analysis.

3 Failed Policies and Distorted Local Perceptions on WR

For the control of the WR overpopulation the local and regional authorities tried to implement various and diverse management practices, such as rabbit-proof fencing, introduced predators, fumigation, and mainly systematic hunting [6, 16]. Concerning the hunting process local forest authorities funded organized hunting groups for killing wild rabbits, additional to usual hunting game by individuals. Unfortunately, the results were only temporary and localized. Furthermore, the unsuccessful control of WR population by the authorities led to illegal practices by individuals, such as poisoning, despite that most of the island is under the protection of Natura 2000 network [17]. Such illegal solutions created more problems, because they had a deadly impact to various wildlife and domestic animals of the island, developing controversies among local stakeholders and authorities. While the problem remained it continued to create significant economic impact to farmers from the damaged agricultural production by the wild rabbits combined with ecosystem and land degradation to natural and agricultural areas of the island, leading to local protests and demanding compensations for their losses [18].

In 2011, the Hellenic Agricultural Insurance Organization (ELGA) decided to start compensating the farmers for the loss of their production due to WR overpopulation. This policy until nowadays became the main and for most of the following years the only measure against the population of the WR and its impact. Over the last decade the overall agricultural area affected by the WR is approximately 50,000 acres and the amount of compensations given to local farmers is over 5.4 million

Table 1 Compensations for the agricultural production loss (damage) from WR overpopulation for the period 2011–2021, in Lemnos island (analyzed data from ELGA database)

Year of damage	Compensation payment (€)
2011	343,541.20 €
2012	343,188.10 €
2013	431,099.02 €
2014	640,042.81 €
2015	580,280.11 €
2016	514,539.65 €
2017	474,330.27 €
2018	275,412.09 €
2019	502,205.83 €
2020	644,447.62 €
2021	682,688.41 €
Total	5,431,775.11 €

euros (Table 1). The agricultural loss is significant for the local economy with a yearly mean value of 493.8 thousand euros in an area of 4,451.6 acres (mean value). The ELGA compensation even though manages to cover most of the production decline, most significantly this damage discourages the farmers to be productive and to invest in the development of their agricultural production. This continuing impact is the result of a consistent overpopulation of WR, with only a small reduction of its impact in 2018.

The only existing process to reduce the WR population was and still is hunting game with its yearly seasons. Data collected from the Hellenic Hunters Confederation (HHC), according to ARTEMIS project data [13], showed decline of interest especially from local hunters (Fig. 1). From 2010 to 2022 most of the hunters came from the Region of Voreio Aigaio itself (6699 hunting expeditions in total). However, there where hunters from other regions such as Anatoliki Makedonia, Thraki, Attiki Dytiki Makedonia, Ionia Nissia, Ipeiros, Kentriki Makedonia, Peloponnisos, and Sterea Ellada. The largest number of expeditions occurred in 2011–2012 and 2012–2013 (828 expeditions), while in the period 2020–2021 only 278 expeditions took place.

The high cost of hunting regarding the expenses needed (licenses, leases, weapons and ammunition, equipment and trips) [19], discouraged the Greek hunters to move further than their region the years of economic crisis [19, 20]. Moreover, COVID-19 lockdown limited hunting activity even more due to the restrictions that were imposed. Additionally, even though Section IV of Annex III to Regulation (EC) 853/2004 [21] could be applied for the meat of wild game to the countries of European Union, there is a lack of game-handling establishments and officially trained persons in Greece. For the sale of small quantities of small wild game, such as lagomorphs, national legislative measures should be adopted.

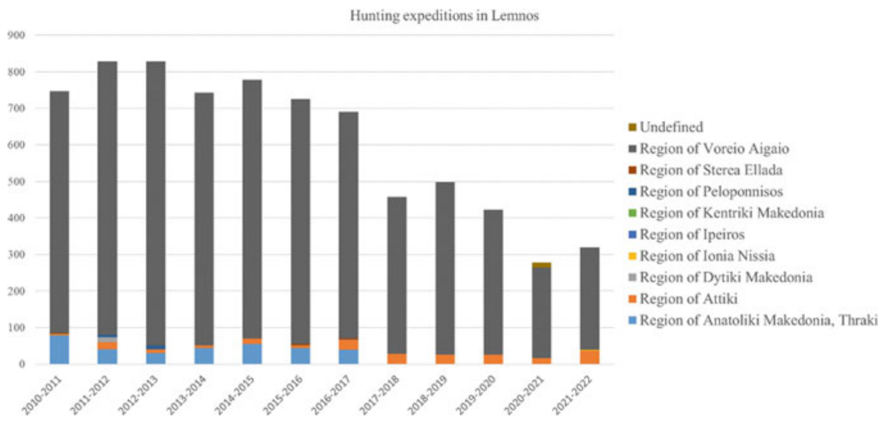

Fig. 1 Distribution of recorded hunting expeditions in the Lemnos island with the origin of the hunters by region and hunting season (analyzed data from HHC database)

4 Local Gastronomy Dynamics and Potentials

From ancient times, Lemnos was a destination for travelers where they could find shelter and food when they traveled at the North Aegean Sea. Due to the geostrategic position of the island in the region, agricultural sector and its trade was one of the main professional occupations of the local population. During these centuries, the fertile agricultural land of the island continues to provide a variety of Mediterranean products (cereals, legumes, fruits, dairy products and livestock) a tradition that still exists in nowadays.

The WR became part of the local dishes where it was used as the main ingredient for the common Greek traditional recipe of 'Wild Rabbit with Onions', called 'Stifado' in Greek (Fig. 2). In this recipe, the wild rabbit meat after carefully cleaned of hunting debris, it is cooked with onions, tomato sauce and variety of herbs and spices. It is considered a fine delicacy for many, but not attractive to younger generations because either it includes lots of onions or it contrasts with a general sympathy towards rabbits.

In recent years, the local economy of Lemnos is investing on the touristic development of the island, setting the local gastronomy as one of its priorities. Local products of high nutritional value are the key ingredients of local restaurants, used in traditional and modern recipes, combined with high quality services.

Despite the significant culinary development in the island following and influencing positively its touristic development, the wild rabbit with its highly nutritional meat hasn't yet found its place in the 20–40 restaurants of the island. Our research showed that only two restaurants have included traditional recipes of WR in their menu, combined with other traditional dishes, and five of them offer WR after special order. The significant variation of the number of restaurants is because most of them open only during the summer season from mid-June to late August. The owners

Fig. 2 Wild rabbit with onions, traditionally cooked with tomato sauce and onions on the side, called 'Stifado' (*Source*: Traditional 'Taverna Mantella' in Sardes, Lemnos)

of the restaurants explained the reason for their reluctance to include the WR meat and recipes to their menu is due to: (a) the extra effort that WR meat requires to be prepared for cooking including various food safety is-sues with unclear legislative framework, (b) the diverse profile of their restaurants which many of them focus on seafood and offer more modern dishes, and (c) their belief of the low interest from the consumers for ordering a recipe with WR. Interesting finding was the opinion from most of the chefs that WR meat could be re-introduced with more modern ways and recipes, but they were reluctant to invest effort and time to implement these potential gourmet ideas to their menus. Concerning the local population, our findings had showed a small consumption of WR meat because of the decline of interest from local consumers following the over-availability of the product.

5 Discussion and Conclusions

Our research revealed hidden aspects of the WR overpopulation problem which includes (a) significant increasing numbers of WR in most areas of the island, (b) declining interest in hunting them by hunters local and visitors, (c) critical institutional restrictions on processing and selling their meat to local market and restaurants, and (d) reluctance to introduce the WR meat to restaurant menus by their owners. These findings describe the diverse components of the Lemnos WR systemic problem between a long-term disruption of the island's food chain and today's inability of the local market to overcome constraints and innovate in capitalizing new opportunities.

At the same time, we recorded a significant increase in the tourist product on Lemnos, which mainly includes relaxing holidays enjoying the natural landscapes and its high quality local gastronomy. Concerning the use of WR meat, only two restaurants offer traditional recipes of WR, combined with other traditional dishes. Further analysis of the interviews with the restaurant owners and the local hunters showed that the former wouldn't invest effort and money to include the wild rabbit meat to their kitchen and disrupt the demanding schedule of their chef, while the latter lost their interest on hunting the WR because they find it easy and even boring. Even the hunting tourism of the island had a continuing decline due to long-term economic crises and health restrictions such as COVID-19.

In contrast to negative existing situation, future positive dynamics were detected through our interviews. Most of the stakeholders could understand the potential of utilizing the WR meat in various modern ways, with and beyond its traditional use as rabbit stew (stifado), even though they were reluctant to act until now. Implementing sustainability is a complex task demanding participatory processes and integrated understanding of the system involved. The WR issue in Lemnos has all the potential to be solved through local gastronomy, but implementation will take a little bit longer.

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Automatic Generation of Restaurant Reviews Using Natural Language Processing

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Abstract Currently, there is plenty of information available on restaurant rating platforms, but sometimes it can be contradictory or difficult to analyze in depth. An important challenge for consumers is searching for useful opinions and making decisions based on reviews usually obtained from different social networks or rating platforms. This project addresses this issue through the design, development, and implementation of a system that generates global recommendations for a set of restaurants based on the analysis of reviews using Natural Language Processing (NLP) techniques. The system is based on a corpus of restaurant reviews in Mexico City, from which relevant aspects are extracted and synthesized to generate comprehensive reviews from various sources. The system can also evaluate customer satisfaction by identifying the positive and negative aspects mentioned in their reviews. In this way, it provides comprehensive information that helps diners make informed decisions. By gathering data from various sources, the system classifies and analyzes the information, providing an analysis rather than just displaying data. Another important aspect is that the project contributes to the promotion of the gastronomic offer in Mexico City, supporting tourism in a more informed way. By integrating customer perspectives, a more complete and realistic view of the restaurant experience is obtained. The importance of this project lies in the empirical evidence showing that consumer reviews are influenced by the average rating and the number of reviews. Given the overwhelming number of options and the need to provide relevant information efficiently, this project offers a solution by generating detailed reviews based on aggregated information from multiple sources, including consumer reviews and influencer critiques.

Keywords NLP · AI · Reviews · Restaurants · Aspect · Opinion · Generation

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1 Introduction

On the web, there is an overwhelming number of options when searching for restaurant´s reviews, leading to the need to filter, prioritize, and deliver relevant information efficiently to alleviate the problem of information overload [1]. To address this situation, the present work proposes the generation of a comprehensive review from a collection of reviews gathered from restaurant evaluation platforms like Yelp, Google Reviews, and TripAdvisor.

2 Theoretical Framework

2.1 Artificial Intelligence in Consumer Decision Journey

Artificial Intelligence (AI) has transformed the marketing landscape by enabling companies to deliver personalized experiences, make data-driven decisions, and improve customer engagement. The role of AI technology in marketing and customer decision-making is expected to shape the future of customer interactions and business strategies. AI can analyze customer feedback and social media interactions to identify sentiment and customer satisfaction levels.

Companies that use advanced technology can also collect information about consumer preferences through digital data analysis and consumption patterns promoted by social media. Big data and experiments with machine learning are bringing together consumers' personal values to determine their behavior and preferences in the markets [2].

In the modern consumer decision journey, consumer outreach has become more crucial than traditional push-style marketing. Word-of-mouth, internet reviews, and consumer interactions are significant touchpoints during the active-evaluation phase.

With the rise in popularity of digital platforms and social media, consumers are relying more on online reviews and recommendations from other consumers to shape their perceptions and to make purchasing decisions. Marketers must engage actively with consumers, manage brand reputation, and leverage user-generated content to build trust, credibility, and loyalty in this new consumer-centric landscape [3].

2.2 Aspect Extraction Module

Natural Language Processing (NLP) refers to the branch of computer science, and more specifically to the branch of AI, which deals with giving computers the ability to understand text and speech in the same way that humans do [4].

We make use of NLP by training a machine learning model for the extraction of aspect-opinion-sentiment triplets from a restaurant review. This model is trained

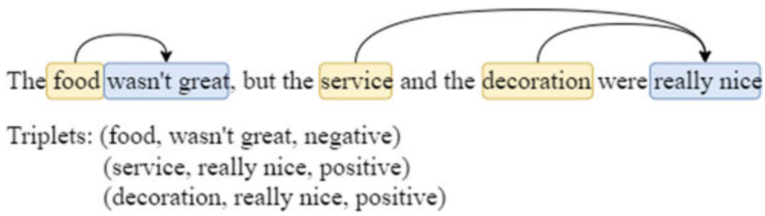

Fig. 1 Aspect-Opinion-Sentiment Triplet Extraction example

with a corpus of labelled reviews obtained by processing data from restaurant review sites and social media.

For aspect extraction, an Aspect-Opinion-Sentiment Triplet Extraction (ASTE) model was used, focusing on the span-level approach. ASTE generates triplets consisting of an aspect target, the corresponding opinion term, and its associated polarity sentiment. The span-level approach explicitly considers the interaction between complete spans of aspects and opinions when predicting their sentiment relationship. As a result, it can make predictions with the semantics of complete spans, ensuring better sentiment consistency [5].

For example, in Fig. 1, the spans highlighted in orange are aspect target terms, and the interval in blue is the opinion term. From the same figure, the aspects are “food,” “service,” and “decoration”; there are three triplets: (food, wasn’t great, negative), (service, really nice, positive), and (decoration, really nice, positive).

When considering only word-by-word interactions, it is easy to mistakenly predict that “great” expresses a positive sentiment about “food.” For this reason, a segment-based model for ASTE (Span-ASTE) is implemented, which directly captures span-to-span interactions when predicting the sentiment relationship between an aspect and a pair of opinions.

Span-ASTE consists of three modules: sentence encoding, mention module, and triplet module. For the given example, the sentence is first introduced into the sentence encoding module to obtain token-level representations, from which interval-level representations are derived for each enumerated interval, such as “wasn’t great” “food”. Then, aspect category detection, Aspect Term Extraction (ATE), and Opinion Term Extraction (OTE) tasks are adopted to supervise the proposed dual-channel span reduction strategy, which obtains reduced aspect and opinion candidates, such as “food” and “not delicious,” respectively. Finally, each aspect candidate and opinion candidate are paired to determine the sentiment relationship between them [6].

For word embeddings, BETO was used, a language model based on the Transformer architecture specifically designed for natural language processing in Spanish [7]. BETO is an initiative to enable the use of pre-trained BERT models for natural language processing tasks in Spanish.

2.3 Review Generation

Using multiple reviews from different rating sites, the goal is to generate a single general review that integrates the positive and negative aspects of the products and services for each restaurant. To achieve this, it is necessary to group the significant criteria and from these groups identify the most relevant aspects.

The review generation module consists of two relevant implementations, the classification of the extracted triplets. For the first approach, the use of the unsupervised machine learning algorithm k-means was proposed to achieve a better organization of the extracted triplets. A $\mathbf{k} = 3$ was chosen, where $\mathbf{k}$ represents the number of clusters the algorithm creates.

The algorithm identifies similar patterns or features among a set of elements and works by calculating the minimization of the sum of distances between each element and the proposed centroids. This process is done iteratively, updating the centroids by taking the position of the average of the objects belonging to that group as the new centroid [8].

We notice that, for all the triplets, usually one cluster corresponds to general aspects and opinions of the restaurant, for example, [restaurant, good], [place, clean], [restaurant, would return]. Another cluster corresponds to semi-general aspects related to the restaurant, such as [taste, spectacular], [quality, excellent], [service, impeccable]. Finally, the last cluster corresponds to specific dishes of the restaurant, for example, [scrambled eggs, delicious], [lemonade, tasty], [chicken, juicy].

Once having this classification, the probabilistic Latent Dirichlet Allocation (LDA) model was applied to each cluster concerning their aspects to find the three most relevant aspects in each group [9, 10]. Subsequently, the same method is applied again, this time to all the opinions for each found aspect to obtain the most relevant opinion for that aspect.

Once the most relevant aspect-opinion pairs have been obtained, they are sent to the GPT-4 language model through the API provided by OpenAI.

In this way, a review-formatted text is obtained from the $\mathbf{n}$ most relevant aspect-opinion pairs from the set of reviews and stored in a database. The process is automated, extracting reviews from established restaurant review sites (Yelp, Google Reviews, and TripAdvisor), and the generated reviews can be accessed through a web tool.

3 Methodological Considerations

This project was based on an exploratory methodology that focused on analyzing similar products and expanding on traditional restaurant evaluation sites. Machine learning, generative AI models, and NLP techniques were used to develop an innovative solution in restaurant review generation [6, 11].

Projects with a similar focus usually only filter or categorize reviews, but this project, on the other hand, is capable of synthesizing information from multiple reviews into a single, more detailed review that compiles the most important aspects. This is done by obtaining information from different restaurant evaluation sites such as Yelp, TripAdvisor, and Google Reviews. Reviews of these sites are attained to be later analysed automatically, and finally the aspects obtained are extracted and their sentiments are classified as positive or negative, constructing an aspect-opinion-sentiment triplet (e.g. [chicken, tasty, positive], [drinks, bad smell, negative]). In doing so, it facilitates the decision-making process for those consulting it, allowing them to obtain a result based on their own criteria. The complexity of the project lies in building the labelled training corpus of reviews, extracting restaurant aspects, assigning specific relevance to those aspects, and generating the review itself.

Research took place in January 2022, the review collection began in August 2022 and ended in June 2023, using data extracted from APIs provided by the rating platforms themselves.

Reviews in Spanish of restaurants in Mexico City were collected on the following rating sites: TripAdvisor 425 reviews, Google Reviews 1415 reviews, Yelp 7160 reviews; as well as 1000 reviews of various posts on Instagram.

For the elaboration of this model, the analysis of information from the paper.

"Centralization of Information to Understand the Consumer Within the Restaurant Sector" was used, as well as the use of a tool to label the information, since the system requires to be trained with data in a specific format.

4 Results and Discussion

A corpus with 10,000 manually labelled reviews was obtained to train the Span-ASTE triplet extraction model through the developed labelling tool. The performance achieved through training with this corpus and k-fold cross-validation is reflected in the metric values: precision of 0.7, recall of 0.63, and F1 score of 0.66.

The model extracts and leverages existing resources, allowing users to make purchasing decisions based on the experiences of other customers. The information is dynamic and constantly updated based on the opinions of all diners, unlike other tools like Google Maps or Yelp, which offer a general view of services without direct customer feedback. With the model, users save research time, as relevant aspects of the place are provided.

In terms of managerial implications, this solution can be beneficial for both companies and customers. For companies, analysing and generating global reviews enables them to better understand customer opinions and preferences, helping them improve their services and make more informed strategic decisions. Additionally, by providing more detailed and relevant reviews, companies can positively influence customer perception and increase satisfaction.

For customers, this solution saves them time and effort by providing a comprehensive review that succinctly summarizes the most important aspects of the restaurant.

This helps them make informed and reliable decisions when choosing a restaurant or service, thus enhancing their overall experience.

A similar algorithm can be applied to any other tourist attraction or sector, such as accommodation. This allows the evaluation and perception of services based on customer experiences.

Below are screenshots of the developed system, Fig. 2 shows the selected Restaurant and the reference from the review sites where the reviews were obtained. The following figures (Figs. 3, 4, 5, 6 and 7) show relevant information about the restaurant such as the generated review, a graph with a summary of positive and negative reviews, relevant aspects found in the total reviews, etc.:

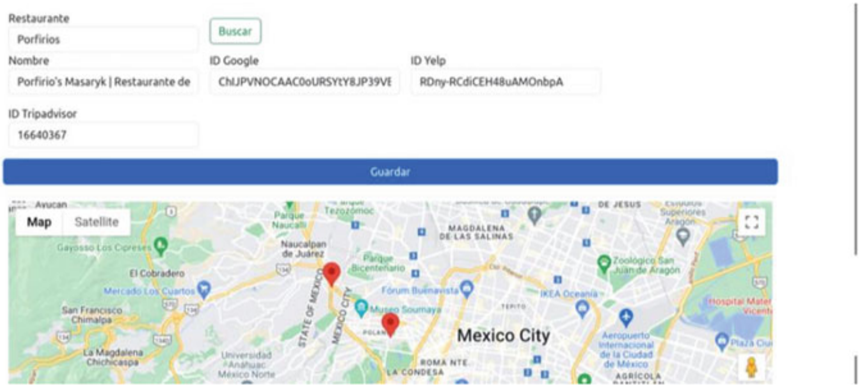

Fig. 2 Restaurant search screen, where the user can select the restaurant for which he wants to generate a general review

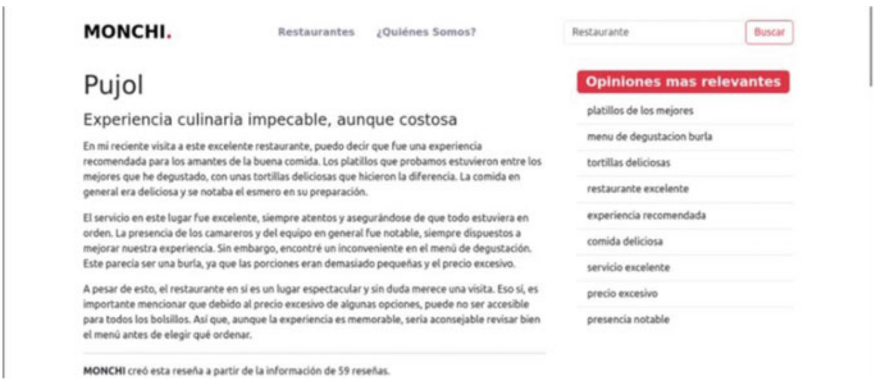

Fig. 3 Restaurant screen, where the generated review is shown (in Spanish). On the right side are the relevant opinions extracted from the reviews of rating sites that were used to generate the general review. As well as the number of reviews that were used for the generation, in this case 59

Fig. 4 Restaurant screen, graph showing the total number of positives (green bar) versus Negative aspects (number in red) that were identified in the reviews

Fig. 5 Restaurant screen, below the generated review, graphics are shown with the aspects extracted from the reviews. The image shows that aspect "Restaurant" was mentioned 36 times

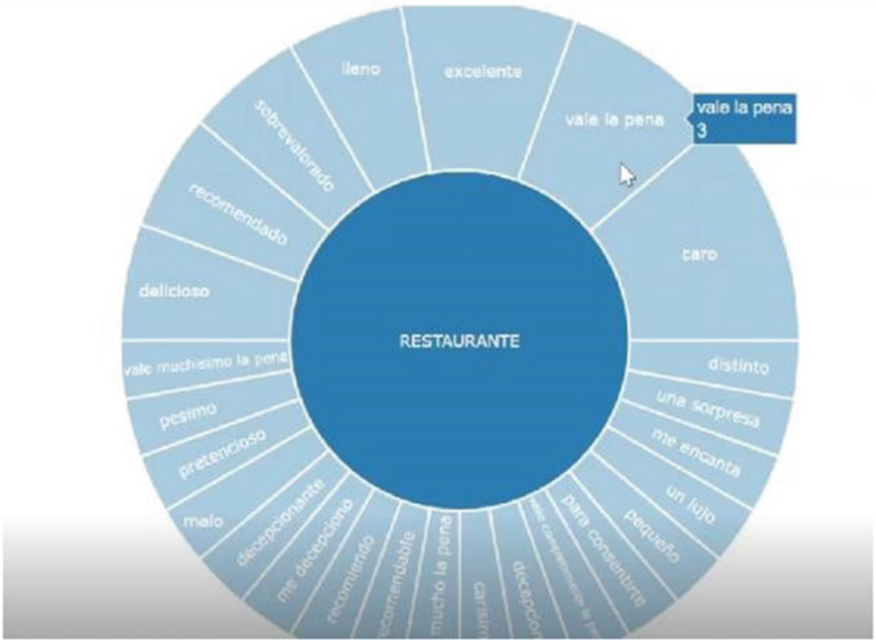

Fig. 6 Restaurant screen, by clicking on any aspect of the graph, it is possible to see all the opinions that were expressed about it. The picture shows that of "Restaurant", 3 people mentioned that "it's worth it" (in Spanish, "vale la pena")

Fig. 7 Restaurant screen, menu showing all reviews that were analyzed for the generated review. In each review it is possible to see the aspects highlighted in orange and the opinions that were expressed about it in blue. Hovering the pointer over an aspect highlights its corresponding opinion

5 Conclusion

By including longer reviews in the training, there is a greater diversity of data, improving the extraction of aspect-opinion-sentiment triplets for longer reviews. However, it is necessary to increase the number of such reviews to further improve the metrics.

Contrary to our initial hypothesis that a larger corpus would improve the results, the performance decreased in all metrics, and none of the folds surpassed the threshold of 0.70 in the F1 score.

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The Challenges of Sustainability Assessment Tools in (Tourism) Higher Education

Irini Dimou and Maria Xenaki

Abstract Sustainability and higher education are closely linked, with universities playing a crucial role in promoting sustainability. Furthermore, the significance of incorporating sustainability in (tourism) higher education is beyond doubt. However, incorporating sustainability poses challenges such as unclear definitions and resistance to change. To overcome this, proactive measures and attention to governance are necessary. Towards this direction, Higher Education Institutions can create sustainability reports to showcase progress and identify areas for improvement. Despite efforts to develop standards and methods for assessing sustainability practices, there is still a gap in identifying specific criteria for a truly sustainable university. This article discusses the challenges associated with sustainability integration in HEIs and concludes that the wide variety of available Sustainability Assessment Tools (SATs) could potentially complicate rather than foster the process of integration. The challenges emerging are being discussed, in order to advance the applicability and effectiveness of SATs.

Keywords Sustainable university · Sustainability assessment tools (SAT) · Higher education · Change · Tourism

1 Introduction

1.1 *Sustainability via Higher Education*

In recent decades, sustainability and education have merged into a powerful force for positive change. Sustainability seeks to address social, environmental, and economic issues in a holistic way, while education prepares future generations to build a more

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responsible and sustainable world. Pizzulito and Venezia [1] note that young people have a crucial role to play in ensuring the sustainability of the planet and humanity in the coming decades. Sachs [2] similarly emphasizes the importance of a collaborative, problem-solving approach that engages universities, businesses, NGOs, governments, and especially young people, who are ideally positioned to become experts and leaders in this field. Higher education institutions (HEIs) can contribute to this effort by generating and disseminating knowledge that supports the development of a resilient society [3].

With the growing attention to sustainable development, the role of higher education in this process became the focus of debate, referring to the best possible way that it can become a vehicle of change targeting sustainability [4]. In response to the above, many higher educational institutions prioritized sustainability in teaching, research, community life, and campus operations [5] and a new field of research has developed with increasing interest in managing education for a sustainable future [6]. In fact, sustainability via higher education is regarded as the new global development agenda named "Higher Education for Sustainable Development (HEfSD)" and has become one of the core educational initiatives set to address many of the challenges the world is facing [7].

When it comes to Tourism Higher Education in particular, it can be noted that there is increasing concern over the social, cultural, and environmental impacts of tourism [4]. As the tourism sector is required to contribute to the UN's 2030 Sustainable Development Goals (SDGs), tourism educators need to cultivate industry leaders with "strong sustainability" mindsets [8]. However, although there is growing recognition of the need to include Sustainability Education (SE) in the curriculum for business and tourism students, there are very few studies on how "sustainability" is embedded within Tourism Education curricula [9].

2 Literature Review and Methodological Considerations

Recently, sustainability and higher education have been receiving a lot of attention. As a result, academia has produced a lot of literature on the topic, covering various aspects of the relationship between the two. This section will discuss the article's methodology approach, the challenges associated with creating a "sustainable university" as well as the issues associated with sustainability measurement and reporting.

2.1 Method of Literature Review

An electronic search was carried out in Google Scholar and Scopus in June 2023. The keywords used appropriately in each database, using "quotation marks" or the word AND respectively. The selections of keywords to ensure definitional fit for this article were: sustainability, assessment, tools, higher education, peer-reviewed, criteria, indicators and tourism. The ones selected for inclusion at the initial identification stage limited results to peer-reviewed articles, published from 2000 to 2023, in English language only. The initial search revealed 164 papers, of which only 32 met the criteria for review due to duplicates and ineligibility.

2.2 The Sustainable University

Nowadays, universities are complex organizations that contribute to society in various ways. According to the University Leaders for a Sustainable Future [6], a university should be ecologically sound, socially just, and economically viable [10], regardless of the field of science being taught. Achieving sustainability integration is key to transforming a university into a sustainable institution, which is responsible for creating public awareness, producing world leaders, and conducting research activities that enable a sustainable future [11]. According to Valezquez [12], a sustainable university is: "A higher educational institution, as a whole or as a part, that addresses, involves and promotes, on a regional or a global level, the minimization of negative environmental, economic, societal, and health effects generated in the use of their resources in order to fulfill its functions of addressing complex societal challenges via teaching, research, outreach and partnership, and stewardship in ways to help society make the transition to sustainable lifestyles."

However, universities face increasing challenges in integrating sustainability successfully and moving from a business-as-usual university to a sustainable university [13].

2.3 Challenges of Implementing Sustainability in Higher Education

The review established that the notions of sustainability and higher education are nowadays hand in hand and according to academics, universities could play a crucial role in raising awareness, and promoting transformational context in favor of the SDGs, whilst they are called to step forward as sustainability leaders [5, 14]. This evolution of higher educational institutions is a process with opportunities and challenges to be met. The review undertaken in this paper indicated the following main concerns that challenge the effectiveness of the implementation of sustainability in higher education.

Firstly, fundamental issues are to be addressed concerning the very understanding and potential of 'implementation' and 'integration' of sustainability in higher education. Rieg [15] reveal that for many years, higher education institutions have been encouraged to promote sustainable development. However, the actions taken to implement this have been described as slow, overly technical, and lacking in strong leadership. Additionally, since the process of integration of SD principles in higher education does not seem to be terminologically unified in the academic literature, this results in a certain degree of ambiguity as to what is meant by the terms "sustainability integration" or "transformational change", in the context of higher education [16]. Likewise, the implementation of sustainability, is further described as a high-level, complex, and multidimensional concept, and therefore not an easy task to be applied to universities [7]. Moreover, universities have been struggling to implement sustainable development, as they tend to do so in a fragmented way when the indication is that the implementation should be carried out holistically [17].

Secondly, to better comprehend the issue of sustainability integration in higher education, HEIs should be viewed as organizations, rather than merely universities. In a study published in 2015, attention was drawn to the connection between the business world and universities, proposing that the latter can benefit from the sustainable reporting practices of corporations by adopting a tailored and adaptable approach that suits their unique circumstances and requirements [18]. On the other hand, universities are known for being traditional and conservative institutions [19]. This highlights the importance of recognizing the ability to adapt, as a vital organizational skill. The effectiveness of implementing sustainability in higher education is heavily influenced by how responsive a university is in embracing organizational change. This is because the degree and quality of responsiveness will dictate the success of the implementation. Higher education institutions striving for sustainability will inevitably encounter numerous obstacles from both individuals and the surrounding context. Fostering organizational change can be successfully accommodated by recognizing the significant role of the individual. Despite the technological advancements, an increasing number of studies point out the importance of human factors as change agents in pursuing sustainable development in HEIs [13, 16]. To effectively incorporate sustainability into higher education, it is essential to consider the pivotal role played by individuals, which is often undervalued as a key determinant of success. The importance of organizational change, combined with the crucial role of human factors, highlights the significant role that management qualities of HEIs governance play in orchestrating a sustainable university. According to Roos [20], governance plays a crucial role in managing organizational change and integrating sustainability in universities. However, they emphasize that the approach should be tailored to each institution, recognizing their uniqueness.

Furthermore, several various approaches have been undertaken in realizing how to best 'translate HEfSD rhetoric into policy, curriculum, and practice' [7]. In other words, in which operational aspect of an HEI should sustainability be implemented? Traditionally, the main challenge for a university in implementing sustainability is the development of quality curricula [21, 32]. Thus, the emphasis so far has been on the curricula qualities, as they are at the center of academic institutions and make up the core competence, or the heart, of a university. Furthermore, a literature review of sustainability incorporation in tourism-related programs and schools, reveals that most studies so far focus on the importance of developing tourism curricula that educate students and create a sustainability-oriented mindset for tourism graduates [9]. Yet, there is no previous literature on how a more holistic approach to sustainability could be incorporated into tourism-related degrees and tourism schools [22, 23].

Ebby and Rangarajan, agree that most integration plans consider curricular and co-curricular activities as a core function of campus sustainability [10]. However, they share Zen's viewpoint according to which, campus sustainability operations can be organized and experienced as a living laboratory, a concept which might be outside academia, but could prove advantageous so much for the learning process of the students, as for the campus itself [10]. One suggestion that came up in the review for promoting extroversion outside of academia is to involve the community, since building strong relationships between universities and external partners has been proven to be of high importance [1]. This can unlock investment opportunities in education, infrastructure, and research while still prioritizing campus operations, teaching, and research. Ezquerrra-Lazaro, et al. [19], observe that even though sustainability in HEIs has developed in recent years, 'little attention has been paid to structural and cultural change processes especially those involving the faculty and research community'. All in all, the review of this paper reveals a tendency in extra curricula activities with a sense of extroversion.

To summarize, after reviewing the literature on the challenges of incorporating sustainability in higher education, three main findings emerged. The definition of sustainability implementation/integration is often unclear and complex, leading to uncertainty and confusion. Furthermore, universities are essentially organizations that tend to resist change. The adoption of sustainable practices requires a shift in the way these organizations operate and how their stakeholders think and behave. To successfully implement sustainability, proactive measures must be taken to overcome this resistance. The human factor is crucial in achieving success, with particular attention given to the role of governance. Finally, it is important to note that sustainability can be incorporated into extracurricular activities, beyond just those related to academic studies. This approach has the potential to benefit all parties involved and enhance the effectiveness of sustainability initiatives overall.

2.4 Reporting Sustainability in Higher Education

To start, higher education institutions can create a comprehensive report on their sustainability practices across all areas of activity. This report can highlight areas where sustainability has been successfully implemented and areas where improvement is needed [24]. However, sustainability reporting in higher education is still in its early stages and poses a challenge [25]. To address this, fundamental questions about sustainability reporting need to be answered such as what, why, and how to report. To assist with this, sustainability assessment tools (SATs) have been developed to evaluate a university's sustainability achievements in a holistic way [26]. It is important that these tools promote ease of use and assist with implementation rather than encourage ranking or competition. Such tools can be applied to various levels such as education, and campus operations, as well as in engaging internal and external stakeholders. These tools should have certain structural features such as identifying important themes, being measurable and comparable, measuring progress and motivations, and being understandable to a broad set of key actors [25].

Although SATs were created to help implement sustainability in HEIs, their application has faced criticism. According to several authors, the development of SATs is still low [27], and their effectiveness has occasionally been proven to be unhelpful [28]. This might be due to the difficulty of setting appropriate indicators to best facilitate the Agenda 2030 targets [14].

This review has identified several areas of SAT criticism, the first being the lack of in-depth guidance on how to organize the sustainability reporting process in organizations [17, 18]. Additionally, specific types of innovation factors implemented by universities limit SATs' ability to unfold their maximum potential [1]. Omazic and Zunk [29], suggest that design characteristics, other than validity, usability, and intelligibility, should be further analyzed and compared to maximize effectiveness and include the assessment of outside university boundaries. There are concerns about the level of complexity associated with SATs and their organization. While the diversity feature is included in the SAT indicators, this adds to the complexity [27]. As the tools become more complex, filling and accessing the basic data collected can become more puzzling [26]. Leal Filho et al. [30] suggest that a SAT should encompass various elements and fields of academic research, which inevitably contributes to an increase in its complexity. Furthermore, an empirical study, reveals that 95% of stakeholders—including students, staff, and management—desire a unified rating system when evaluating SAT results [28]. Despite the availability of many SATs, measuring progress in sustainability integration is not clearly measurable [29].

Currently, many writers acknowledge the importance of the SAT's role in increasing knowledge about how sustainability is analyzed in higher education institutions. However, there is still room for improvement in its execution [31]. There are numerous approaches to using sustainability indicators in HEIs, such as conceptual frameworks, environmental management systems, reporting guidelines, life cycle assessments, ranking tools, and indexes [13]. There are also various initiatives to develop new or adapt existing instruments, like the SAT, for use in higher education. However, global studies on sustainability reporting in higher education indicate that it is still in its early stages, with limited adoption by HEIs worldwide [4, 17, 18]. The use of information technology can develop an integrative analysis of the sustainability assessment approaches, in order to enhance a more effective reporting.

3 Discussion—Identifying the Gap

Investing in higher education for the next generation is a wise decision that should incorporate sustainability. This is an issue of even higher importance when it comes to tourism educators since they have the responsibility to cultivate leaders with a sustainable mindset to support the UN's SDGs. So far, several authors recommend incorporating sustainability into universities, and a useful initial step is to document the institution's advancements. To facilitate this process, sustainability assessment tools (SATs) have been developed from various sources and with varied content. These tools are adaptable and can be tailored to meet the evolving requirements of universities. Nevertheless, obstacles remain in defining SAT terminology, managing organizational change, and coordinating sustainability integration in extracurricular activities.

The current study highlighted the challenges associated with the process of developing a sustainable university, as well as the need to report their sustainability practices. Lambrechts [13] notes that significant effort has been devoted to developing criteria, indicators, tools, and instruments that could assess sustainability practices at an institutional level. However, Mapar et al. [27] identified a gap in research regarding the associated criteria and indicators, which could provide a more complete understanding of a sustainable university.

The next step will involve a systematic way to overview the literature with reference to SAT's components and more specifically with respect to the indicators, referring to the questions being asked to investigate the nature of sustainability integration, and the criteria, referring to the organizational aspect or level at that the institute integrates sustainability. Through a systematic literature review, the eminent, (by frequency of repetition), indicators and criteria will evolve, in an attempt to simplify a SAT, for its application and effectiveness to be accommodated. This process will result in the development of a custom-made SAT that would respond to the unique features and needs for tourism higher education. Communication and information technology can play a decisive role in fostering SAT's effectiveness.

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Factors Influencing the Acceptance of Blockchain Technology in the Tourism Industry

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Abstract This study investigates the acceptance of blockchain technology in the tourism industry, focusing on the role of intention and trust in influencing its acceptance. Through a literature review and quantitative analysis using regression analysis, key factors catalyzing the acceptance of blockchain technology in tourism were identified. Notably, individuals engaged in travel for entertainment showed lower intention to accept blockchain solutions. Trust in this technology within the tourism industry is observed to stem from individuals with prior experience in its usage. The research offers valuable insights for scholars studying blockchain technology in tourism and for enterprises and organizations seeking to embrace innovative solutions for enhancing operational efficiency. Moreover, nationality emerges as a potentially influential factor, warranting further exploration in future studies. Overall, this study contributes to the understanding of the potential of blockchain technology in tourism and provides insights for enterprises and organizations seeking to adopt innovative solutions.

Keywords Innovation · Entrepreneurship · Tourism · Blockchain

1 Introduction

In today's rapidly evolving digital landscape, the tourism industry is undergoing a paradigm shift, driven by the acceptance of blockchain technology. This transformative technology has the potential to revolutionize the way transactions are conducted, information is shared, and trust is established within the tourism ecosystem.

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Blockchain, which is essentially a decentralized and transparent ledger system, offers immense benefits. This study focuses on the acceptance of blockchain technology in the tourism industry. This highlights the need for enterprises and organizations in tourism to leverage technology to meet consumer expectations and address competitive challenges.

2 Literature Review

Blockchain technology, characterized by its coherence in a distributed system with consensus algorithms and reliance on encryption technology (public and private keys) for transactions [1], offers a combination of complex technologies that establish a shared truth among system members [2]. With its data protection capabilities, blockchain is considered a secure and reliable technology for data storage [3], recording each transaction as a hash code with transparency and imputability [4].

The potential of blockchain to disrupt traditional business models [5] and its relevance in small and medium enterprises (SMEs) for competitive advantage and cost reduction [6] have attracted attention. However, limited adoption rates in the tourism industry are attributed to insufficient understanding of the influencing factors [7].

In tourism, blockchain technology promises a transformative future [5, 8]. The competitive and innovative tourism landscape can benefit from blockchain solutions, including market identification, transparency in transactions, payment facilitation, reviews' reliability, supply chain control, and more [5, 8, 9].

Public acceptance of blockchain in smart tourism has been positive, highlighting the importance of security, trust, and transparency [10]. Factors influencing technology acceptance encompass user education, system characteristics, and implementation process [11]. Studies emphasize utility, ease of use, performance expectancy, and facilitation conditions as significant influencers [12–15].

Intention to use (IN) is pivotal, defined as an individual's plan for future engagement [16]. Blockchain's implementation aligns with trust and security, ensuring secure transactions with user agreement and verification [17].

3 Developing the Research Hypotheses

Researchers predicted that intention to use would catalytically mediate the relationship between trust in technology and acceptance. An important result was also presented: the association between intention and acceptance. The ensuing research discussion describes how various factors, including intention, relate to acceptance [16]. Therefore, it is worthwhile to investigate the rate of intention to use blockchain technology in tourism-related businesses and organizations on its acceptance by users and use. For this purpose, the following hypothesis is proposed:

H1: The intention to use blockchain technology influences its acceptance by users in the tourism industry.

Trust can lead to a change in customer decisions regarding technology or service [18]. Therefore, if trust comes from a blockchain-based consensus protocol, it encourages this "chain" of trust [19]. The findings of these studies highlight that trust is the main factor influencing consumer behavior and decisions, and ultimately, acceptance [18]. Therefore, the following research hypothesis on user trust in blockchain technology can be formulated:

H2: Trust towards blockchain technology influences its acceptance by users in the tourism industry.

4 Methodology and Data

This study aims to highlight the factors that contribute to the acceptance of blockchain technology in tourism. Specifically, the aim is to investigate the intention and trust tourists or travelers feel about blockchain technology by utilizing it in their tourism experiences. This survey was conducted using a combination of census surveys and snowball sampling. Quantitative data analysis was conducted and the questionnaires developed to conduct this research were structured with 26 closed-ended questions. The measurements used in the research are an adaptation of Taylor and Todd [20] for intention and an adaption of Gefen et al. [21] for trust. The collected sample was 160 answered questionnaires. I erased the sentence that it was a good sample please elaborate here.

After the completion of the data collection, the consolidation of the two questionnaires, Greek and English, was followed by the coding of the answered questionnaires, statistical processing, and analysis to highlight the results of the research and link them to the research hypotheses to determine whether they proved to be valid. The IBM SPSS Statistics program was used to perform statistical analysis. Table 1 presents the variables used in the study.

To calculate the effect of the dependent variables on the intent to use blockchain technology in the tourism industry, we used the following OLS regression formulas:

$$\boldsymbol{Intention_i = a + \beta_1 NATIONALITY_i + \beta_2 GENDER}$$

Table 1 Regression Formulas

Heading level	Example	Font size and style
Title (centered)	**Lecture notes**	14 point, bold
1st-level heading	**1 Introduction**	12 point, bold
2nd-level heading	**2.1 Printing area**	10 point, bold
3rd-level heading	**Run-in heading in bold.** Text follows	10 point, bold
4th-level heading	*Lowest Level Heading.* Text follows	10 point, italic

$$
\begin{aligned}
&+ \boldsymbol{\beta}_3 \boldsymbol{AGEGROUP}_i + \boldsymbol{\beta}_4 \boldsymbol{EDUBACK}_i \\
&+ \boldsymbol{\beta}_5 \boldsymbol{YEARSKNOWBC}_i + \boldsymbol{\beta}_6 \boldsymbol{YEARSUSEBC}_i \\
&+ \boldsymbol{\beta}_7 \boldsymbol{YEARSUSECC} + \boldsymbol{\beta}_8 \boldsymbol{BCINTOURISM}_i \\
&+ \boldsymbol{\beta}_9 \boldsymbol{BUSTRAVEL}_i + \boldsymbol{\beta}_{10} \boldsymbol{ENTERTRAVEL}_i \\
&+ \boldsymbol{\beta}_{11} \boldsymbol{TRAVELS} + \boldsymbol{u}_i \qquad (1)
\end{aligned}
$$

$$
\begin{aligned}
\boldsymbol{Trust}_i = \boldsymbol{a} &+ \boldsymbol{\beta}_1 \boldsymbol{NATIONALITY}_i + \boldsymbol{\beta}_2 \boldsymbol{GENDER} \\
&+ \boldsymbol{\beta}_3 \boldsymbol{AGEGROUP}_i + \boldsymbol{\beta}_4 \boldsymbol{EDUBACK}_i \\
&+ \boldsymbol{\beta}_5 \boldsymbol{YEARSKNOWBC}_i + \boldsymbol{\beta}_6 \boldsymbol{YEARSUSEBC}_i \\
&+ \boldsymbol{\beta}_7 \boldsymbol{YEARSUSECC} + \boldsymbol{\beta}_8 \boldsymbol{BCINTOURISM}_i \\
&+ \boldsymbol{\beta}_9 \boldsymbol{BUSTRAVEL}_i + \boldsymbol{\beta}_{10} \boldsymbol{ENTERTRAVEL}_i \\
&+ \boldsymbol{\beta}_{11} \boldsymbol{TRAVELS} + \boldsymbol{u}_i \qquad (2)
\end{aligned}
$$

5 Empirical Results and Discussion

Initially, steps were followed to perform factor analysis of the questions, which examined the survey variables, and then to check their reliability. The reliability of the scales used to assess the internal consistency of the constructs was assessed using Cronbach's alpha, and the value was 0.891 > 0.8 for intention was considered a good and acceptable value, and 0.901 > 0.9 for trust, which was considered an excellent value.

Principal component analysis (PCA) was used, and the data were rotated using the orthogonal method (rotation method: varimax). From the orthogonal rotation (varimax rotation), we observed that the variables recorded a positive load of > 0.5. Therefore, based on the factor analysis results, these measurement scales are valid and can be used to measure these variables. The total number of questions was 26, corresponding to the independent and dependent variables of perceived usefulness, perceived ease of use, intention, and confidence. We identified two dependent variables, intention and trust. Table 2 presents the descriptive statistics.

The results of the empirical analysis aimed to explore the relationships between various independent variables and the dependent variable of intention. Table 3 displays the unstandardized coefficients (B), t-values, and significance levels (Sig.) for each variable. Regression analysis revealed several significant variables that influenced intention. Specifically, at the 1% significance level, the variable "ENTER. TRAVEL", which means travel for entertainment, demonstrates a negative relationship with intention, indicating that individuals engaged in this type of travel are less likely to have the intention to accept blockchain technology in the tourism industry. Furthermore, at the 5% significance level, the variable "NATIONALITY" shows a negative relationship with intention, indicating that different nationalities have

Table 2 Variables definition

Variable	Definition
NATIONALITY	= 1 if the nationality of the participant is Greek, and 2 if it's another one
GENDER	= 1 if the gender is female, and 2 if it's male
AGE GROUP	= 1 if the age group it's 18–30, 2 if its 31–40, 3 if it's 41–50, and 4 if it's 51 and above
EDU BACK	= 1 if the educational background is high school, 2 if it's BA, 3 if it's MSc, 4 if it's a PhD
YEARS KNOW BC	= 1 if they do not know Blockchain technology, 2 if they know it for two or fewer years, 3 if they know it for 3–5 years, 4 if they know it for more than 5 years
YEARS USE BC	= 1 if the years that they do not use Blockchain technology, 2 if they use it for less than two years, 3 if they use it for 3–5 years, 4 if they use it for more than 5 years
YEARS USE CC	= 1 if they do not use cryptocurrency, 2 if they use it for less than two years, 3 if they use it for 3–5 years, 4 if they use it for more than 5 years
BC IN TOURISM	= 1 if they have already met blockchain technology in the tourism industry, and 2 if they have not
BUS. TRAVEL	= 1 if they travel for business, and 2 if they do not
ENTER. TRAVEL	= 1 if they travel for entertainment, and 2 if they do not
TRAVELS	= 1 if they travel 0 > 5 times per year, 2 if they travel 6 > 10 times per year, 3 if they travel 11 > 20 times per year, 4 if they travel 21 and more times per year
IN	Intention to Use Blockchain Technology in the Tourism Industry
TR	Trust in using Blockchain Technology in the tourism industry

varying levels of intention toward blockchain technology [12, 21]. The nationality of the respondents is divided into those who answered the Greek questionnaire (120/160) and those who answered the English (40/160), without specifying the exact nationality of each. Additionally, the variables "YEARS KNOW BC" and "BUS. TRAVEL" shows a negative relationship with intention at the 10% significance level, implying that individuals with more experience in using blockchain technology are more likely to have an intention to accept it in the tourism industry [6]. These findings highlight the importance of understanding individual intentions and the impact of specific factors on the acceptance of blockchain technology.

The analysis also identified significant variables influencing trust in accepting Blockchain Technology as tourists or travelers to relevant enterprises and organizations. Notably, at the 1% significance level, the variable "YEARS USE BC" exhibits a positive relationship with trust, suggesting that individuals with more experience using blockchain technology are more likely to trust it in the context of the tourism industry [15]. These findings emphasize the importance of trust-building efforts and the need to understand how various factors shape individuals' trust in blockchain technology for successful accept in the tourism sector (Table 4).

Table 3 Descriptive statistics

Variable	N	Mean	St. Dev
NATIONALITY	159	1.3	0.4
GENDER	159	1.2	0.4
AGE GROUP	159	2.0	0.9
EDU BACK	159	2.3	0.8
YEARS KNOW BC	159	3.1	0.9
YEARS USE BC	159	2.4	1.0
YEARS USE CC	159	2.6	1.0
BC IN TOURISM	159	1.6	0.5
BUS. TRAVEL	159	1.5	0.5
ENTER. TRAVEL	159	1.1	0.3
TRAVELS	159	1.5	0.9
IN	159	5.6	1.2
TR	159	5.8	1.1

Table 4 OLS estimates for intention and trust

Variable	Intention	Trust
NATIONALITY	−0.312** (−1.879)	−0.71 (−0.448)
GENDER	−0.048 (−0.297)	−0.043 (−0.284)
AGE GROUP	−0.032 (−0.478)	−0.034 (−0.531)
EDU BACK	0.016 (0.206)	−0.043 (−0.559)
YEARS KNOW BC	−0.112* (−1.183)	0.006 (0.069)
YEARS USE BC	−0.038 (−0.365)	0.245*** (2.524)
YEARS USE CC	0.083 (0.815)	0.53 (0.555)
BC IN TOURISM	0.051 (0.379)	−0.107 (−0.844)
BUS. TRAVEL	−0.551* (−1.341)	0.103 (0.768)
ENTER. TRAVEL	−0.190*** (−2.173)	−0.153 (−0.633)
TRAVELS	0.79 (0.919)	−0.028 (−0.349)
N	159	159
R^2	0.292	0.320
F-statistic	4.22	5.01

Values in brackets are t statistics. *, **, *** denotes statistical significance of 10, 5 and 1% respectively

Overall, these findings provide insights into the factors that significantly impact the intention and trust to accept Blockchain Technology in the tourism industry. The variables that showed significant effects can serve as important indicators for understanding individuals' intentions and levels of trust in accepting blockchain technology as tourists or travelers to relevant enterprises and organizations [14].

6 Conclusions

This study was conducted to highlight the factors affecting the acceptance of Blockchain Technology among intention and trust in the tourism industry. In terms of intention, cultural and contextual factors associated with different nationalities significantly influence individuals' willingness to adopt blockchain technology. Initially, people who travel for entertainment are not willing to accept blockchain solutions in this industry, which is a worthy element to be considered by tourism enterprises and organizations.

Surprisingly, individuals with more knowledge of blockchain technology exhibit lower levels of intention, possibly because of concerns or perceptions regarding its implementation. Additionally, engagement in business travel negatively affects intention, suggesting that existing systems or processes in the business travel sector may hinder the acceptance of blockchain technology. If we must make a conclusion about trust, it is obviously mainly influenced by years of knowledge of the technology. Years of knowledge of blockchain technology affect trust, indicating reservations or concerns among industry professionals regarding its implementation or potential impact. Other unobserved variables may also contribute to individuals' acceptance of blockchain technology in the tourism industry, highlighting the need for a comprehensive understanding of the various factors that influence intention and trust. These findings underline the significance of considering cultural factors, types of travel, and people who already know about this technology when designing strategies to promote the acceptance and adoption of blockchain technology in the tourism industry. By addressing concerns, fostering trust, and tailoring approaches to specific contexts, successful implementation of blockchain technology can be facilitated. Based on the identified factors, stakeholders in the tourism industry can develop intervention strategies to address concerns, enhance trust, and promote the benefits of blockchain technology.

This study had several limitations that should be considered. First, the generalizability of the findings is limited because the sample used may not fully represent a broader population or diverse geographic regions. Furthermore, the temporal limitations of the data restrict their ability to capture the current landscape accurately.

In conclusion, we propose suggestions for future research, such as supplementing quantitative research with qualitative approaches, to offer a deeper understanding of individuals' perspectives and decision-making processes.

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Attitudes and Perceptions of Messenia's Residents on the Impacts Caused by Alternative Forms of Tourism

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Abstract Alternative forms of tourism are associated with environmental and cultural values that allow both the community and tourists to interact with each other and share their experiences. Framed by Butler's Social Exchange Theory, this preliminary quantitative study examines the attitudes and perceptions of Messenia's Prefecture's residents, regarding the economic, environmental, and social, impacts caused by alternative tourism activities. The research tool was based on a review of relevant literature, and explored the social (10 items), economic (6 items) and environmental negative impacts (14 items) and the agreement to the statements were based on a five-point Likert scale ranging from strongly agree to strongly disagree. The sample consisted of 112 permanent residents of Messenia Prefecture that were selected by random sampling. The study indicated that the major concern of participants towards the impacts of alternative tourism activities were the negative economic impacts. A positive correlation was observed between the negative social impacts of tourism and the participants' income. Overall, most residents will be satisfied with a tourism increase in their region when if the economic benefits outweigh the negative impacts. This research attempts to identify the residents' perceptions on tourism negative impacts where local authorities and stakeholders can consider the perceived implications, for the well-being of local communities.

Keywords Alternative tourism · Messenia · Perceptions · Attitudes

1 Introduction

Alternative forms of tourism are linked to sports, nature, and local traditions [1]. The goal of alternative and special forms of tourism is the transition from a mass and low economic yield tourism to a quality, innovative and multi- thematic tourism that brings about a high economic yield for a Country.

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Various studies have explored the attitudes and perceptions of tourists in relation to their destination that have been contrasted with the attitudes and perceptions of the local community [2]. One of the main points of research literature on tourism focuses on the impacts of tourism on the host community. The essential role of residents has been extensively investigated [3] and refer to the attitudes and perceptions of the local community from an environmental, economic, and social perspective [4].

Benefits of tourism activities include employment opportunities, educational opportunities, economic well- being and entertainment [5]. On the contrary, impacts for the residents are overcrowding, lack of access to a tourist area, crime as well as prostitution [6]. In fact, the impacts are those that threaten residents' quality of life and tolerance of tourist activities [7]. It has been indicated that residents with a high level of education have lower tolerance regarding environmental impacts [8]. Therefore, it is essential that residents, stakeholders, and public sectors should cooperate, to create a network that would create a sustainable tourist destination, minimizing the impacts of tourism activities [9].

The alleviation of seasonality and the increase of the average daily expenditure per visitor brings economic development to both the Greek Government and local tourism operators [10]. The forms of special and alternative tourism in Greece consist new innovative and complex tourism products that are characterized by dynamic demand and respond to special incentives and a powerful branch for the economy [11]. Messenia Prefecture is rich in natural and cultural heritage and maintains a popular culinary cuisine [12]. Unique waterfalls, blue flags' beaches, traditional settlements, hiking trails and archaeological sites are harmonically combined with ecotourism, cultural tourism, sport tourism, agritourism and mountain tourism.

The aim of this research is to investigate the attitudes and perceptions of the residents of Messenia, regarding the impacts of alternative forms of tourism activities.

2 Literature Review

Various studies investigating residents' attitudes and perceptions towards tourism have been based on Butler's Social Exchange Theory. The main assumption of the theory, is that residents in a social exchange, value the exchange, and expect to benefit mutually and equally [7]. People evaluate an exchange based on their own costs and benefits associated to the exchange [13] and whether the expectation is met it will determine the continuity of the interaction. Social Exchange Theory suggests that in a trade—off, the perceived negative impacts should not exceed the perceived benefits [14]. If residents perceive that benefits overweigh negative impacts, they will favor the exchange and consequently will support tourism activities [15].

Residents' perceptions are positive even if tourism activities affect them negatively, mainly because they directly depend on tourism for their livelihood [16]. Conversely, some residents maintain a positive attitude towards tourism, even if they are not directly economically dependent, as they are aware of the overall benefits towards the local community [17]. Residents who perceive tourism activities positively, are receptive to tourists by creating a positive experience for them, and when this happens, tourists want to return to the specific destination [18].

3 Aim of Research

The purpose of this preliminary research is to investigate the attitudes and perceptions of the permanent residents of Messenia Prefecture, regarding the negative impacts of alternative tourism activities.

4 Research Methodology

To investigate residents' perceptions toward the negative impacts of alternative tourism activities, this study draws on data collected from permanent residents of Messenia Prefecture. The questionnaire was distributed through social media groups based on snowball technique during the first two weeks of the month May 2023 and the sample consisted of 112 permanent residents of Messenia Prefecture.

The structured questionnaire was consisted of total 15 questions and was divided into three axes. Six closed-ended questions were designed to explore participants' demographic characteristics. Participants were asked to state their gender, age, marital status, education level, professional activity, and income level. The questionnaire was based on a review of relevant literature especially from Nejati, Mohamed and Omar (2014), and explored the social (10 items), economic (6 items) and environmental negative impacts (14 items) and the agreement to the statements were based on a five-point Likert scale ranging from strongly agree to strongly disagree. Furthermore, one statement was designed to explore the residents' perceptions towards the effective policy measures that should be considered by the local authorities to reduce the negative impacts of alternative tourism activities.

The questionnaire was tested for reliability (Cronbach's a = 0.9) indicating that values were stable and consistent. Prior to the preliminary survey, a pilot survey with 274 respondents was conducted and revision as well as word replacement was established to enhance survey clarity. The final questionnaire was back—translated into the Greek language for the easier understanding of the local community. To test the proposed objective, this study employed statistical techniques including descriptive statistics and correlation tests.

5 Results

143 questionnaires were electronically distributed, and the overall response rate was 78%. Out of 112 respondents 57 were women, 43 men, 1 self- identified as other, and 1 preferred not to state their gender, who lived for over 11 years (48.53%) in Messenia. Their average age was 41–50 (38.6%) years and 58.93% were married, 30.36% unmarried and 10.71% reported other marital status. Regarding their level of education, most participants held a lyceum diploma (19.64%) and worked for the private sector (34.55%). Finally, of all the participants, 44.78% worked in the tourism sector and stated that their monthly income amounted to 1.001–1.300 Euros (28.57%).

Furthermore, participants stated that the forms of alternative tourism that exist in Messenia Prefecture are marine tourism (26.14%), cultural tourism (19.89%), sports tourism (16.48%), agritourism (15.91%), conference tourism (11.93%) and religious tourism (9.66%).

Community perceptions towards the negative environmental, social, and economic impacts, were measured using a 30- item, five-point Likert scale. The results (Table 1) indicated a generally high level of agreement (most of the mean scores were above 3 points) for all three categories. As per the environmental impacts, participants stated that alternative tourism activities increase the uncontrolled development, traffic congestion and air pollution in general. Concerning the social and cultural impacts, participants highlighted that tourism activities increase accidents/ traffic accidents and tourists overcrowd the beaches. Lastly, participants perceive that high level of economic dependency on tourism and increase of the cost of living for the local community are the major negative economic impacts.

This study indicated that the major concern of participants towards the impacts of alternative tourism activities were the negative economic impacts. Furthermore, a significant correlation was observed between the negative social impacts of alternative tourism activities and the participants' income.

Concerning the policy measures that should be taken by authorities to reduce tourism impacts, a positive correlation emerged between the higher level of education and the strengthening of security in the area. The mean score as to whether the benefits outweigh the impacts was above than 3 points indicating that most residents will be satisfied to notice an increase of tourism in their region when the economic benefits outweigh the negative impacts.

6 Discussion and Conclusions

With the broad range of stakeholders engaged in the tourism sector, it is significant to consider the attitudes and perceptions of the community residents towards the negative impacts of alternative tourism activities from an environmental, social, and economic perspective. This study has focused on permanent residents of Messenia

Table 1 Level of agreement about the impacts of alternative tourism activities on the residents (1–5 scale)

Negative impacts	Mean
Uncontrolled development (buildings, facilities, ports)	3.41
Traffic congestion	3.42
Unsustainable waste production	3.37
Unsustainable use of energy sources	3.18
Marine environment pollution	3.21
Air pollution	3.33
Noise pollution	3.47
Visual degradation of the landscape	3.30
Flora reduction	3.53
Fauna reduction	3.35
Destruction of natural and cultural heritage	3.02
Soil erosion	3.11
Biodiversity (population decline, wildlife disturbance)	2.66
Destruction of the antiquities	2.57
Abandoning traditional activities, Moral and customs	3.15
Overcrowding of tourists and displacement of residents	3.01
Conflicts between permanent residents and tourists	3.19
Overcrowding of tourists and irritation of residents	3.11
Increase of crime	3.14
Increase of accidents/traffic accidents	3.44
Change in the lifestyle of the local community	3.21
Overcrowding of tourists at the beaches	3.58
Increase in drug use	3.27
Adaptation of residents to the lifestyle of tourists	3.28
High dependency on tourist activities/tourism	3.81
Increase of black market	3.52
Seasonality of work and reduction of income	3.24
Increase of cost of living for the local community	3.99
Increase of dependency on imported products	3.28
Increase in municipal fees for the touristic development	3.08

Prefecture, where alternative tourism activities have been established. Using the Butlers' theoretical framework regarding the social exchange between residents and tourists, we have attempted to indicate the perceived negative impacts of alternative forms of tourism.

The results showcased that although residents of Messenia Prefecture favor alternative forms of tourism development due to personal benefits, they are also aware of the negative environmental, social, and economic impacts. However, the local community of Messenia prefer the economic benefits even if alternative tourism activities outweigh the costs. To ensure that alternative forms of tourism activities are sustainable and that permanent residents perceive tourism positively, public sectors and stakeholders should educate and raise awareness to local community to effectively manage alternative forms of tourism and consequently ensure sustainable growth.

Future research will have to be directed to a larger number of permanent residents as this study was preliminary. Furthermore, future research is considered necessary, at exploring changes on perceptions and attitudes of Messenia's Prefecture residents' regarding tourism negative impacts. Stakeholders, local community, and public sectors would benefit from this current research, creating a network that would lead to a sustainable tourism development and cooperation amongst the agents involved [9].

7 Implications

Alternative forms of tourism in the Prefecture of Messenia, is in the early stages but has a potential for further development and growth. This preliminary study attempts to identify the residents' perceptions on negative alternative forms of tourism impacts, where local authorities and stakeholders can consider the perceived implications, for the wellbeing of the local community. Practically, the results of this preliminary study are significant to the development and growth of alternative forms of tourism in the Prefecture of Messenia. Environmental, social, and economic issues should also be considered to reduce the dissatisfaction of the permanent residents. Stakeholders in the tourism sector, should also incorporate these findings in the development strategies to ensure higher quality services and therefore higher level of tourists' satisfaction. Lastly, this preliminary study is a pillar for further research conducted on residents' perceptions on tourism development.

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Public Organizations' Social Responsibility and Its Impact on Citizens' Trust in Public Administration

Panagiota Xanthopoulou, Alexandros Sahinidis, Jakub Horák, Ioannis Antoniadis, and Maria Panagopoulou

Abstract This study seeks to contribute to the existing body of literature by exploring the relationship between public organizations' social responsibility initiatives and the level of citizens' behaviors. By investigating how public organizations' engagement in socially responsible practices influences citizens' perceptions of their administrations, this study aims to provide actionable insights for policymakers and administrators. The authors used a quantitative study and data were gathered through online questionnaires from a convenient sample of 104 individuals. Findings showed that socially responsible actions have no significant impact on citizens' trust on public administration, however, they prefer more responsible public organizations, which promote transparency and protect human rights. The practices that were mainly mentioned referred to the protection of human rights and the protection of the natural environment of the local community where the organization operates. This research serves as a valuable resource for policymakers, practitioners, and researchers aiming to enhance the effectiveness and accountability of public administration through socially responsible actions.

Keywords Public organizations · Social responsibility · Trust · Public administration · Quantitative research

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1 Introduction

Greek society has not integrated Corporate Social Responsibility (CSR) into consumer preferences. Although companies adopt CSR actions, consumers do not seem to be significantly influenced by them [1]. Social responsibility as a concept has been more associated with the private sector, while in the public sector research is relatively recent and limited [2]. In times where the challenges and expectations of citizens are increasing, public organizations recognize the need to integrate social responsibility into the way they operate. Social responsibility promotes the adaptation and upgrading of public administration, aiming at the provision of optimal services, the efficient management of resources and the achievement of social goals [3, 4]. Citizens' trust is a prerequisite for the efficient operation of public administration and public organizations. Social responsibility contributes to the development of a relationship of trust between citizens and public bodies, since it creates the feeling that the decisions and actions of the public serve the common good and support society as a whole [1, 5, 6]. The present study examines the relationship between social responsibility in public administration and the level of citizens' trust, while also examining the social responsibility actions that most preferred by individuals. Seeking to highlight the importance of this relationship, the study explores how the integration of social responsibility into the activities of public organizations can contribute to increasing citizens' trust in the public system. A quantitative research was implemented with the distribution of online questionnaires to 104 citizens. The expected contributions of this research are twofold. Firstly, it aims to provide empirical evidence of the relationship between public organizations' social responsibility initiatives and citizens' trust in public administration. Secondly, by identifying specific social responsibility practices that have a positive impact on trust, this research offers practical recommendations for public organizations aiming to enhance their performance in terms of accountability, transparency, and responsiveness.

2 Examining the Relationship Between Social Responsibility of Public Organizations and Citizens' Trust

Most academics use multiple definitions of CSR since there are several methods to its definition [7]. According to Hahn et al. [8] and Gond and Nyberg [9], CSR is a commitment made by organizations to influence their socio-ethical conduct and improve labor standards, which in turn has a significant impact on financial problems. CSR is also connected with the participation of organizations in voluntary actions with social and environmental significance, according to the European Commission's Green Paper. Managers in the public sector consider corporate social responsibility (CSR) as strategically important for their organizations [10]. Recently, the concept of responsibility in the public sector is inevitably linked to corporate social responsibility [11, 12]. Public organizations rely on positive public perception for their smooth operation and legitimacy [12]. Regarding CSR in public organizations, the conclusions from an important work carried out in 2012 are clearly highlighted. Organized by the Hellenic Organization for Standardization (ELOT in Greek), the Business and Innovation Center of Attika and the Decentralized Administration of Attica, this work coordinated efforts under the Governmental Social Responsibility (GSR) Model program (South East Europe). This work was based on the ISO 26000 standard entitled "Guide to the social responsibility of organizations" and took advantage of the international performance reporting practice of the Global Reporting Initiative (GRI). In this context, CSR in public organizations is based on guiding principles referred to in the ISO 26000 standard. These include accountability, transparency, ethical behavior, respect for the interests of stakeholders, compliance with legislation, compliance with international rules of conduct and respect for human rights. This responsibility is examined in various areas, such as corporate governance, human rights, working conditions, environmental protection, ethical practices, consumer protection and social participation. Stakeholders in the public sector are many and diverse. According to Naseem et al. [13], organizations which promote transparency and public disclosure of information on corporate social responsibility actions, have better results in their financial and strategic performance.

This supports our belief that transparency is strongly connected with corporate social responsibility. In the same way, Troise and Camilleri [14] highlight how socially responsible behaviors can be better communicated and implemented through the advancement of information technology and social media. Literature also examines the impact of socially responsible actions on people's trust to organizations. Trust in is acknowledged by several scientific fields as an intriguing and significant characteristic. In terms of public organizations, trust of citizens to public administration is a crucial factor that prevents non-legal actions. The promotion of citizen participation in public discussions is one of the most discussed practices to improve public trust [15–18]. By enhancing transparency, encouraging citizen participation, and providing the people more influence over their government's policies and actions, socially responsible actions can increase public trust and lead to the creation of public value.

3 Materials and Methods

In the present study, quantitative research was chosen. It is a type of empirical research that uses numerical data and statistical methods to understand social phenomena [18, 19]. The research tool of questionnaires was chosen as this is one of the most popular methods due to its effectiveness in collecting standardized data from a large number of participants, while simultaneously reducing bias and maintaining anonymity [20, 21]. The questionnaire distributed online via Google Forms from October 2022 to

May 2023 and consisted of 26 questions, including multiple-choice, closed and open-type questions and questions based on the Likert scale. The questions are structured in such a way as to make it easier for the participant to answer, keeping their interest throughout the completion [5]. Respondents were asked about the Greek public organizations they know and with whom they have worked with to process their cases. Public organizations were defined to the respondents by specifying certain characteristics which distinguish them from private ones and include the ownership and purpose (we gave examples of local, regional, national, or international public organizations).

4 Results

The sample consists of a convenient sample of 104 individuals. The 51.9% are women and the 48.1% are men. The research sample consists mainly of people who belong to the category of GenZ and Millennials, with percentages of 54.8% and 41.3% respectively. The authors' focus on this specific research sample was based on the consideration that these generations are more aware of the term of Corporate Social Responsibility [22–24]. Additionally, their expectations for transparency, diversity, and sustainability align with the changing dynamics of governance, making their viewpoints integral for understanding the evolving relationship between social responsibility and trust in public institutions [24, 25]. The result of the crosstabs analysis (Table 1) indicates that for both age groups (Gen Z and Millennials) the Corporate Social Responsibility (CSR) actions carried out by public services are generally of high importance. The two generations evaluate these actions from slightly important to extremely important, indicating a general orientation towards the positive perception of the social responsibility of public organizations. However, there is a small group of people, mainly among Gen Z, who see these actions as less important. The next crosstabs analysis (Tables 1 and 2) is carried out in order to find out whether the two age groups will seek information about the CSR practices of public organizations.

It appears that both age groups are not likely to search for information about CSR initiatives of public organizations. In order to examine the most popular CSR actions

Table 1 Crosstabs analysis-importance of social responsibility

Count		Age group		
		GenZ	Millenials	Total
How important is social responsibility of public organizations for you	Extremely significant	11	10	21
	Non-significant	2	3	5
	Less significant	27	25	52
	Not much significant	17	9	26
Total		57	47	104

Table 2 Crosstabs analysis-search for social responsibility actions

		Age group		
		GenZ	Millenials	Total
How often do you search for CSR actions of public organizations	Very often	9	9	18
	Always	1	1	2
	Never	25	17	42
	Rarely	22	20	42
Total		57	47	104

of the two age groups, a crosstabulation analysis was performed. The results are presented in the following Table 3.

According to the above data, it seems that for both age groups the most popular CSR actions are those related to the human factor, with an emphasis on the right to information, and the transparency of public sector actions (e.g. elimination of bribery, non-objective recruitment, the right to equal access to information, organization of blood donation drives, etc.), while the next in ranking are those that protect the natural environment (e.g. recycling initiatives, avoiding waste of paper and actions that promote the proposition of the environment in the local community). Also, it is observed that for Millennials charitable actions are not at all popular. It is observed that there are no statistically significant differences between the two groups, as shown by the Chi-square tests (sig > 0.05). In order to determine if there are differences between the age groups, an ANOVA (Table 4) analysis follows, where the independent variable is the age group of the respondents and the dependent variable is how important social responsibility actions are in improving participants' trust in public administration. The results are presented in the following Table 4:

Considering the data in the above tables, it is found that there are no statistically significant differences between the two age groups (Sig > 0.05).

Table 3 Crosstabulation analysis

Count		Age group		
		GenZ	Millenials	Total
The socially responsible public organization	Organization that makes charities	3	0	3
	Protects physical environment	17	12	29
	Protects citizens' rights	7	6	13
	Respects employees' rights	30	29	59
Total		57	47	104

Table 4 Anova

		Sum of squares	df	Mean square	F	Sig
14. The actions concerning the natural environment make me feel more confident in the procedures and activities of public organizations	Between groups	0.177	1	0.177	0.149	0.700
	Within groups	120.708	102	1.183		
	Total	120.885	103			
16. The actions concerning the human factor, make me feel more confident in the procedures and activities of public organizations	Between groups			0.563	0.418	0.519
	Within groups			1.346		
	Total					

5 Discussion and Conclusions

Despite the fact that citizens know the concept of CSR and its contribution to a more sustainable public sector, it is not so influenced by the actions of public organizations. Based on the results of the questionnaires, the actions that have the greatest impact on citizens are those that focus more on the human factor, confirming other studies [2, 13]. Regarding the effect of CSR actions on citizens' trust towards public administration, the results of the questionnaires add new data to the existing literature, as they come into conflict with the findings of the literature [1, 5, 6]. Several participants answered that corporate social responsibility does not significantly affect their trust in the public administration and its actions. Also, a large percentage of respondents do not search for information on the internet about the CSR actions of public organizations. Economic crisis limits public organizations' efforts [26]. The oxymoron is that although CSR does not have a significant effect on their trust in public administration, when participants were asked whether it is important for them that a public organization adopts CSR actions, most answered that it is. A future research could focus on studying the subject in more detail, with a mixed methodology. Moreover, a different research sample of people who work in socially responsible organizations, could offer important findings on their perceptions and the way they interact with the public.

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Guests' Perceptions of Smart Technology Security and Privacy: The Case of Hotels in Athens Metropolitan Area

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Abstract During the last decades, hotels in Greece are trying to benefit from an undergoing digital transformation, since they are trying to create and implement digital solutions. The aim of this research is to analyze guests' perceptions on the security and privacy of smart technology applications in hotels of Athens. This study offers a framework for understanding smart technology's applications and effects on the hospitality sector. The research also analyzes the implementation of smart technology, guests' familiarity with technology and examines security issues stemming from using smart technology in hotels in Athens. For this purpose, a survey was carried out to analyzing the perceptions of people who stayed or visited a hotel in Athens during the last three years. The results revealed how hotel guests feel about the security of technological applications in hotels. This study contributes to raising awareness regarding the attitudes that guests have for smart technology and how far they are willing to accept it.

Keywords Hotel industry · Smart technology · Security · Privacy

1 Introduction and Background of Research

Hospitality sector is facing a significant period of change [1, 2]. Smart technology has become a trend among industry professionals and consumers [3]. Smart hotel technology is cost-effective and provides revenue opportunities across operations, guest experience, marketing and enabling hotel operators to achieve new levels of

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profitability and enhance guest experience immensely [4–6]. Major hotel chains around the world are competing others to set new standards of how sophisticated technologies may help deliver the height of luxury for their esteemed clients. Hotels are always looking for solutions to enhance visitors' experience as well [7]. In the past, hospitality businesses spent a lot of effort developing a wide range of new amenities for visitors to enjoy. Nowadays, hotels are turning to smart technology to increase earnings [8]. It has been estimated that Gen Y and Z and people who currently use smart home technology are aware of smart technology, which is becoming more prevalent than ever before and are more willing to book a hotel that offers this technology [9]. Nevertheless, along with the increasing demand for smart technology, hotels guests' concerns about security have also increased [7]. Furthermore, concerns about privacy have been raised, which has forced many hotels to seek for solutions to overcome these issues and prevent data leaks [10, 11]. It is very important and great responsibility from hotels' aspect to protect their guests' private information. Regarding Greece, hoteliers who want to advance operations and improve the visitor experiences that they provide have concluded that they will need to incorporate smart solutions and digital technologies into their businesses. There are many studies that are related with this trend and benefits. Furthermore, studies about the impact of using smart technology in hotels have been conducted in countries such as the United States, demonstrating how in recent years, guest expectations for smart technology have increased [12, 13]. However, few studies examined the security concerns of guests in Greek hotels, especially in Athens. In this paper, hotels operating in Athens are examined. This research aims to fill this research gap, as Athens has adopted smart technology solutions for increasing the levels of city cleanliness and accessibility, a practice that has also been adopted by hotels in Athens [14]. Moreover, this city enhanced its operations by utilizing these breakthroughs. In addition, the city has even created smartphone apps for services like public parking and begun integrating sensor networks [15]. Several hotels in Athens have adopted smart technology and address to tourists who are technologically intelligent. This study examines the hotels and the tourism industry in Greece, especially in Athens, which has become a quite popular tourist destination.

2 Literature Review

Smart technology is a type of technology that uses machine intelligence, machine learning and big data analysis to provide knowledge and understanding to previously inanimate objects [16]. In recent years, smart technology aims to simplify everyday lifestyles and companies from all around the world are profiting from the idea that smart technology is necessary. Smart technology offers more than just methods for reducing costs and boosting productivity. It is gradually taking on vital importance in both consumers' and business executives' daily lives. People are increasingly encircled by technological devices today, with technology practically becoming a necessary element of everyday lives. Whether they are traveling for business or pleasure, today's travelers have learned to anticipate a few new tech essentials from their hotels, such as cutting-edge fitness centers, and smart key card entry systems [17]. Hence, it is not surprising that the hotel industry has been impacted by most current technological breakthroughs. In order to make the guest experience more comfortable and secure, digital keys are offered and large television screens are installed throughout the hotels, such as at the reception, that give visitors access to a variety of information and keep them informed of the most recent hotel promotions and activities [18, 19]. Energy conservation is achieved with motion-sensitive smart light detectors and smart devices in rooms provide an array of services, from ordering room service menu to a complete pairing functionality for cellphones [20, 21]. It is worth noting that major technology companies have already stated that they are collaborating on the production and adaptation process with well-known hotel brands. Moreover, many hotels use trademarked mobile applications for check-in, while their payment options are contactless [22]. One of the major technological advancements, the smart hotel room, which extends levels of management and monitoring increasingly common in consumer homes to provide new capabilities for guests and operators, is a crucial step in the development of the guest's experience [23]. Although the penetration of smart rooms is still very limited, they have a lot of room to grow. While the idea of a smart hotel room has long been promoted in high-end hotel rooms, familiarity with smart home devices and new requirements placed on hoteliers are now driving investment in lower-cost hotel room categories [24]. The benefits of incorporating smart technology in hotels have been significant. As [25] illustrates, the concept of a smart hotel room has been used as a marketing tool to allow a hotel to differentiate itself from more traditional hotels and resorts. Furthermore, this new type of technology allows guests to personalize their stay and increases the level of attention they receive. This can be considered significant because guests are open to shelling out supplementary room charges if they receive such a guest—centered approach, making them more likely to return as guests in the future [26]. Businesses, including hotels, have also amassed financial benefits and are able to fulfill changing customer expectations while simultaneously lowering costs and lessening their environmental footprint, in a period where the need for sustainability and corporate governance adoption is prevalent [21, 27–35]. Security is one of the major concerns that modern hotel guests have on their mind. It is believed that hoteliers have a duty to safeguard both their guests' and the hotel's personally identifiable information and avoid direct incorporation of susceptible hotel software solutions into large natural language processing platforms as there is a chance that they may expose sensitive, proprietary hotel information such as guest profiles, operational practices, or guest communications [36–38]. Concerns about the security of the technology used in hotels today have been heightened by numerous cases of data theft and hacking as well [39]. Over the past years, technology has played a critical role in the growth of Greek hotels and the Greek tourism sector in general. Reference [40], reports that to improve the hospitality experience, a large percentage of hotel owners have focused on offering smart technology luxuries to their guests. As illustrated by Kapiki [25] there are a few hotels in Athens that have adopted some form of smart technology.

3 Research Methodology

The data for this research was carried out using a structured questionnaire between April and July 2023. Key variables for this study are the travel behavior of hotel guests, their awareness of smart devices as well as their attitudes and concerns regarding the security of smart technology that is used in hotels. Also, hotel guests' feelings about the affection of this technology were examined in the tourism industry. The convenient sample was defined as people who stayed in a hotel in Athens during the last three years. Questionnaires were distributed online by a shared link with Google Forms. Finally, 303 valid questionnaires were analyzed using descriptive statistics. Regarding the questionnaire, a mix of original 5-point Likert scale questions and questions used in the existing literature were used. After a small pilot-study, the final questionnaire contained 41 questions, which was designed to cover a range of topics related to smart technology, from the participant's knowledge about this technology, its security and privacy policy.

4 Research Results and Discussion

4.1 Sample Demographics

The results showed that most of the respondents (69%) were females, while 31% were males. Three age categories were established, with 77.7% of the population ranged from 25 to 44 years old range, 15.5% of people are older than 45 years old and 6.8% of people ranged from 18 to 24 years old.

4.2 Perceptions on Security and Privacy of Smart Technology Applications in Hotels

According to the results, respondents know about smart technology and 45.6% of them noticed that the hotels they have visited adopted smart technology. However, 23% of the respondents revealed that smart technology was not used in the visited hotels. Moreover, most of the participants (68.9%) appreciate the convenience of smart technology for their accommodation in hotels. The vast majority (74.7%) expect to be able to use smart technology during travelling. Concerning the aspect of security in smart technology, the participants believe that privacy is one the most important issues (74.8%). The notion of a hotel guest's privacy and the opinion about the efficacy of smart technologies highlighted that people are still concerned about the ethical issues of smart technology (47.6%). The results show that 37.9% of the respondents are not particularly worried about hotels' practices of gathering personal data. However, 38.9% of the respondents seem to be worried about these practices.

It is worth noting that almost everyone (97.1%) would like to know from the hotel facilities about the smart utilized technologies. Additionally, the respondents will appreciate the choice to reject smart features if they believe that their privacy is at risk, which is consistent with the opinion of most respondents (92.3%) who desire the absolute control of the provided technology. Regarding with security precautions, a large majority of the respondents (87.4%) believe that investing in hotel's security through extra levels of data protection could be a viable strategy for a hotel.

5 Conclusions

Smart technology has become an essential part of daily lives and it is expected to be used in hotel industry. These technological advancements have not only been incorporated into hotels but have also been received by hotel guests. Nevertheless, there are aspects of smart technology, such as data collection by hotels for which people are still concerned. Although, hotel guests feel much safer in the presence of a human employee and are still apprehensive about smart technology. Privacy and confidentiality are of vital importance to the guests, who consider that hotels must invest in "safe" smart technology. After ten years, they are moving into a new stage of development as connected applications are used to give real-time information to consumers and providers [41]. Also, hotels should take additional steps to ensure that their guests' data is safe. Hotels are now better equipped to implement a comprehensive information security strategy that includes the necessary practices, processes, and personnel to improve cybersecurity if they have a thorough understanding of the main data security risks and some practices for mitigating these risks. After all, hotels need to use modern technology to stay safe and secure. Hoteliers should take note of the trends around the city, interact with local communities, and promote ethical behavior by connecting to smart cities, which can have positive benefits for a hotel [42, 43]. Also, most of the respondents believe that privacy should be protected at all costs and hotel should make investments to ensure this issue. Greece has been steadily embracing the latest technological solutions and adapting them to the tourism sector but there is a gap in knowledge regarding how these changes have been received by the public. Moreover, this research has attempted to illustrate and examine security concerns from the viewpoint of hotel guests. It has deliberately omitted the feedback from the managers, and it would be beneficial if in a future research, technological security concern from the viewpoint of hotel managers or hotel employees was examined.

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Consumption of Greek Political Messages: A Qualitative Approach of the Case of the Greek Political Market

Harry Sophocleous, Andreas Masouras, Sofia Anastasiadou, and Sotiris Apostolopoulos

Abstract Electorates, politicians and researchers consider that issues concerning political messages are significant in electoral campaigns, although the evidence for the particular argument is delicate. A consideration of electorates' recall of concerns reviewed in their national election campaign exposes that few voters can accurately distinguish the vital matters regarding political messages. Correspondingly, the specific research is developed primarily on the hypothesis that the voter consumes the communication, and thus, the ideological output that is produced by the political activities. In this manner, the paper attempts to find out how the average voter, "consumes" that political message. The specific timing was favored, in order to gain the deliberation of a clear electoral output and thus, to accomplish a sufficient analysis of the political messages. Accordingly, this pilot study follows a qualitative approach, by gathering and analysing qualitative data through the use of 2 focus groups and through the use of content analysis on political messages of the five bigger parliamentary parties during 2023's elections in Greece (July 2023), following the two electoral contests. Each of the groups was consisted of 5 Greek citizens with electoral rights and a coordinator and is part of a broader study that aims to investigate the voting behaviour of Greek Voters and thus, to examine the consumption of political Marketing. Beyond the favorable timing, another reason for which the Greek case was preferred, is the fact that there is a favorable ground for the particular field. The particular fact means that many aspects concerning the Greek political communication and thus, the behaviour of Greek voters is largely unexplored the specific period of time. Accordingly, the particular research involved the analysis of the central messages. The paper concludes that, even if voters are encoding and decoding political messages, in a relatively unique manner, they do not consume those political messages in the same way and with the same sensitivity and the same criteria. The outcome of the particular research could provide a feedback for future communicational intentions to political parties, as well, as the Greek voters.

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1 Introduction

Politics and their outputs are important in a person's life and therefore very important in shaping the norms of communities and societies. Correspondingly, the electoral behaviour, and thus, the electoral choice of individuals and therefore of a nation, along with the course of actions of its political establishment and political institutions, consists of the major facilitators of the democracy, the prosperity and the general prospect of the particular state. Moreover, both the political institutions and the surrounding political environment, on the one hand, and the communicational intensions and in particular the political messages, as well as and the wider political marketing of parties or candidates, on the other hand, have their own impact upon the electoral behaviour and therefore, the electoral choice of a country. Accordingly, Greek voter seems to be emotional. This is because as a society Greeks manly acquire emotional ties with a party since their childhood, being affected by family or school. As Kyriakides stated [1] voters do not recognize this much, they do not understand it so easily. Accordingly, it is believed that additional aspects, such as self-interest, which also perform a role, are more important. The result of the emotional bond with the parties is the non-objective, often, judgment of the voters. Moreover, Greek voters seem to not judge the views expressed by different parties with the equal criteria [1]. Accordingly, the views that will come from his/her own party will be judged much more leniently with much more positive thinking than the views of the other parties.

Therefore, in the first place, it seems that mainly Greek voters, even if they dislike and disapprove of the political establishment, seem not to be sufficiently daring to make the aforementioned change happen and therefore, do not easily acknowledge their wrong electoral choices. In this logic the findings of the research aim to test and verify the profile of the Greek voter as consumer of political communication, by testing this perception and by specifying his/her behavioural map in regard to electoral habits and in particular in decoding, perceiving and consuming political messages.

2 Literature Review

2.1 Changing Electoral Justification—Electorates as Consumers

The electoral consumer emotionally approaches the choice or "purchase" of a candidate or "product" through two intersecting psychological processes, rationality of the action and function of the action [2, 3]. Consistency of the action provides the foundation of their participation and ultimately their purchase of the "product". The voter that chooses to participate is motivated by one of three inherent behavioural patterns [4]. Accordingly, the three stages of action, thought and behavioural response before they finally purchase/select a candidate are as follows:

Identification—The acknowledgement that the candidate exists and that this is a "product to be considered".

Acceptance—I accept that the candidate and I have a compatible platform and policy interests, I know that they are in the race, and I believe that this candidate meets my buying criteria, and I can/will consider them in my purchasing model. In this stage, you have arrived at a creditable and viable operation that can move voting consumers to purchase their candidate.

Purchase/Selection—You now have built up the sales relationship enough with the voting consumer that they are now ready to become a loyal customer and buy your product versus the competition. Moreover, according to [4], the correlation of socio-economic lifestyle and voting and consumer psychological processes will provide a stronger campaign context for messaging, outreach and voter sales closure and success.

Encoding/Decoding Political Messages. According to literature [5], within a four-stage process of communication, media texts include a variety of messages that are encoded (made/inserted) by producers and then decoded (understood) by audiences (see Fig. 1). Literature [5] proposed that: "…audience members can play an active role in decoding messages as they rely on their own social contexts and capability of changing messages through collective action. Thus, Encoding/Decoding is the translation for a message to be easily understood" [5].

Respectively, the dominant ideology is typically inscribed the "preferred reading" in a media text, but that this is not automatically adopted by readers. The three positions of decoding proposed [5], are based on the audience's conscious awareness of the intended meanings encoded into the text. In other words, these positions—agreement, negotiation, opposition—are in relation to the intended meaning. Moreover, the particular study [5] suggests here that culture and ideology are not external structures imposed upon us from above in a one-sided fashion, but sites of constant struggle and negotiation within which we are caught.

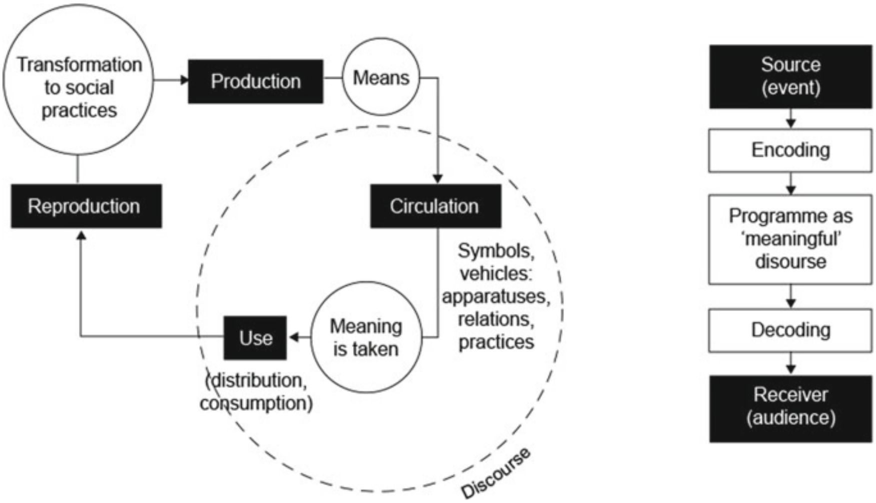

Fig. 1 Four-stage theory of communication and Stuart Hall's encoding/decoding model [5]

3 Methodology

3.1 Message Content Analysis

To obtain a more comprehensive and unique pattern in decoding political message, so as to respond to the research scope, it has been considered as essential to undertake message content analysis. Literature [5] defined message analysis as a method of studying and analysing communication in a systematic, objective, and quantitative manner for the purpose of measuring variables. Previous research [6] defined message analysis as a research technique for making replicable and valid inferences from data to their context.

Hypothesis 1: The clarity of the political messages of political parties. The clarity of the political positions (agenda) and hence the clarity and the representativeness of the communication strategies and political messages that are produced and demonstrated by the major political parties and consequently the ideological distance between the political alternatives is unclear and uncertain.

Hypothesis 2: The consumption of political message does not occur in a unique manner. Voters are decoding and therefore consuming political messages as they trust on their own social backgrounds and capability of changing messages through communal action.

Research Context. 2023 was the year of double elections in Greece at a circumstance after the deadly train disaster in Tempi and the price of the basic goods and services of the average Greek household at high. Therefore, in this unfavorable situation, the

Greeks were called to the polls twice in a short period of time, a fact which certainly did not leave uninfluenced, the electoral behavior and, by extension, the impression of both the pre-election period and the elections themselves. Consequently, the above fact has influenced the research outcome [7].

Data Collection. The study develops a qualitative approach, by gathering and analysing qualitative data through the use of 10 respondents in 2 focus groups. The use of political message analysis aims to examine the messages of political parties during a particular election period.

Accordingly, the particular research involved the analysis of the central messages of the five bigger parliamentary parties ΝΔ, ΣΥΡΙΖΑ, ΠΑΣΟΚ-ΚΙΝΑΛ, ΚΚΕ ΣΠΑΡΤΙΑΤΕΣ. More specifically, the particular messages that have been considered for the particular research where the following:

1. ΝΔ—ΣΤΑΘΕΡΑ. ΤΟΛΜΗΡΑ. ΜΠΡΟΣΤΑ.
   (STEADILY DARING. IN FRONT)
2. ΣΥΡΙΖΑ—ΔΙΚΑΙΗ ΚΟΙΝΩΝΙΑ ΕΥΗΜΕΡΙΑ ΓΙΑ ΟΛΟΥΣ
   (FAIR SOCIETY PROSPERITY FOR ALL)
3. ΠΑΣΟΚ-ΚΙΝΑΛ - ΑΠΟΦΑΣΗ ΑΛΛΑΓΗΣ- ΕΛΛΑΔΑ ΜΕ ΑΞΙΟΠΡΕΠΕΙΑ
   (CHANGE DECISION - GREECE WITH DIGNITY)
4. ΚΚΕ—ΜΟΝΟΙ ΤΟΥΣ ΚΑΙ ΟΛΟΙ ΜΑΣ. ΜΟΝΟ Ο ΛΑΟΣ ΣΩΖΕΙ ΤΟΝ ΛΑΟ!
   (THEM ALONE AND ALL OF US. ONLY THE PEOPLE SAVE THE PEOPLE!)
5. ΣΠΑΡΤΙΑΤΕΣ—ΓΙΑ ΤΗΝ ΠΙΟ ΙΣΧΥΡΗ ΕΘΝΙΚΗ ΑΝΤΙΠΟΛΙΤΕΥΣΗ
   (FOR THE STRONGEST NATIONAL OPPOSITION).

The message content analysis involved both the presentation of a static picture with the basic illustration of each of the aforementioned messages, as well a video spotting/encoding each of the above messages. The selection of the specific combination has been considered as essential in order to facilitate the application of the encoding and decoding model, as it presented in the following paragraphs more efficiently. The 2 focus groups took place during July 2023, following the two electoral contests, and each one of them was consisted of 5 Greek citizens with electoral rights and a coordinator. Participants have been recruited following certain criteria by telephone approximately one week before the sessions. Moreover, the potential participants have been identified regarding the type of people they are and needs and the nature of the research and the resources available and the members of the audience through databases and resources available to the researcher. For technical reasons, the groups had taken place electronically, through the use of an e-conferencing platform "Zoom".

Data Analysis. For practical reasons, the material used for communication generation analysis used in the research regardless of whether the sample had noticed these political communications during the time of the actual campaign**.** Researchers which follow similar approaches rely on the identification of structural elements, tropes, styles of argumentation, speech acts, and the like. An earlier study, [8] is an example of such an analysis. Efforts to study negotiations [8], -what works and what doesn't-, might be described as rhetorical analysis as well. The particular analysis, based on encoding/decoding model [5] and makes reference to the communication model of Shannon and Whever [9], sends a message along a channel, to a receiver who then interprets the message, and responds through feedback that may or may not experience noise or interference. The particular method [5] expands upon this model by giving emphasis on audience. Accordingly, the process of the message analysis, involved the distinction of the following stages: information source, agenda setting - transmitter, encoder, receiver (decoder) and destination. Furthermore, with the implementation of the specific qualitative content analysis, the study aims to proceed to an analytical comparison between the political positions/agendas and promises of the major parties of each electoral case, in order to clarify the actual ideological distance between them and to spot their actual differences in terms of their actual "political agenda" versus their electoral communication branding and the actual message and the final consumer of each political message. By using the specific tool of qualitative analysis, the project aimed to investigate the distance between pre-election communication and actual campaigns, and thus, to investigate the actual distance of those positions with those of the opposite party.

4 Analysis and Discussion

4.1 Ideological Clarity and Consumption of the Political Message

The Ideological Clarity of the Political Message. An issue that came out of the conducted qualified research, is the "ideological clarity" of the political messages that have been shown to the participants [10, 11]. As it has been mentioned, the co-ordinator has shown a series of political posters and videos from the parliamentary parties as the derived after the second parliamentary elections of 2023. Accordingly, it came out from the relevant discussions that, NΔ, the nationalistic Party ΣΠΑΡΤΙΑΤΕΣ and the communist party KKE, considered by the research contributors to have a higher level of ideological clarity, in comparison to ΣΥΡΙΖΑ, ΠΑΣΟΚ-ΚΙΝΑΛ and the minor parties. More specifically, NΔ's message, reflects the stability and the development of its liberal approach against economy, ΣΥΡΙΖΑ, reflects a negative spirit and KKE a more leftist/ communist approach. ΠΑΣΟΚ-ΚΙΝΑΛ, reflects the justice and the social equality of the third Political way, and ΣΠΑΡΤΙΑΤΕΣ, which was considered to have the higher level of ideological clarity and Ideological consistency, reflects a Nationalistic ideological image. On the other hand, ΣΥΡΙΖΑ the minor parties have been considered as ideologically unclear and inconsistent, while their messages are translated as effort to obtain a parliamentary representation.

The Consumption of Political Messages/The Attributes vs. the Promises to the Voter. The general finding of the research regarding the specific aspect concentrates on the fact that even the political message is decoded in an analogous mode by the majority of the participants; it is perceived and consumed in a diversity of manners, according to the perceptual dimension, the ideological sensitivities and the values of each participant. For example, the political message of ΣΥΡΙΖΑ—ΔΙΚΑΙΗ ΚΟΙΝΩΝΙΑ ΕΥΗΜΕΡΙΑ ΓΙΑ ΟΛΟΥΣ (FAIR SOCIETY PROSPERITY FOR ALL), by the majority of the respondents, in particular through the relevant video, perceived a negative statement, that does not represent the reality, however a small number of the respondents perceived the message as the reflection of the reality, and therefore they consumed the particular political preposition. Accordingly, each party's message has a positive impact only upon a certain number of voters and it is consumed only by a specific portion of the voting population. Therefore, it has arisen by the given findings that the political message during the pre-election period is consumed according to the perceptions [12] and the ideological direction of each individual [13], and by extend, the political relevance of each individual to a specific political party. The above fact has been reported by previous research [14, 15], the electoral preference of voters is affected by a range of factors, such as social group identity. Additionally, according to previous research, voters are in a way defenseless to the gravity of factors such as campaign events, issues, and candidate images [16–18].

5 Research Implications and Conclusions

The specific research area has vital implications regarding decoding of political message, since the 'reception' of the message is likely to be more questioned than it originally looked. Viewers can no longer be assumed as passively absorbing the unchanging meanings introduced there by the sender of the message, 'decoding' should essentially include a tussle over meaning which it is subject of the social position of the recipient [5, 8]. Even though the reported research outcomes respond to the accomplishment of formulated aims and objectives and in general lines confirm the basic hypotheses of the project, it can be argued that a number of research limitations have emerged. Moreover, the small number of sample used in focus groups, as well as the limited spectrum of the political messages tested, might considered as empirical limitations.

However, the particular research process could be seen as pilot research for further research to be directed in a favorable time, within a grater scale. Therefore, the specific results, and limitations could be exploited in optimizing the framework of more comprehensive prospect research. As it is recognized in the study and mirrored in the outcomes of the specific qualitative research as presented in the previous section of the specific paper, the voters do not judge the views expressed by different political parties with the same criteria. The electoral consumer emotionally approaches the choice or "purchase" of a candidate or "product" through two intersecting psychological processes, rationality of the action and function of the action. Therefore, they do not consume the political messages of the parties in the same way. Consequently, the view that derives from the party they support will be judged more leniently and with much more positive thinking than the views of the other parties [5, 8, 19]. The particular findings give an insight to a relatively unexplored aspect concerning the Greek political communication and thus the behaviour of Greek Voters. Consequently, political parties could use the outcome of the particular research as a feedback of the consumption of their recently used messages, and therefore as a guide for their future communicational intentions and practices. In a similar logic, the voters could benefit from the particular research outcome, in the respect that it points out the subjectivity of the way they are decoding and consuming political messages, and therefore they could optimize their future consumption of political messages.

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The Role of Corporate Social Responsibility Policies in Companies in Greece in the Recruitment of Young Talented Employees

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Abstract Corporate Social Responsibility (CSR) has become an important factor for the development of organizations and companies at all levels, as it encompasses actions in various areas and highlights the importance of aligning decisions with human resources and the social environment. The purpose of this study is to investigate the relationship between CSR and organizational attractiveness, which pertains to the level of appeal a company holds for its employees as well as job seekers. The research was conducted using a quantitative method and convenience sampling, involving 121 individuals 22 years and older, who are currently or have previously been employed by companies in Greece. Participants responded to questionnaires consisting of closed-ended questions, where they selected their answers using a seven-point scale. The collected data were then analyzed using the SPSS software. The research results revealed a significant correlation between CSR and organizational attractiveness, with corresponding implications for employee organizational commitment. The results have important implications for Human Resource managers and organizational strategists, as well as academics of the field. After all, human resources and talent management claims that CSR is a regulatory factor in talent management, this is because CSR gives every company the opportunity to use challenges and values in order to create and organize more targeted and better quality programs to engage talented workers and seem worthy of his expectations.

Keywords Corporate social responsibility · Organizational attractiveness · Organizational commitment

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1 Introduction

Our times are characterized by great complexity and constant change. The economic, social, health, cultural and, working environment are changing in succession. Globalization and the free market, combined with the increase in global competitiveness, in terms of labor, make it even more difficult for companies to attract new talent that they can retain within them and increase their commitment. To achieve this, businesses need to contribute to the wellbeing of the community and society in which they operate [1].

Research has shown that employees are attracted to and prefer organizations that have something to offer them and can promote their development. For this reason, it is now recognized that companies need to showcase their unique characteristics and advancement potential when seeking employees. The reason for this attitude, related to the perception of attractiveness on the part of employees, constitutes a key factor in the recruitment process in order to attract the most talented and efficient employees [2]. In the above, a key role is played by the CSR policies “adopted” by each company, which benefit not only the company itself but also society [3].

At company level, through CSR policies, revenues are increased. This is achieved by building its good reputation. Both stakeholders and investors prefer it and thus it gains added value. CSR, among other things, however, significantly affects both the commitment of a firm’s human resources and the degree of attracting new talent [4]. This is crucial as the human factor is one of the most important factors of production. Consequently, firms that promote it create a sense of satisfaction in their employees. When they behave responsibly they manage to attract new talents and retain their employees [3].

The above can be placed within the framework of Talent Management. When a company wants to hire a new talent then it needs to offer them the prospects of development within the company so as to increase their commitment [5].

Research findings have shown that the existence of CSR policies in a company plays a very important role for job seekers, positively influencing their preference for employment in that company. According to the Attraction- Selection- Attrition (ASA Theory), this happens as the job seeker’s values become ‘aligned’ with the values of the firm [6]. The aim of the research is to investigate the relationship between CSR in Greece in the operation and recruitment of personnel in companies and organization.

2 Literature Review

In recent years, CSR has become part of the core business approach that aims at sustainable development by providing economic, social and environmental benefits to all stakeholders. Several studies highlight that CSR activities help organizations to acquire more resources and make optimal profits, while also attracting new people to work [8]. In fact, several studies have focused on how CSR actions affect organizational attractiveness, and those mechanisms that increase it, in order to provide firms with appropriate information on the areas that need strengthening [7].

According to signaling theory, a firm's CSR can inform job applicants about what it would be like to work for a firm [8]. This theory is considered the most tractable in investigating the mechanisms that enhance firm attractiveness [9]. According to social identity theory, people derive emotional meaning from the perception of a sense of unity with the group they identify with [10]. Therefore, job seekers whose values and beliefs are more highly identified with the employer may be more prone to generate positive emotional responses [11].

Other research has examined the benefit of firms' use of CSR in relation to organizational commitment, as employees perceive that these firms have prestige and business ties that offer security [12].

3 Methodology

Based on the main purpose of the research the following research hypotheses were formulated.

H1: CSR actions have a positive impact on the organizational attractiveness of the company and the employer.

H2: CSR actions have a positive impact on employee engagement.

In the research the method chosen is the quantitative method. The appropriate sampling for the research was convenience sampling. However, in this type of sampling, the principles of probability sampling are applied at each stage to ensure that a characteristic will not always have the same proportion as that of the population [13].

Once the questionnaires were designed, their distribution was chosen to be implemented on an internet-based. Before completing the questionnaires, those who decided to participate were informed about their obligations and rights, as well as how to ensure their anonymity and personal data.

Based on the objectives and the main purpose of the survey, which was to investigate the employees in companies in Greece, the target population was selected as people aged 22 years and older. From them the sample used in the survey was collected, which consisted of 121 individuals. In the target population, the only restriction that applied was that they had worked or were working in an enterprise in Greece, and there were no other restrictions, neither in terms of gender nor in terms of the position they held or held.

From the quantitative survey we conducted, we collected data through the participants' responses, which we then processed in order to extract the statistical and numerical data we were aiming for. SPSSV17.0 was chosen to process the data.

4 Results

Table 1 presents the findings of the analysis comparing employees' views on the use of CSR by companies in terms of their demographic and other characteristics. The analysis showed that employees' views on CSR activities in the enterprises they work in do not differ in terms of their demographic characteristics and the size of the enterprise (a p-value of more than $\alpha = 0.05$ was recorded in all analyses).

Furthermore, Fig. 1 shows that there is a fairly strong correlation between CSR actions and business attractiveness. The correlation coefficient between the two variables was found to be equal to 0.432 ($p = 0.000$). These results indicate that there is a moderate level of positive correlation between CSR actions and business 1attractiveness.

Finally, Table 2 shows the results of the linear regression with CSR actions as the independent variable and the level of attractiveness as the dependent variable. The analysis showed that CSR actions are a significant predictor of firm attractiveness ($F = 27.376$, $p = 0.000$). Furthermore, CSR actions explain 18.7% of firm attractiveness (R2 = 0.187). The findings indicate that an increased level of CSR actions predicts an increased level of firm attractiveness ($b = 0.490$, $t = 5.232$, $p = 0.000$).

Table 1 Employees' views on the use of CSR by enterprises according to their demographic and other characteristics

		MT	TA	Criterion	P
Sex	Male	3.42	0.68	t = 0.425	0.620
	Woman	3.35	0.71		
Age	18–24	3.49	0.74	F = 2.345	0.100
	25–34	3.41	0.67		
	35–44	2.97	0.86		
Family situation	Unmarried	3.43	0.69	t = 3.084	0.082
	Married	3.17	0.72		
Educational level	IEK/technical school	3.38	0.59	F = 1.457	0.237
	TEI/TEI	3.48	0.55		
	Master's degree/doctorate	3.25	0.86		
Work experience	Up to 5 years	3.35	0.62	F = 0.830	0.438
	6–10 years	3.43	0.72		
	11–15 years	3.17	0.87		
Company size	Up to 10 people	3.44	0.62	F = 1.511	0.215
	11–50 persons	3.41	0.79		
	51–100 persons	2.95	0.27		
	Over 100 people	3.39	0.82		

t t-test; *F* one-way ANOVA; *p* level of significance (*p*-value)

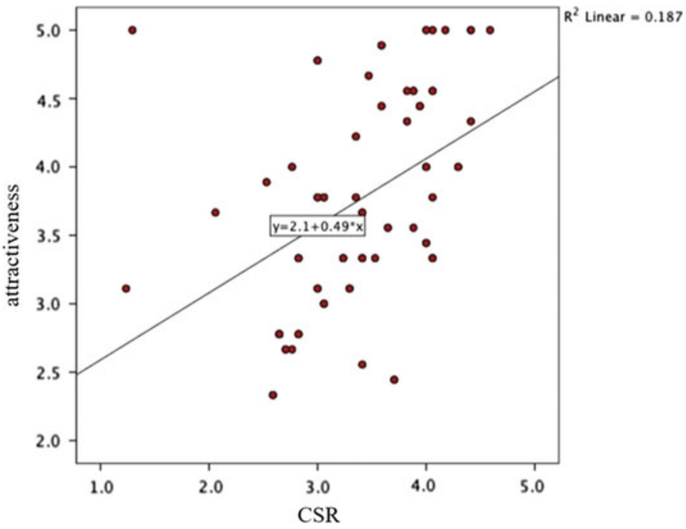

Fig. 1 Scatter plot between CSR and attractiveness

Table 2 Linear regression results with CSR actions as independent variable and attractiveness level as dependent variable

Model	R	R square	Adjusted R square	Std. error of the estimate		
1	0.432[a]	0.187	0.180	0.7173		
Model		Sum of Squares	Df	Mean Square	F	P
1	Regression	14.087	1	14.087	27.376	0.000[b]
	Residual	61.234	119	0.515		
	Total	75.321	120			
Model		Unstandardized coefficients		Standardized coefficients	t	P
		B	Std. Error	Beta		
1	(Constant)	2.099	0.323		6.505	0.000
	ECE	0.490	0.094	0.432	5.232	0.000

[a] coefficient dictating the equation

The last section presents the findings of the analysis on the relationship between CSR actions of companies and employee commitment.

Figure 2 shows that there is a fairly strong correlation between CSR actions and employee engagement. The correlation coefficient between the two variables was found equal to 0.469 ($p = 0.000$). These results indicate that there is a moderate level of positive correlation between CSR actions and employee engagement.

Finally, Table 3 shows the results of the linear regression with CSR actions as the independent variable and the level of commitment as the dependent variable. The

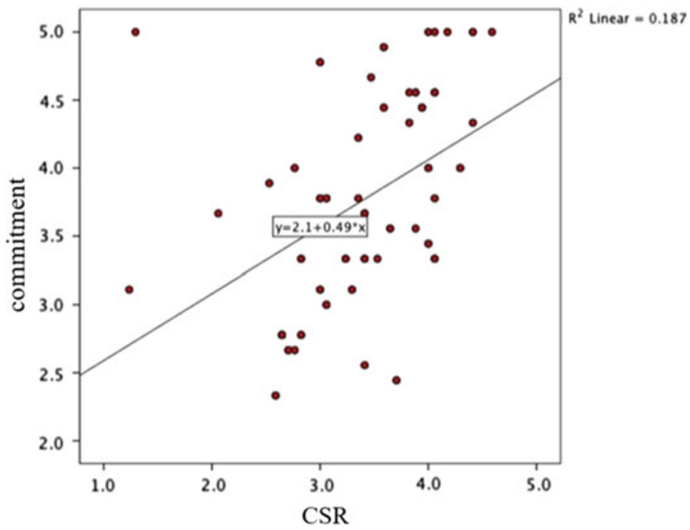

Fig. 2 Scatter plot between CSR and engagement

analysis showed that CSR actions is a significant predictor of employee engagement ($F = 33.567$, $p = 0.000$). Furthermore, CSR actions explained 22.0% of employee engagement ($R2 = 0.220$). The findings indicate that an increased level of CSR actions predicts an increased level of employee engagement ($b = 0.743$, $t = 5.794$, $p = 0.000$).

Table 3 Linear regression results with CSR actions as the independent variable and the level of commitment as the dependent variable

Model	R	R square	Adjusted R square	Std. error of the estimate		
1	0.469[a]	0.220	0.213	0.9810		
Model		Sum of squares	Df	Mean square	F	P
1	Regression	32.307	1	32.307	33.567	0.000[b]
	Residual	114.532	119	0.962		
	Total	146.838	120			
Model		Unstandardized coefficients		Standardized coefficients	t	P
		B	Std. error	Beta		
1	(Constant)	2.025	0.441		4.589	0.000
	ECE	0743	0.128	0.469	5.794	0.000

[a] coefficient dictating the equation

5 Discussion and Conclusion

The purpose of this study was to highlight the importance of Corporate Social Responsibility (CSR) policies and initiatives in increasing employee commitment and loyalty, but also the organizational attractiveness of the company to attract new talent. Salaries are not the only parameter that increases engagement and attractiveness. Other parameters are equally important, such as shared values and principles of the organization and employees, the possibility of advancement, rewarding performance by other means (e.g. leave, promotion, etc.), healthy working conditions, work flexibility, etc. All of the above-mentioned parameters contribute to increasing employee attractiveness and loyalty [1].

In addition, CSR plays an important role, which creates a positive feedback loop between the firm, employees and society, ultimately leading to the building of competitive advantage [3]. In terms of the workforce, CSR policies increase employee commitment and loyalty, as well as attracting potential employees, allowing the firm or organization to draw talent from a wider pool [4].

Increasing organizational attractiveness is important for firms and organizations for three main reasons: (a) a high level of internal attractiveness contributes to the retention of existing human capital, (b) a high level of external attractiveness attracts a larger pool of job seekers, so that the firm has the opportunity to discover talent from a wider pool [14], (c) both employees of the firm and potential employees are part of the consumer audience [15].

Two research hypotheses were formulated in this study. According to the first research hypothesis, the undertaking of CSR actions is positively correlated with organizational attractiveness. According to the second research hypothesis, undertaking CSR actions is positively correlated to employee commitment.

The results of the survey show that corporate social responsibility actions are implemented to a moderate degree in the sample companies. Employees' views on CSR actions in the enterprises where they work do not differ in terms of their demographic characteristics and the size of the enterprise.

The findings showed that the sample firms have a high level of attractiveness, while there is a moderate positive correlation between CSR actions and the attractiveness of the firms. An increased level of CSR actions predicts an increased level of business attractiveness. The first research hypothesis is confirmed.

The employees in the sample had a strong level of commitment to the companies in which they were employed. Finally, it is noted that CSR actions are an important predictor of employee engagement; an increased level of CSR actions predicts an increased level of employee engagement. The research can add value as the issue is examined in the context of Greece, which means that the influence of Greek culture plays an important role.

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Enhancement of Social and Teamwork Skills Through Blended Learning Methodology in Accounting Studies

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Abstract According to accounting employers only technical skills are not considered sufficient for a successful accounting career in the new global business environment. Modern accountants need a range of social skills such as teamwork, agility, leadership, and personal skills. Accounting education through diverse teaching methodologies such as blended learning, seeks to create well rounded accounting professionals. The objective of the present study is to examine the students' views about teamwork skills. The research is based on a pilot study with interviews conducted with students through a qualitative methodology plan. Results show the need to reorganize educational processes and activities in order to promote teamwork among university students in Greece. Professors, students, and universities can benefit from this research. Specifically, the recognition of the necessity for educational planning in accounting courses is crucial in order for students to acquire both knowledge and skills, such as teamwork, which is deemed essential for their academic journey and smooth transition into the labour market.

Keywords Social skills · Teamwork · Blended learning · Accounting education · University · Student

1 Introduction

The application of blended learning in accounting courses promotes teamwork, which helps students to understand the course content and acquire the technical knowledge necessary for their transition to the labour market [1]. Also, through synchronous and asynchronous education, self-regulated learning is enhanced, as students participate in the educational process with particular flexibility. Several researchers state that

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there is a need the design of accounting courses by lecturers to meet the contemporary needs of students, through a pedagogical approach that is more experiential and student-centred [2, 3]. Activities such as mind maps, quizzes, group projects often help students to construct knowledge and obtain optimal learning outcomes. It is also evident that blended learning increases student satisfaction, as a community is created through the educational process that is characterized by a high degree of interaction [4]. In the accounting profession, in addition to recording numbers and financial analysis, collaboration with clients, colleagues and suppliers is required, creating strong interpersonal skills and effective teamwork skills [5].

Effective communication, active listening, cooperation, adaptability and ethical awareness are essential skills for professional accountants. In particular, social skills refer to an individual's ability to interact effectively with others within a social environment. Subsequently, teamwork refers to the collaborative effort of several individuals to achieve a common goal or mission, by combining their skills with shared ideas to solve problems or achieve specific results [6]. It is noteworthy that university institutions try to empower accounting students with the ability of teamwork, however in most cases, their curricula promote individual work group [7].

For this reason, the design of accounting courses by lecturers is highly necessary, using educational activities that increase student engagement through more collaborative work. Instructors in blended environments through e-learning have more flexibility to assign group work, as opposed to since the layout of classrooms in many cases do not help to develop collaborative work. However, that have been done in accounting education show that group work compared to individual work is minimal and is an aspect that involves room for improvement.

In this context, qualitative research was conducted through interviews with students who voluntarily participated during the spring semester of 2023 in the course of Advanced Financial Accounting at the Department of Business Administration at the University of West Attica in Greece. Specifically, the students' views on the range of social skills, and teamwork were explored in blended environments.

2 Literature Review

This literature review examines to what extent teamwork has been developed in the context of social skills in a blended learning environment, in accounting courses through the scientific articles studied [8, 9]. A large number of studies report that blended learning, is an experiential pedagogical approach that combines face-to-face teaching with e-learning, helping students, to develop the relevant skills not only of the curriculum but also of the labour market [8, 9].

Blended learning environments provide opportunities for students to participate engage in group activities, interact with other students and lecturers. Teamwork and social skills are important elements for higher accounting education, as professional accountants need not only technical knowledge and skills, but also social skills in order to meet the demands of their professional careers. In particular, social skills help accountants around the world to interact with all stakeholders, such as the government, clients, suppliers, colleagues, and other businesses [10, 11].

Negotiation, conflict resolution, communication and collaboration are some of the key soft skills required in the accounting industry [10, 11]. Teamwork in accounting courses can enhance the development of organizational, time management, critical thinking and problem-solving skills [12]. Also, Teamwork can enhance the ability to adapt to new situations and achieve common goals through cooperation and understanding among team members. However, it faces challenges and difficulties such as any unequal participation of team members, inadequate communication, and difficulty in conflict resolution. Therefore, it is important to properly manage the group dynamics and emotions of team members to achieve the common goals set [13].

There are several studies that focus on the importance of social skills and teamwork in accounting education, where they report that accounting students who participated in group workshops showed improved social skills and increased ability to work together compared to students who worked individually [14–16]. The use of technology enhances social skills through participation in Moodle forums as you develop a direct communication, collaboration and information sharing between group members in mixed accounting course environments. Skills acquisition and development is vital in preparing students for their professional careers in accounting [17, 18].

From the point of view of the educational process in blended learning environments, a more constructive environment is developed with a high degree of active participation and retention of students in the classroom. It has also been found that accounting students prioritize time spent on academic activities through which they cultivate technical knowledge and prefer the development of technical skills over teamwork. Researchers state that in accounting education it is necessary to redefine this area, as in many cases lecturers assign only individual tasks, resulting in a large gap in the development of competence in terms of students' teamwork [19].

The lack of teamwork creates in some cases a refusal by students to respond and participate in group activities. However, through the blended teaching approach, not only the skills of critical thinking, problem solving, communication but also the skills of teamwork are enhanced [20]. In particular, teamwork gives many benefits to accounting students, as it is an opportunity for different perspectives, as students from different backgrounds are involved in the educational process and in solving an accounting problem, giving new perspectives and views. Other benefit is the increase in creativity, through collaboration and exchange of ideas in student groups creativity and innovation is enhanced. Additionally, the sharing of responsibilities, as it is made possible for tasks and responsibilities to be allocated by the members of each team, allowing for the effective use of individual skills and resources of the university. The development of social skills, where through teamwork the opportunity is provided to develop and improve skills such as communication, collaboration, and exchange of views [21].

It is documented that good organization, mutual trust, respect and interaction with students and lecturers are necessary conditions for the development of teamwork [17, 18].

Table 1 Keywords

Source	Keywords
Research questions	Important, develop, teamwork, extent, skill
Existing literature	Active participation, cooperation, social skills, communication, collaboration, individual work, ability, solve, group, opportunity, activity, team, improvement, motivation, succeed, energized, exchange knowledge, satisfaction

3 Methodology

This research is a case study, as it was conducted at the University of West Attica in Greece and specifically at the Department of Business Administration during June 2023. The methodological design is qualitative through 14 individual interviews of students who participated voluntarily and anonymously with a code number to protect their personal data and they consist part of a bigger study. The first 7 interviews are related to the traditional classroom and the rest to the blended classroom. The set of questions refer to an experiment that took place within the Advanced Financial Accounting course, in blended learning environments. A part of the questions and answers of the experiment were used, which are exclusively related to the purpose of this study. The interviews of the participants were examined in depth using deductive qualitative content analysis methodology [22, 23]. The manifest analysis was based on keywords from existing literature combined with the research questions presenting in the below Table 1.

In this research fourteen (14) individual interviews of undergraduate students were conducted during the spring semester of 2023, in the course of Advanced Financial Accounting, University of West Attica, Greece. For the purpose of this study, the students answered two (2) questions, which were posed as the main research questions:

Research Question 1: “Do you think it is important to develop teamwork in the Advanced Financial Accounting course?”.

Research Question 2: “To what extent do you think you developed the skill of teamwork?”.

4 Findings

On the whole, participants responded freely without intervention from the researcher, in order to ensure that the qualitative data is reliable, and the results shed light on every aspect of the field under investigation. The findings are divided into two parts: a) the responses formulated by the students who participated in the traditional class (control group) and the students in the mixed class (experimental). It is noteworthy that during the transcription process, the content of the responses was not altered, and anonymity was maintained with a corresponding participant code.

4.1 Interviews of Traditional Class Students

Interviewee 1: "Definitely teamwork could have helped me in understanding the lesson, but both the room where the lesson was taking place and the arrangement of the desks did not help me to work with others, there was difficulty even though the teacher had assigned us teamwork in class. For these reasons I was not able to develop this particular skill".

Interviewee 2: "I believe that accounting courses are purely based on individual work and not on the spectrum of teamwork and cooperation. I did not develop this skill, all the weekly homework assigned was individual work".

Interviewee 3: "I would say teamwork is important for all courses and especially for accounting. Personally, I struggle a lot and it would help me if I had collaboration with other fellow students. In my job I work with others, so I am familiar, and I have developed the ability of teamwork, but from university I have not got this".

Interviewee 4: "For this course, I find that it helps me better to solve exercises on my own than with others. Since the first semester there is a mentality of solving exercises alone and there are few courses that allow for group exercises, so the ability to work in groups is limited. So, I don't think I have developed this ability. Maybe, I will be given this opportunity in the older semesters, I don't know."

Interviewee 5: "The final exams are assessed on individual effort, and I personally focused on understanding the material and solving exercises on an individual level rather than a group level. However, I definitely believe that teamwork is very important for all accounting courses and for the Advanced Financial Accounting course. Yes, that's my answer. Although I did not particularly develop teamwork even though the professor asked for it".

Interviewee 6: "In my opinion, the development of teamwork in the Advanced Financial Accounting course is very important, although I did not develop it to a great extent. Certainly, when there were classroom exercises where we were given this opportunity, it was an enjoyable activity for both me and the team members involved. Even the weaker students participated and had an interest in learning. I think it is worth having more collaborative exercises each week so that I can develop my teamwork skills more. I can say, maybe this would help me later on in my field of work, because what I study requires collaboration and teamwork".

Interviewee 7: "In my job, the ability to work in a team and social skills in general are essential, which is why I think they are very important for this course. I would like there to be activities in the course that would put me in the process of developing teamwork more".

4.2 Interviews with Blended Class Students

Interviewee 8: "The ability to work in teams is essential for this course. The positive thing was that in Moodle and Ms-team I was given the opportunity to develop it to a great extent. In the first case there were activities for teamwork such as participating in voting as a group, evaluating other groups' work such as the mind map and in the second case the time the teacher gave us in the rooms via Ms-team to work with others to solve an exercise. All of these helped me to develop my teamwork skills".

Interviewee 9: "At first I did not think that in accounting courses it was necessary to develop teamwork, but during the semester I realized how important it was for my progress in the course. I can say that the course activities helped me, especially through working with other students, because I understood the concepts more easily and eventually, I was able to succeed".

Interviewee 10: "Yes, it's quite important for this course. Because when we collaborate in joint activities, apart from the fact that we communicate and compare all our knowledge and sometimes notes, we come to some conclusions which have helped me personally. For sure, I developed the ability of teamwork".

Interviewee 11: "On the question of whether it's important, I think yes, on whether I developed the skill I would say not particularly because for the most part the Advanced Financial Accounting course is based on individual effort. I think there is a lot of room for my improvement".

Interviewee 12: "I believe in the development of teamwork because although at the end our assessment is individual, but throughout the semester the more collective effort from the teacher and the students, the more knowledge we gain and the more we actively participate. There were enough questions in the classes and a good collaborative atmosphere. I would say that I developed the team work quite a bit".

Interviewee 13: "Yes, it is very important, definitely when I work with other students it is easier for me to succeed. I have developed the ability of teamwork quite a lot through this course".

Interviewee 14: "The teamwork still in the e-classroom helped and energized me, it was a motivation for me to meet with other students who belonged to the same group and exchange knowledge. It gave me a great satisfaction that my opinion was taken into account by the teacher and by the group I belonged to, and it was something that encouraged me".

5 Discussion and Conclusions

The scientific value of the present study lies in its exploratory nature as no corresponding research has been developed in Greece that examines teamwork in mixed environments of higher accounting education. In parallel, with the primary qualitative research of undergraduate students of the Business Administration Department of the University of West Attica for the course of Advanced Financial Accounting, secondary research was conducted through the literature review.

Research conducted to date highlights the necessity of social skills and teamwork in accounting education and the potential of blended learning to contribute to their development [21, 24]. The blended learning framework provides greater flexibility in the educational process, with active participation of students through more experiential methods by which social skills and teamwork skills are developed. Social skills are considered highly necessary for the academic and professional success of accounting students. Researchers report that accounting education needs redefinition through the proper design of courses related to the accounting profession [25].

Therefore, university institutions in recent decades have increasingly tried to align themselves with the needs of businesses and the work market, in terms of knowledge and skills, in order to provide graduates with all the tools for success. Today, lecturers face the challenge of creating a supportive online learning community that encourages teamwork and promotes social interaction. Effective strategies to address these challenges include the adoption of new teaching methods such as blended learning, incorporating real-world scenarios into collaborative learning tools that increase student engagement in accounting courses; universities may contribute for the qualification of potential employees [26–30].

The development of social skills allows students to engage in a more comprehensive educational experience, enhancing their understanding of accounting principles, communication, and the development of critical thinking [12]. In addition to the results of the literature review, student perceptions and opinions emerged from the primary research, giving the academic community (students, lecturers, and university institutions) the opportunity to identify key points for developing strategies for constructive educational design through student-centered activities.

These activities in accounting lessons promote teamwork, with collective participation in solving exercises. The qualitative research showed that the majority of students agree that the development of teamwork is important in the Advanced Financial Accounting course. However, there were few opinions that it is not so necessary.

This shows that the results from the primary and secondary research are largely aligned and harmonized and that there is room for improvement in social skills and teamwork. More specifically, it was evident that in the traditional classroom through the activities and course content, there is not much opportunity for teamwork, although there is a view that it is important for the Advanced Financial Accounting course. Also, part of the students has the perception that while they wanted to in the end, they have not particularly developed teamwork. In the mixed class, the students report that teamwork skills are very important, and most have developed them through this course. What has helped them was the design of the course through synchronous and asynchronous learning.

In synchronous teaching the lecturer had assigned them to Ms-team rooms to solve exercises in groups, while through asynchronous teaching they used forums and activities such as polls and mind maps where evaluations were made by the student groups. Overall, they claimed that on the whole, social skills and teamwork were necessary not only for their academic career but also for personal and professional development.

6 Limitations and Recommendations for Further Research

The present study could not be generalized to all Greek universities, and there was a time limitation as it was conducted during the spring semester of 2023. It is part of a bigger research and the implementation of a qualitative research on a larger sample of undergraduate students for the course Advanced Financial Accounting at mixed environments is suggested. Conducting the survey in more accounting courses, has the potential to be compared in consecutive semesters in order to provide a more holistic approach to the research area under consideration.

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The Impact of Covid-19 Pandemic in Financial Performance of Firms Listed in the Athens Stock Exchange

Olga Diamanti, Christos Tzovas, and Nicos Sykianakis

Abstract The world was severely affected by the COVID-19 outbreak, causing, among others, possibly the worst global recession since 1930s. Of course not all sectors of economic activity were influenced in a similar way. While pharmaceutical companies had a boost in their profitability, other sectors including travel, tourism and leisure experienced huge losses and needed to be subsidized by the government. The current study investigates the impact of COVID-19 pandemic in the financial performance of firms listed in the Athens Stock Exchange (ASE). The sample includes 82 companies listed in the ASE during the period 2018–2021 according to clearly defined criteria. The selected firms represent a wide variety of business sectors, both industrial and services. The financial performance of those firms is depicted by a set of financial ratios. Findings of the empirical analysis do not suggest that pandemic had a significant impact on the financial performance of the sample firms. However, sectoral classification appears to affect the association between financial performance and pandemic. It appears that Industrial Mining and Metals firms and General Retail firms experienced an increase in their liquidity and profitability in the pandemic period while their leverage decreased in the same period. On the other hand, Technology and Hardware firms and Travel Leisure firms experienced a decrease in their liquidity and profitability, but an increase in their leverage. Generally speaking, services and crowd-dependent industries (such as that tourism) are most negatively impacted by the current COVID-19 pandemic. The findings of this study maybe useful to potential investors for making investment decisions as well as to policy makers for dealing with risk and the consequences of unpredictable events.

Keywords Firms' financial performance · COVID-19 pandemic

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1 Background of Research

The outbreak of the coronavirus (COVID-19) seriously affected health care, economy, transportation, and other fields in different sectors and regions. As a result of the quarantine policy population mobility sharply decreased, which led to weakened spending power and a stagnant economy. At the macro level, the COVID-19 outbreak provoked a major economic recession in 2020. Recent studies have investigated stock markets' reaction to pandemic [1]. It appears that significant negative abnormal returns prevailed at the initial stages of the pandemic which gradually lessened. Clearly returns were driven by sector-specific sectors, since certain industries' (e.g. pharmaceuticals, medicals and chemicals,) exhibited considerable higher returns comparing to other sectors (e.g. airlines, tourism, estate).

This study investigates the impact of COVID-19 pandemic on the financial performance of firms listed in the Athens Stock Exchange (ASE). The financial performance of sample firms is depicted by a set of financial ratios. The sample includes 82 companies listed in the ASE during the period 2018–2021. We compare the financial performance of sample firms for the period 2018–2019 (pre-pandemic period) with their performance in the pandemic period of 2020–2021. The findings of the empirical analysis do not suggest that the pandemic had a significant impact on the financial performance of the sample firms. Yet, firms' sectoral classification determines the impact that the pandemic has on the financial performance of sample firms. In particular, it seems that Industrial Mining and Metals firms and General Retail firms experienced an increase in their liquidity and profitability during the pandemic period, while their leverage decreased in the same period. On the other hand, Technology and Hardware firms and Travel Leisure firms experienced a decrease in their liquidity and profitability, but an increase in their leverage.

The findings of this study contribute to the literature on the impact of pandemic crisis on firms' financial performance. In addition to researchers and other academics, our findings can also be useful to practitioners and regulators in making investment and policy decisions amid a crisis related to COVID-19 pandemic. The findings of this study can also inform governments about the necessity of providing the appropriate tax incentives.

2 Motivation and Hypotheses Development

Apart the macroeconomic implications of the COVID-19, an alternative line of research focuses on the impact that pandemic had on the financial performance of firms. In most cases, the financial performance of sample-firms was depicted by financial ratios (profitability, leverage, activity, capital structure ratios), while the values of the financial ratios for the pre-pandemic period is compared with the corresponding values for the pandemic period. Most of the studies, [2–11], provided mixed signals regarding the implications that pandemic had on firms' financial condition and performance. The overall evidence suggest that impact of pandemic has not been uniform in all economy sectors. The adverse economic conditions resulting from pandemic had a minimal impact (or even a positive one) on the financial performance of firms from certain industries' (e.g. pharmaceuticals, medicals and chemicals), while significantly affected the performance of firms from other industries (e.g. airlines, tourism, real estate).

The focus on the Greek economy and specifically in the financial performance of Greek listed firms is justified by the fact that the Greek economy is dominated by the services sector. Services like travel, tourism and leisure are sensitive in negative and unexpected events, therefore affecting the demand for products and thus companies' income.

In order to investigate the impact of pandemic on Greek firms' financial we examined the following aspects of Greek firms' financial performance: Liquidity (measured by the current ratio), Leverage (measured by the debt/equity ratio), Profitability (measured by return on assets ratio) and efficiency (measured by the receivables turnover ratio).

In particular, we test the following hypotheses:

H1: The COVID-19 pandemic has a negative impact on the liquidity.

The lower sales caused by the pandemic can have an impact on the value of firms' current assets since cash and trade receivables will decrease. The value of current ratio will ultimately be affected by changes in current assets.

H2: During the COVID-19 pandemic firms' leverage increases.

A major reduction in sales will have an impact on the company's revenues and the cash it receives from cash sales. Moreover, company's losses from lower sales will have a negative impact on company's equity.

H3: The COVID-19 pandemic has a negative effect on firm's profitability.

The weaker consumer spending caused by the pandemic, can have a severe impact on a company's profitability. Furthermore, when a firm is unable to reduce its running expenses, its profit will further deteriorate.

H4: The COVID-19 pandemic has a negative impact on firm's efficiency.

The weaker consumer spending caused by pandemic power can have a severe impact on a company's efficiency depicted by a lower receivables turnover.

3 Research Design

The sample consists by companies that are listed on Athens Stock Exchange in 2018 and remained registered until the end of fiscal year 2021. In order to be included in our sample the 151 companies that were listed at the end of 2021 should had met the following criteria: the company must have been listed in the Athens Stock Exchange before 1 January 2018; the stocks of companies must have not been suspended for more than 12 months at any time period; the stocks of companies must not had been delisted during the period of study. Based on these specifications, the total sample consists of 82 public companies, which were divided proportionally into thirteen sectors: food producers, tobacco, construction and materials, industrial mining and metals, software and computer services, technology and hardware, support services, general retailers, travel leisure, energy and water, household goods, general and engineering industrial and personal goods. The financial sector's companies, such as banks, holdings and investments, are excluded from the sample data, in order to have a consistent interpretation of certain company characteristics such as earnings and size.

Financial ratios defined as the numerical or quantitative relationship between items or variables. This relationship can be expressed in various terms such as percentages or fractions [11]. We followed the [5] approach regarding the selection and the calculation of financial ratios. In particular:

Current ratio (CR) measures a firm's ability to pay off its short-term liabilities with its current assets and it is calculated by the formula, Current Assets/Current Liabilities.

Debt to Equity Ratio (DER) is classified as financial leverage ratio and shows the financial structure of a firm. This ratio provides an indication of a firm's solvency.

Return on Assets (ROA) is used to measure firms' profitability of a firm. This ratio is a significant indicator for the firm's ability to generate revenue by exploiting its assets and it is calculated by the formula is Profit/ Total Assets. Receivables Turnover Ratio (RTO) is included in Activity Ratios, it is a criterion for effective management of receivables and firm's liquidity. This ratio is computed as Sales/ Average Receivables.

The data have been derived from DataStream and ICAP data bases. We adopt an event study methodology comparing sample firms' financial performance the period before pandemic and during the pandemic period.

4 Descriptive Statistics

The results of the descriptive analysis in Table 1 illustrate that there is an increase in the average current ratio in Greek Companies during the Covid-19 pandemic compared to before the Covid-19 pandemic. The average value of the current ratio before the COVID-19 pandemic was 1.899, while the average value of the current ratio during the COVID-19 pandemic was 2.004. The increment in the current ratio from the COVID-19 pandemic to during the COVID-19 pandemic was 0.145. This increase in average indicates that the pandemic has not a negative impact upon firms' liquidity. In comparison to the period prior to the COVID-19 epidemic, the average value of DER increased throughout the pandemic. Before the COVID-19 epidemic, the average value of DER was 0.598, during the pandemic the average value of

DER was 1.519. Based on changes in the DER value, this increase in average shows that the COVID-19 pandemic has had a detrimental effect on the company's financial performance. Before the pandemic DER was under unit (DER < 1) that indicates that Debt was a smaller amount than Equity and the creditors have comparatively less financial interest in the business, while companies and sectors in this range of ratio are characterized by high quality lending and credit security. In the other side, during pandemic DER ratio is above unit (DER > 1) which indicates that Debt is a bigger amount than Equity and the creditors have comparatively more financial interest in the business, while companies and sectors in this range of ratio are characterized by low quality lending and credit security.

With respect to profitability as depicted by ROA ratio, the COVID-19 pandemic condition has positively affected firms' financial performance. Prior to the COVID-19 pandemic, ROA had an average value of 1.220, but it had an average value of 2.435 during the epidemic. Between before and after the COVID-19 epidemic, the average ROA increased by 1.215 points. This event depicts that companies manage efficiently total assets to generate profits. Before the COVID-19 epidemic, the average value of receivable turnover was 4.309; during the pandemic, the average value of turnover rose to 4.652. Prior to the COVID-19 pandemic, the average value of receivable turnover increased by 0.343. An increment of RTO is an indication that the average of companies collects the receivables more quickly in pandemic than before then and as result it improves the liquidity as it is depicted by the aforementioned improvement of current ratio.

We found that the impact of the COVID-19 pandemic was not uniform across the main sectors of the Greek Economy. The particular aspects of the financial performance of certain industries exhibit an improvement during the pandemic period (e.g. house-hold goods), while in other cases the impact of the COVID-19 pandemic was mainly negative. For instance, the Travel and Leisure firms experienced a dramatic decline in their profitability (ROA decreased from 4.243 in pre-pandemic period to 1.542 in the pandemic period).

Table 1 Descriptive statistics in overall sample

Descriptive statistics					
	N	Min	Max	Mean	Std. Deviation
CR before COVID-19	82	0.110	10.675	1.899	1.772
GR during COVID-19	82	0.045	9.715	2.004	1.646
DER before COVID-19	82	−23.153	14.198	0.598	4.344
DER during COVID-19	82	−11.781	19.683	1.519	4.229
ROA before COVID-19	82	−40.115	13.760	1.220	7.541
ROA during COVID-19	82	−13.970	18.625	2.435	6.219
RTO before COVID-19	82	0.341	28.758	4.309	4.273
RTO during COVID-19	82	−0.097	62.571	4.652	7.325

The Industrial Mining and Metals, General Retailers and Household Goods sectors exhibited an increase in liquidity, profitability, and activity, and decrease in their leverage. Sectors that experienced a reduction in liquidity and profitability are Technology and Hardware and Travel Leisure. Tourism sector has a significant contribution to the Greek economy, reaching 21% of GDP on an annual basis. Due to the restrictive measures on tourist movements, businesses in the sector, regardless of size, recorded heavy losses, as tourism receipts for the period Jan–Sept 2020 suffered a decrease of 78% compared to the corresponding period of 2019. Listed companies were not unaffected by the pandemic. In particular, the hotel companies in the sample suffered a 75% reduction in turnover due to reduced tourist flows and revenues, resulting in pre-tax losses and negative profit margins. Their borrowing increased by 4% while their equity decreased by 6%, leading to an increased loan-to-equity ratio of 9 percentage points. The decline in revenue in the remaining listed tourism businesses amounted to 20%, while EBITDA decreased by 22% and in total presented losses of € 3.3m. These findings are in line with the conclusions of [12] that maintained that crowd-dependent industries that are most negatively impacted by the current COVID-19 pandemic are tourism and its supporting industries, such as mass transit, hotels, and tertiary product companies.

5 Empirical Results

In order to investigate the significance of the impact of the COVID-19 pandemic upon the financial performance of Greek listed firms we proceed in inferential statistical analysis of data. In particular, we applied the Wilcoxon Signed-Rank test. The Kolmogorov–Smirnov and Shapiro–Wilk normality tests performed show that the research data are not normally distributed because the significance value is < 0.05, especially in the CR, DER and RTO variables. Therefore, a nonparametric statistical test, such Wilcoxon Signed-Rank, must be used.

The results of the Wilcoxon Signed-Rank test in Table 2 show that there is a significant difference in the values of DER between before and during the COVID-19 pandemic, which can be seen from the Asymp. Sig. (2-tailed) value of 0.00 < 0.05. For the current ratio, ROA and RTO, there is no significant difference between before and during the COVID-19 pandemic, which can be seen from the Asymp. Sig. (2-tailed) values of 0.152, 0.057 and 0.411 > 0.05. It can be concluded that H1, H3 and H4 are rejected, while H2 is accepted.

Based on the statistical analysis results, H1, H3 and H4 are rejected, which means that there is no significant difference in the liquidity ratio (current ratio), profitability ratio (Return On Assets) and activity ratio (Receivable Turnover Ratio) between before and during the COVID-19 pandemic. The descriptive analysis results show an increase in the average value of the current ratio, Return On Assets and Receivable Turnover Ratio. However, according to the results of the Wilcoxon Signed-Rank test, these changes are not significant.

Table 2 Wilcoxon signed-rank test results

	CR during CR before	DER during DER before	ROA during ROA before	RTO during RTO before
Z	-1.431^{b}	-4.237^{b}	-1.900^{b}	-0.822^{b}
Asymp. Sig. (2-tailed)	0.152	0.000	0.057	0.411

Note CR is current ratio, DER is debt to equity ratio, ROA is return on assets, and RTO is receivable turnover

We found that DER has increased significantly during the pandemic period. Also, [4] provide evidence that DER increased during the pandemic period. Furthermore, [9] maintain that during the pandemic period the corporation supported its operations by issuing debt, which caused the level of debt to rise more dramatically than its equity. Others reveal that there is a significant difference in the value of DER before and after the COVID-19 [13]. Yet, [11] found there is no significant association between COVID-19 and firm leverage which is measured by DER.

Similar to [2] and [6] we found that there is no significant difference in the current ratio before and during the COVID-19 pandemic. On other hand, [9] found that there was a decrease in liquidity ratio. The economic crisis caused by the COVID-19 pandemic has not a significant impact upon sample firms' profitability (ROA) and activity ratio (RTO). With respect to profitability, these findings are in line with the findings of [3] and [10]. On the other hand, [11] provide evidence for statistically significant difference in ROA before and during COVID-19. Concerning RTO, our findings are similar with those of [7] who found no difference in the turnover of receivable before and during the epidemic. On the other hand, [5] and [13] indicate that there is a significant difference in the value of RTO in the period prior to pandemic comparing the pandemic period.

6 Conclusion

We found that during the pandemic period sample firms experienced an increase in Current Ratio, DER, Return on Assets and Receivables Turnover. Yet, there was no significant difference in Current Ratio, Return on Assets and Receivables Turnover. On the other hand, there was significant difference in DER. The sectors that experienced an increase in liquidity ratio, profitability ratio, and activity ratios but a decrease in leverage ratio were Industrial Mining and Metals and General Retail. Sectors that experienced a decrease in liquidity, profitability and activity ratio, but an increase in leverage ratio were Technology and Hardware and Travel Leisure. Given the economic turmoil caused by the COVID-19 pandemic it might have been sensible to expect that the financial performance of Greek firms would adversely affected. Our study, does provide some evidence that the adverse consequences of the pandemic might not have been that severe.

The findings of this study can be a source of relevant information for investors or potential investors when making investment decisions amid a crisis related to the present COVID-19 pandemic. The findings of this study can also be utilized to inform the government about the necessity of giving the appropriate tax incentives for the impacted industries so that tax incentives can be provided to the appropriate sectors.

Future studies can build on the current study's findings by exploring the significance of additional financial variables in explaining firms' financial performance along with the impact of non-firm specific variables like GDP and other macroeconomic indicators.

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The Effect of Internal Audit on Universities' Reliability and Performance

Aggelia Xanthopoulou, Michalis Skordoulis, Panagiotis Arsenos, and Petros Kalantonis

Abstract The aim of this paper is to present a theoretical analysis on how internal audit can influence universities' reliability and performance. The paper's methodological approach refers to the study and evaluation of the relevant literature. In recent years, governments are demonstrating a growing interest and willingness to use public money to fund public organizations through several measures, procedures, and incentives that are closely in line with the principles of corporate governance. The goal is to create a coherent public administrative system of accountability, integrity, and transparency of public resources. A decisive factor in creating strong public governance is the universal implementation of an effective internal control system, including audit and risk management activities, since, in most of the cases, every organization has a different control system. Efficient university governance ensures financial sufficiency for the promotion of research and scientific programs, for the upgrading of infrastructures, and for the implementation of new innovative teaching methods. University performance is tied to the organization's funding as it is allowed to fulfill several concrete objectives. Fundings initially stabilize the financial sustainability of organizations, particularly those that face great fiscal risk, and, by extension, the sustainability of universities. The paper's analysis includes the presentation of university governance and internal audit services cases around the world. The paper's results indicate that audit activities in universities can ensure their financial quality and the credibility of their administration system and encourage their leadership to demonstrate more consistency about the management of financial and human resources. Thus, it is proposed that every university should develop, promote, and consolidate an audit culture that will ensure fiscal discipline.

Keywords Internal audit · Governance · Universities · Performance

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1 Introduction and Background of Research

Under greater scrutiny and facing demands from taxpayers and voters for more transparency and accountability in public governance, governments have gradually adopted various forms of corporate governance practices, models, and mechanisms in public organizations through legislative changes and provisions [1]. The aim of the reforms is to increase public organizations' performance and efficiency, to provide value and confidence in their social and economic transactions [2] and build a climate of trust [3]. Trusting relationships are crucial for transparency and disclosure of reliable information and enhance confidence in public policies [4].

Public organizations are usually perceived as serving the public interest because their benefits extend to society. There is an implicit "social contract" that balances citizens' support through taxation and public policy in exchange for maximizing social welfare. Citizens are the stakeholders of public organizations to whom governments and civil servants pay a social dividend through the services they provide [5]. Therefore, they expect from them to serve the public interest with fairness, contributing to the efficient and effective functioning of the state, economic growth, and sustainable social development.

Public governance should ensure the credibility of the administration system, focusing mainly on accountability, transparency, and integrity, as public organizations are responsible for the management of financial and human resources and the quality of their services [6, 7]. Integrity refers to honest and reliable management; transparency refers to unrestricted access and timely information about governance's decisions; and accountability refers to their obligations to manage public resources properly [8]. Accountability is tied new public management, and the adoption of corporate governance principles in public sector [9]. It is a key component and the symbol of good governance and is critical to economic development [10]. Citizens need full access to information to be able to assess public governance performance. So, transparency is a precondition for accountability [11]. Reliable information on the outcome of policies is the key for public organizations' legitimacy, funding, and competitiveness and contributes to the quality of the decision-making process and their performance [12].

In the context of the recent reforms of the public governance, universities are considered as social organizations. The goal is to implement new business-oriented management strategies in universities to transform them into more inventive, flexible, and innovative entities [13]. Implementing tools for monitoring and supervision is important in universities' governance framework, as they enhance the transparency of their activities and outcomes [12]. Audit activities encourage academic organizations to maintain and enhance their financial sufficiency and the financial viability of their sustainability. They contribute significantly to their efforts to improve their performance and increase their organizational quality [14].

The aim of the present paper is to present a theoretical analysis on how internal audit can influence universities' reliability and performance.

2 Methodological Considerations

Since the paper provides a theoretical analysis, it refers to the study and evaluation of the relevant literature. Keywords including "governance", "corporate governance", "university governance", "internal audit" were searched in the well know data bases Google Scholar and Scopus, to retrieve the relevant literature. Subsequently, the papers with the highest relevance to the subject of this research were selected to be analyzed. More specifically, out of 150 papers initially selected, 33 papers were finally used since they met the criterion of relevance with the paper's core concepts referring to internal audit in universities and to universities' performance.

3 University Governance and Performance

Academic organizations influence the progress of society and contribute to its economic development [15]. Social welfare is achieved by producing a skilled workforce, which take part to a country's economic growth [16]. The state provides the needs of universities, universities provide the needs of society, and the high value of knowledge provides the needs to transform them into demanding and competitive enterprises [17].

Universities form a complex puzzle of market factors, government activities, and public funding. Their regulatory and organizational framework is determined by national legislation, but their management is determined by market rules due to high competition among them. They are nonprofit in nature and are also subject to influences from factors outside the market or not connected to the business world. Social and political influences, legal requirements and obligations comprise a nonmarket environment that affects and determines their performance [18]. Their governance is directly linked to their social responsibility, considering their social dimensions and the strengthening of accountability [19]. The degree of societal accountability and transparency determines the level of delivering public assurance about the quality of their performance [20]. So, university governance should ensure a closer alignment of higher education with societal objectives and contribute to the realization of social development.

University performance is multidimensional and can be defined in many ways. The principal measures to evaluate university performance are teaching and academic quality (teaching and academic performance), research quality (research performance), and financial viability for its sustainability (financial performance). Regarding financial performance, universities are nonprofit organizations and their performance criteria such as profit, return on assets, and return on investment are inadequate. Universities' sustainability is a condition that must be satisfied to obtain quality organizations. Fundings initially stabilize the financial sustainability of universities, particularly those that face great fiscal risk, and, by extension, their sustainability [21]. So, university performance is closely tied to the organization's funding as it is allowed to receive funding in return for full commitment to fulfill several concrete objectives. Many countries, such as Australia, Austria, Canada, Denmark, Finland, Germany, Ireland, Netherlands, and Scotland, have implemented performance contracts [21].

Efficient university governance plays the most important role in improving performance since it ensures financial sufficiency for the promotion of research and scientific programs, for the upgrading of educational infrastructures, and for the implementation of new innovative teaching methods [22].

4 University Governance and Internal Audit Services Cases

The race of a higher position in the world ranking of best universities, the increasing competition in research and academic education, and the acquisition of higher quality students and academics, create a particularly vulnerable and competitive environment. During the last decade, sudden and unexpected changes in the economy limited public resources, and university revenues derived from public funding, which led to a reduction in "academic investments." Since then, universities have made a special effort to find out other sources of funding by trying to increase their overall income and provide high-quality services [23]. They seek to exploit new sources of income, such as income from intellectual property rights, professional postgraduate programs, and the rental of university facilities, to acquire funds to invest in upgrading research and academic education. They have started to become "entrepreneurial universities" and are organized and managed as businesses by adopting and implementing corporate governance principles such as internal audit activities.

According to Schneider and Meins [24] the most significant indicators of university sustainability governance is their strategy, their organization, the procedures applied, the influence of external factors and internal audit activities. Ineffective internal control system, inadequate procedures and audit activities have a negative impact on viability, organizational quality, and performance [25].

In the universities of the USA, the top leadership applies "corporate managerialism approach", focused on enhanced internal audit activities, monitoring and supervision mechanisms, particularly related to financial system and grant processes, since they provide assurance about the quality of financial reports and federal grants outcomes [26].

In Italy, national governments have put pressure on universities to control their budgets, to use their resources more effectively and to steer their policies closely in line with corporate governance principles. Universities are required to be publicly accountable and to demonstrate value for money in teaching and research. Audit activities are focused more on the examination of the way universities conduct business to fulfill their objectives [27].

In Romanian universities, internal audit activities are focused on accounting system to ensure reliability. University leaders have more interest to provide reasonable assurance about the economic transactions regarding their compliance with laws and regulations in forced and less on system performance [28].

Federal government in Nigeria is the sole funder of universities and is expects from them to increase the quality of their services and their performance. The implementation of internal audit activities has reduced information asymmetry during decision making and ensured reliability of the financial reporting process [29].

In Ethiopian public universities, there was a great need to build a well committed human resource of high integrity and responsibility to adhere to internal audit activities. Risk management process and audit activities protect the financial resources of the universities by reducing the probability of a particular loss [30].

Public universities in Indonesia, imply internal audit activities, since these activities have a positive impact on decision making process, and on human and financial resources management. Cases of fraud and corruption appear due to the ineffectiveness of internal control system [31].

In Greece, all public organizations, including universities, that their budget is more than three million euros, are obligated to implement the internal audit activities. Subsequently, Law 4270/2014 and Law 4622/2019 provided the universal implementation of audit activities to all public entities that manage public money. However, in the annual report of the Court of Auditors for the year 2019, after financial and compliance audits were carried out, it is confirmed that in eight universities, the internal audit function was not implemented. Law 4957/2022 concerning the reform of higher education explicitly mentions the implementation of the internal audit function, and the Ministry of Education forced universities to fulfill their obligations without further delay. Finally, all universities established internal audit unit until December 31, 2022. The end of the year was the deadline, to comply with the legislative provisions. Before December 2022, only nine (9) organizations had set up internal audit unit, six (6) of them were even partially staffed and four (4) of them imply internal audit function.

5 Discussion and Conclusion

University governance reflects the way they are governed in a given political, social and economic context. It is a complex puzzle that encompasses structures, processes, functional framework, specific characteristics of each organization and relationship among decision making bodies, through which universities policies are developed, implemented, and reviewed. Over the last years, universities have been under a continuous pressure of changing the way of operations and their strategic vision and apply corporate governance models, practices, and procedures at their academic governance.

Universities use their financial and intellectual capital to improve their governance and achieve strategic outcomes, higher valuation, and higher brand performance [32].

Good university governance revolves around the principals of transparency, integrity, accountability, fairness, and responsibility in the management of the organizations. The above governance pillars can lead the financial management system to necessary improvements, and obtain reliable economic transaction, efficient allocation of resources without loss of revenues, controlling fraud and corruption and enhance trust in public higher education. Strong governance can be obtained thought the implementation of risk management and internal audit activities which guarantee the financial stability and sustainability of organizations and by extension their academic sustainability [33–36].

Public organizations including academic organizations facing financial problems and especially with high degree of budgetary pressure to ensure their macroeconomic sustainability and prevent losses of public resources which are restricted, imply internal audit activities oriented to compliance with laws and regulations and financial auditing. On the contrary, public organizations that have ensured their macroeconomic stability, imply internal audit performance since they are interesting more to maximizing their performance. Most of universities imply risk management and audit activities to improve their financial and accounting system, prevent and detect on time risks, threats, and fraudulent activities, and obtain efficient and effective use of public resources and property. Their financial stability affects positively their financial performance and gives them the ability to increase investments in research and scientific programs, upgrade their infrastructures, and adopt new innovative teaching methods.

Future research may analyze and critically evaluate the different audit systems of universities. Another area of future research could examine the existence of possible differences in the performance between mandatory and voluntary audit systems.

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From an Integrated Tourism Model to a Place Branding Strategy. Perspectives of Mediterranean Tourism Experts

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Abstract The development of new and/or alternative tourism models has been an important practice towards effective and sustainable tourism management. Their aim is to ensure that tourism development is achieved through the lens of integration, responsibility and sustainability. The production of such models usually lacks the incorporation of place branding perspectives. Place branding strategies can act as important promotion actions of a tourism product, which is designed as a place-based strategy. In this context, this paper seeks to identify the parameters through which an integrated model could be transformed into a place branding strategy or incorporate place branding perspectives in order to promote the model itself as well as the destination as a whole. In order to do so, this paper builds upon the experience on tourism models developed under the Sustainable Tourism Community (STC) of projects of Interreg MED Programme. The method to serve the aim of the paper is dedicated interviews addressed to representatives of the STC, who have a good knowledge of their project activities and are experts in the field of tourism. The findings reveal that building a place branding strategy connected to the tourism models could be a valuable asset towards the sustainable development of tourist destinations. Although the development of tourism models share similar principles with place branding strategies, the key challenge is to align their focus since branding strategies are more place-based approaches with emphasis on the destination, while tourism models have a wider context with emphasis on the tourism type.

Keywords Place branding · Tourism model · Sustainable tourism · Mediterranean

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1 Introduction

The development of new and/or alternative tourism models is an important practice towards effective and sustainable tourism management. These models can take the form of integrated products, action plans, methodologies, packages etc. Their aim is to ensure that tourism development is achieved through the lens of integration, responsibility and sustainability taking into account social, economic and environmental specificities of tourism destinations and addressing the legal and policy framework behind them. Although the production of such models includes the design of measures, actions and directions towards their implementation, they usually lack the incorporation of place branding perspectives. They include soft and horizontal promotion actions, usually, not in full connection with the destinations they focus on and designed independently from other branding and/or promotion experiences of the same destination. Place branding strategies could fill in this gap by acting as promotion actions for tourism models which are designed in a place-based context. Tourism branding in particular is of special interest, given the complexity of developing unique tourist experiences and understanding the tourist decisional process [1, 12].

In this context, this paper seeks to identify the parameters through which an integrated tourism model could be transformed into a place branding strategy or incorporate place branding perspectives in order to promote the model itself as well as the destination as a whole. The paper builds upon the experience of tourism models developed under the Sustainable Tourism Community (STC) of projects of the Interreg MED Programme. The STC aimed at enhancing sustainable and responsible development of coastal and maritime tourism in the Mediterranean area. Through the 2014–2020 programming period, the STC produced a series of models at a coastal destination level related to fishing areas, ecotouristic places, ports, underwater cultural heritage sites, mountain areas, cities and small towns etc. Five of them are selected for the purposes of this paper which were tested in various coastal destinations of the Mediterranean.

2 Methodological Framework

The method to serve the aim of the paper is dedicated interviews addressed to representatives of the STC, who have a good knowledge of their project activities and are experts in the field of tourism. The purpose is to challenge the respondents to comment on how they see the tourism models produced by their projects as potential starting points for developing place branding strategies incorporating the knowledge gained from their activities. The questions were addressed to five tourism experts—all active members of the STC Community—from different institutions across the Mediterranean (located in Italy, France, Greece and Spain) and were conducted in July 2023. The objective was to match the STC models with the most acknowledged place branding components identified through literature. The matching was achieved by designing a set of questions that each of them challenged the respondents to assess each branding component chosen by this paper (Sect. 2.2). The respondents had the opportunity to either openly discuss the characteristics of each component according to their model, or assess their models' performance on a scale from 1 to 10. The collection of their responses was then elaborated by the authors and grouped under 3 categories of integration between the model and the component (low, medium, high). The outcome is an evaluation matrix that provides an assessment of whether the STC models cover place branding components and could be transformed into place branding strategies. The respondents had the opportunity to comment and provide feedback on each model taking into account the nine components described below. A purposive sampling method was applied which consisted of five experts (one for each model). The aim of the sampling method was to obtain a sample that represented the perceptions of experts with deep knowledge of tourism issues due to their involvement in the STC projects [15, 17].

2.1 The STC Tourism Models

For the purposes of this paper, five tourism models were selected. The criteria behind their selection are the existence of a strategy and the development of a concrete tourism model. The models are described below:

An all Year Round Tourism Model: Mediterranean destinations are often dependent on the 3S tourism model (Sea-Sun-Sand). Seasonality is a major challenge both for overvisited areas and for unexploited destinations with important tourism potential. WINTERMED project addresses these issues by promoting alternative and sustainable all-year round use of tourism in Mediterranean island destinations.

Emblematic Mountains of Slow Tourism: Tourism destinations do not only encompass the coastal strip, in direct contact with the sea, but also include the hinterland. EMbleMatiC project aimed at creating and promoting an alternative form of tourism offer, one that is reflected through "emblematic" mountain areas. These are well-known mountains, consolidated tourism destinations close to the Mediterranean coast. The project's approach was to define the "EMbleMatiC dimension" and create an umbrella brand for its network of mountains.

Ecotourism for Protected Areas: Part of the tourism demand is the authentication of local culture, the close encounter with important natural assets and biodiversity. Under this notion, DestiMED and DESTIMED PLUS, created and promoted the Local Ecotourism Cluster (LEC). LECs aim at creating sustainable and competitive ecotourism products in protected areas and are supported and promoted under the Mediterranean Experience of Ecotourism (MEET) brand, a network for managing commercially viable and conservation-focused ecotourism products.

Sustainable and Quality Tourism in Small Towns: Local and small-scale areas often face the challenge of decline of the tourism sector due to lack of planning and promoting themselves as tourism destinations. SuSTowns project addressed this challenge by developing tools for the planning and management of tourism. It proposed a local-based model, which used the Total Quality Management (TQM) approach to build action plans for small Mediterranean towns.

A Fishing Tourism Business Model: Tourism can be an opportunity for small fishing communities to strengthen their local economy, maintain their traditional identity and preserve the marine environment by creating unique touristic experiences for visitors. To this end, a FishingTourism business model was developed by TOURISMED project with the aim to design, manage and implement experiential tourism activities [8].

2.2 The Branding Elements

Existing literature on the most acknowledged place branding management components highlights nine essential elements and their interactions for the successful implementation of a place branding strategy [7]. In this vein, the questions addressed to the STC tourism experts were based on the following elements:

Brand Evaluation: The techniques used to acquire feedback on a brand's experience and image are referred to as brand evaluation. To guarantee that brand infrastructure meets and exceeds expectations, strong coordination with stakeholders is required [7]. Evaluation of place brand equity reveals which brand equity components may support a particular place's brand and what possible relationships may exist between these factors [16].

Stakeholder Engagement: "Stakeholder engagement" describes the techniques used to identify stakeholders, their interests, and the management of their interactions [5]. Recognizing contemporary long-term place branding strategies based on community involvement requires a stakeholder-oriented approach to place branding as well as the adoption of a participatory methodology [11, 13].

Brand Infrastructure: The existence, accessibility and sufficiency of a brand's functional and experiential features are referred to as brand infrastructure (regeneration) [2, 6].

Brand Identity: Brand identity is among the most important elements in branding since it establishes how stakeholders wish the location to be perceived [6]. It is expressed through a variety of key elements such as the physical characteristics of a location and its functional and experiential qualities [14].

Brand Architecture: Brand architecture contributes to achieving synergies, avoiding internal competition while creating a strong profile [3, 4]. Brand architecture is defined as *"the relationship between the city's various internal locations, entities, and experiences within its boundaries"* [2].

Brand Articulation: Brand articulation is the link between brand identity and brand communication, taking into account the brand architecture [6]. It is defined as '*the brand's visual and verbal identity expressed through the brand name, logo, color, palettes and photographs'* [2].

Brand Communication: Brand communication refers to *'the promotional mix used to communicate the brand'* [2]. It builds upon and is closely tied with brand articulation and it has a direct impact on perceptions and the reality of the brand experience [6].

Word of Mouth (WOM): WOM is the informal exchange of information among "consumers" of the brand experience [6]. Word-of-mouth communication is "*the exchange of comments, thoughts, or ideas between two or more customers, none of which is a source of marketing*" [9]. WOM is recognized as a crucial channel for disseminating opinions about intangible tourist attractions, which has a significant impact on the popularity of travel destinations [10].

Brand Experience: Brand experience refers to the way a consumer interacts with a brand and how that interaction affects their perceptions. A destination brand experience occurs when a person visits a place with a well-known brand and then receives enjoyable experiences from that visit [7, 12]. Positive brand experiences promote repeat visits to the same place and spread favorable word of mouth about it [18].

3 Results and Discussion: From a Tourism Model to a Place Branding Strategy

The outcome of the methodological framework was the creation of an evaluation matrix that integrates the results of the interviews assessing the STC tourism models in the context of the identified place branding components necessary for transforming tourism models into place branding strategies. Based on the respondents' answers, each model was assigned a qualitative rating (low, medium, high) for each of the nine branding elements based on the integration of each element in the models' strategy. The integrated results are shown in Table 1.

Taking into account stakeholder engagement, all models seem to have foreseen engagement actions in order for the model to be accepted and implemented in the Mediterranean territories. The experts were asked not only about the type of the stakeholders and the level of their engagement for the successful implementation of the model but also about their role in the implementation and the engagement actions that took place to support it. Most actions included intensive activities such as the organization of workshops, local focus groups, training, establishment of consortia, committees and associations, awareness campaigns etc.

Table 1 Evaluation matrix (own elaboration)

STC model	Place branding components								
	Stake holder engagement	Tangible and intangible infrastructure	Brand identity	Brand architecture	Brand articulation	Brand communications	World of mouth	Brand experience	Brand evaluation
Ecotourism model	•	●	●	•	●	●	·	•	●
Slow tourism model	●	•	●	•	●	●	•	●	·
Tourism model for small towns	•	●	•	•	•	•	·	•	•
Fishing tourism model	●	•	●	·	●	●	●	●	•
Tourism for insular areas	●	•	●	·	•	●	·	•	•

· Low
• Medium
● High

Regarding the infrastructure (tangible or intangible) for the promotion of the tourism models (e.g. equipment and facilities related to the built environment and entertainment and cultural services), all models score between medium and high. This means that all models managed to identify the elements of the built and natural environment that compose the appropriate conditions for the promotion of the tourism model. Of course, each model is related to different types of infrastructure, depending on the type of tourism it focuses on. For example, ecotourism clusters call for online platforms and training, fishing tourism is highly dependent on the fishing equipment (e.g. condition of vessels) and its related services (cultural and entertainment services) while slow mountain tourism needs include signing, interpretation panels, equipment in huts/public buildings, picnic areas etc.

What is interesting is that almost all tourism models have a very well-defined identity behind them as well as the actions to promote it. It seems that the identity of the destination played an integral role in building the STC tourism models and proves the obvious relationship between the destination's elements that form its identity and the tourism potential that is identified by the destination.

In terms of brand communication, all models worked significantly towards the promotion of tourism experience inside the pilot destinations and to similar territories sharing a common identity. More specifically, the models included communication strategies, promotional packages, social media campaigns and international media outlets, online platforms etc.

The same goes for the brand articulation of the models (medium and high scores) regarding the expression of the brand through audio and visual elements. All models invested in the design of logos, slogans, leaflets, posters, story-telling videos etc. for the promotion of the tourism experience. This shows a deep understanding of the need for consistent and well-targeted messages to the selected target groups. On the contrary, very few were accomplished in linking the brand of the models to other place-based distinctive brands and activities. This is attributed to the implementation framework of the models which were developed and tested under the umbrella of Interreg MED and therefore limited to specific activities.

Brand experience is of particular interest to the analysis given that it is the component in which the end-users engage with the brand and formulate their own perceptions. As can be seen from the matrix, the models' scores range from medium to high depending on the actions taken to support the interaction between the brand and the end-users. These actions included Local Action Plans, mobile applications, familiarization visits, interpretation facilities, local guidance services, free trials etc.

On the other hand, the matrix shows high fluctuation among the Word of Mouth scores of the models. Informal communication between consumers of the brand experience is very hard to accomplish within the limits of a project. However, some projects managed to score highly on the board as in the case of the *Fishingtourism* model. Fishermen acted as storytellers of the communities passing on not only the tourism experience but also the local traditions and culture of the place.

Finally, regarding the actions taken to assess the models, gather feedback and monitor the experience, the models scored medium rating on average. The models included either quantifiable or qualitative methods to measure and monitor the brand

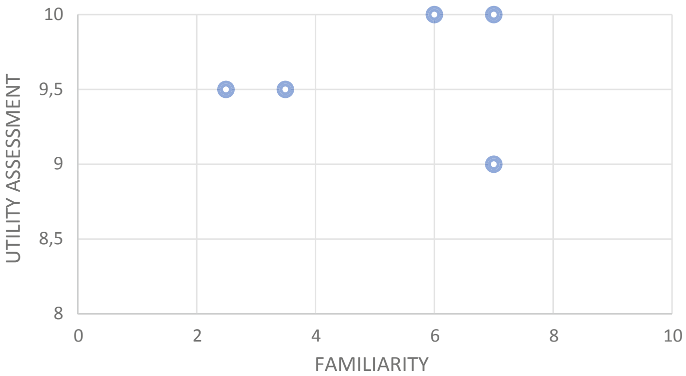

Fig. 1 Experts' assessment on the utility of building a place branding strategy connected to the tourism models (own elaboration)

experience. These methods varied from indicator sets to laboratories and associations acting as networks for monitoring the quality of the experience and identifying potential barriers.

All in all, the experts were all highly in favor of building a place branding strategy to promote the model, regardless of how familiar they are with such strategies. They highlighted how useful—if not required—it could be to build a place branding strategy that is aligned with the tourism model that is being promoted and integrates the local community. It is worth noting that the foundations have already been set by the models by incorporating several branding components in their design and actions (Fig. 1).

4 Conclusions

This paper has attempted to bring to the forefront the integration between tourism models and branding strategies in order to support sustainable tourism development by giving emphasis not only to the type of tourism potential but also to the destination. In this context, place branding strategies and tourism models have been at the core of this analysis that aimed to identify the parameters through which an integrated tourism model could incorporate place branding perspectives and be transformed into a place branding strategy. In order to do so, the paper has chosen, on the one hand, a community of tourism models and, on the other hand, a set of place branding components, highlighted in recent literature. The findings of the paper reveal that the development of tourism models shares similar principles with place branding strategies, such as the identification of the destination's particularities and competitive advantages, the definition of the stakeholders responsible for effective and sustainable tourism development and the promotion of effective governance at different levels.

The findings also highlighted the strengths and weaknesses of the tourism models in terms of incorporating branding elements. Among the strongest elements of the models are stakeholder engagement, brand identity, brand articulation and brand communications. On the other hand, brand architecture and word of mouth were not easy to incorporate within the models' context. Finally, the models managed to take significant steps towards building the appropriate tangible and intangible infrastructure for the implementation of the model, engaging the end-users with the brand and evaluating the brand experience. The experts clearly highlighted that building a place branding strategy connected to the tourism models could be a valuable asset towards the sustainable development of tourist destinations. The key challenge is to align their focus since branding strategies are more place-based approaches with emphasis on the destination, while tourism models have a wider context with emphasis on the tourism type. This alignment could assist tourism stakeholders in better understanding the identity of a destination in order to build and offer an integrated model and experience.

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Workers' Competencies in the Context of Industry 4.0. The Case of Poland

Anna Barwińska-Małajowicz and Radosław Pyrek

Abstract Competencies play an extremely important role in today's world. The discussion around human resources is increasing in the context of the fourth industrial revolution. There is an emerging need for competencies that enable employees, businesses and society to function effectively in the digital reality. Competition in the digital era is increasing and more aggressive. Employers need highly skilled employees who can handle all the new market challenges. Competencies of Industry 4.0 help companies stay competitive and adapt to a rapidly changing business environment. Investing in the development of employees to increase their competence brings many benefits and contributes to the long-term success of companies in all sectors and industries. The article focuses on competencies that are essential in the context of Industry 4.0, such as creativity and innovation, critical thinking skills, digital competencies, problem-solving skills, communication and collaboration, entrepreneurship and the process of permanent learning. The most up-to-date research reports conducted by various institutions in Poland dealing with labour market and worker competencies were reviewed under specific keywords listed below. The focus is on identifying the competencies that are relevant from the perspective of the Industry 4.0 from the point of view of employees and employers. The methods used were literature research of well know databases such as google scholar McKinsay.com, Deloitte.com, ResearchGate.com including surveys and reports with Polish cases such as google, stat.gov.pl keywords under search were 'competences', 'skills', 'profession', 'industry 4.0', 'Poland', 'employee' desk research, methods of quantitative analysis and frequency of distributions of answers to questions from diagnostic surveys that are research instruments in the reports analysed.

Keywords Competences · Skills · Profession · Industry 4.0 · Poland · Employee

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1 Introduction

The Industry 4.0 concept is significantly changing products and production systems regarding design, processes, operations and services, permeating global value networks, with implications for the management and organisation of future workplaces through the creation of new business models. The advancement of digital transformation creates new challenges for many organisations, which translates into a number of different consequences, resulting in, among other things, the need to build networks of machinery, changing organisational structures, stimulating integration and changing employee behaviour in networked processes. Working in the new production environment and in conditions of dynamic development of modern technologies (the Internet of Things, big data, artificial intelligence, cloud computing, etc.) requires adequate competences, beyond those hitherto considered to be of key importance. The main objective of this study is to present the competences that are essential in the context of Industry 4.0 as identified in literature from the point of view of employees and employees.

2 Methodology

The main research methods adopted for the purpose of this study have been desk research method and meta-analysis of current research reports presented by various entities of the labour market in Poland. The study focuses on identifying competences that are relevant for Industry 4.0 from the point of view of employees and employers. Quantitative analysis methods and distributions of the frequency of answers to questions from diagnostic surveys serving as research instruments in the analysed reports have also been used. Keywords under search were ‘competences’, ‘skills’, ‘profession’, ‘industry 4.0’, ‘Poland’, ‘employee’ in well-known databases such as google scholar, McKinsay.com, Deloitte.com, ResearchGate.com.

3 Industry 4.0—Historical-Economic Background and Components

Industrial revolutions had a profound impact on developing the methods of production, lifestyles and human work. The cradle of the first industrial revolution (the late eighteenth century—the mid-nineteenth century) was Great Britain; it was symbolised by the mechanisation of production due to the improvement of the design of the steam engine by the Scottish inventor James Watt. The revolution in the manufacturing industry began with the invention of a spinning machine (the so-called flying shuttle) by the English clothier John Kay (1733) [1]. Thread, which had been produced on simple looms, could be produced eight times faster thanks to mechanisation. From then on, steam engines started to be used instead of human muscle power to drive spinning mills [1, 2]. Economic development and the progress of industrialisation were also stimulated during this period by further inventions (the spinning jenny, the water-powered spinning machine, the steam turbine patented by James Watt, the power loom developed by Edmund Cartwright) [3]. This was a period of positive changes in the textile, steel and metallurgical industries. During the next period in the economic history (the second half of the nineteenth century—the early twentieth century), referred to as the second industrial revolution, technological developments in the gas lighting, chemical, glass, transport machinery and paper machinery industries played a major role [4] The third industrial revolution, which began in the 1950s, brought enormous changes that affected almost every aspect of the economic, social, political, and cultural life. One of the first impulses of the third industrial revolution, associated with the development of the Advanced Research Projects Agency Network (ARPANET), occurred in 1969. This gave rise to the development of the Internet and, with it, the Information Age. Similarly to the previous revolutions, the third industrial revolution is mainly driven by technological progress in the production, distribution and energy factors. At the same time, the world is moving from an information society to a knowledge society. The idea that computers no longer need to be programmed to act, but instead can sense the surrounding world to obtain facts and figures without additional human intervention, started a new era of computing technology [5]. It was pointed out that the Internet of Things concerned the global communication of things, objects, devices, the transfer of information between objects and humans, as well as only between objects. The Industry 4.0 concept first appeared in the United States of America in 1999. Kevin Ashton coined the term the 'Internet of Things', claiming that physical objects could be connected to a network (the Internet) [6]. In Europe, the Industry 4.0 concept was first used in Germany at the Hanover Fair in 2011, when German science, business and politics representatives presented the 'Industrie 4.0' initiative [7]. Today, the 'Industry 4.0' concept is applied in many European countries, although it is referred to differently. In English-speaking countries, the concept is referred to as the industrial Internet, the Internet thing or smart factory. In addition to the non-uniform name, the characterisation of the Industry 4.0 concept is not the same in all countries, as it depends on the interpretation and perception of this conceptual category by individual communities [6]. Irrespective of the geographical location, studies of the literature on the subject allow for the creation of a typology concerning technological trends included in the Industry 4.0 concept [8]. These include the technologies listed in Fig. 1.

It is difficult to provide a single, universal definition of the Internet of Things, despite numerous attempts made by researchers. However, the Internet of Things can be defined in three categories: (1) human to human, (2) human to machine/thing, (3) thing/machine to thing/machine, by way of interaction over the Internet. In such a context, the IoT refers to a concept and paradigm that considers the ubiquitous presence of diverse things/objects that are able to interact with one another and collaborate with other things/objects to create new applications/services and achieve

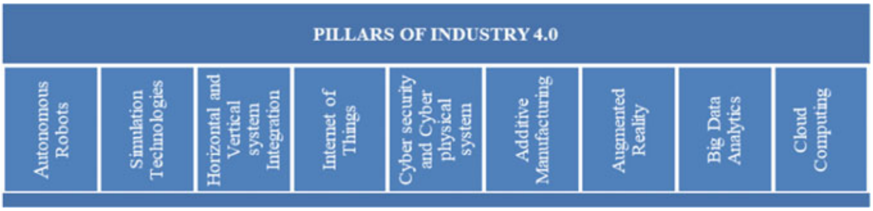

Fig. 1 The technological pillars of Industry 4.0. Authors' own work based on previous works [8–11]

common goals [12]. The Internet of Things can also be thought of as a global network that enables human-to-human, human-to-thing and thing-to-thing communication, providing a unique identity to each object [13]. Industry 4.0 is the digitalisation and networking of production and the corresponding transformation of business models and strategies. It is a category that combines the real world with the virtual world in real time [14]. It is a collective term for technologies and concepts of value chain organisation [15]. It is a complex solution created at the intersection of engineering, IT and management knowledge. Industry 4.0 represents a smart combination of multiple IT technologies used in companies and involves the computerisation of traditional manufacturing industries and the gradual blurring of boundaries between individual factories [16]. The main examples of the application of the fourth revolution are autonomous manufacturing systems ('smart' factories that autonomously organise the production process and flexibly respond to changes in requirements), autonomous vehicles (e.g. cars, drones), advanced robotisation (robots used in factories, for elderly people care, cleaning), with sensors to track and monitor objects (e.g. monitoring their location), 3D printing (a promising technology for producing personalised products, used e.g. in medicine, dentistry, jewellery) and new materials with unique properties (e.g. self-cleaning clothes, pressure-exchanger ceramics, graphene) [16, 17].

4 Employee Competences in Line with Industry 4.0

The term 'competence 4.0' emerged naturally as an offshoot of the general concept of Industry 4.0. The starting point for considering the competences of an employee 4.0 is the model of key competences proposed by the Council of the European Union in the context of lifelong learning [18]. The model includes [19]: scientific, technological, engineering and mathematical competences, understanding and producing information, multilingualism, digital competences, personal, social and learning competences, civic competences, cultural awareness and expression, entrepreneurship.

The model of desirable future employee skills has clearly evolved in recent years. Some skills have remained in the ranking, although their position has changed, but at the same time new competences have appeared. Based on the results of research

Fig. 2 Employee competences 4.0. Authors' own work based on previous works [20–23]

conducted by various entities, a comprehensive model of future competences has been built [20–23]. It consists of the following three categories (Fig. 2): cognitive competences, technical (digital) competences, social (and emotional) competences.

Previous industrial revolutions transformed the skills and competences of the workforce and the same process is also characteristic of the current revolution 4.0. Among the competences of the future, those that differentiate human work from that of information systems, robots or artificial intelligence are becoming important. Equipping the workforce with these competences is crucial, as they are what will enable them to succeed in the digital transformation and the development of Industry 4.0.

5 Employee Competences 4.0 as Exemplified by Poland

The Polish labour market is experiencing a growing challenge in terms of companies hiring employees with the right competences. Professional skills closely linked to the employee's social and psychological aspects are becoming increasingly important. The intensifying technicalisation of work, the ageing population, the use of new communication tools and new forms of business organisation become a challenge in this context. In the era of the Industrial Revolution 4.0, so-called competences 4.0, i.e. competences of the future, gain importance. Competences such as creativity and innovativeness, critical thinking skills, digital competences, problem-solving skills, communication and cooperation, entrepreneurship and the process of continuous improvement can be mentioned in this context. On the basis of an analysis of reports and studies carried out in Poland, special attention should be paid to competences that are important from the points of view of both employees and employers. Companies consider employees' cognitive competences, above all creativity and critical thinking, to be the most desirable ones in the future and simultaneously in short supply now. Entrepreneurs also notice deficits in social competences, such as cooperation with others, negotiation skills or human resources management. Companies also perceive a deficit in industry-specific competences, which will be of great importance in the future. As many as 91 per cent of the companies surveyed [24] indicate that the

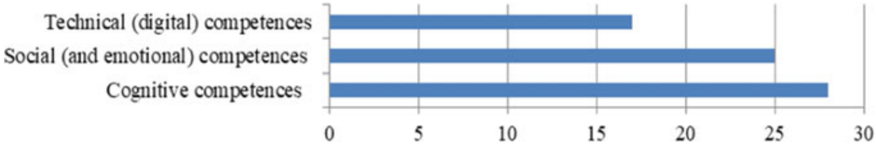

Fig. 3 The shortages of employees' competences as perceived by entrepreneur. Authors' own work based on previous work [24]

difficulty in recruiting employees with the right competences is a barrier to their business, but not for all companies is it a barrier that strongly hinders operations. The survey shows that the shortage of cognitive competences, above all creativity, is considered by entrepreneurs to be the most significant. Slightly less of a problem is the shortage of social competences, of which only cooperation with others was in the lead. In the case of specialised and digital competences, in addition to industry-specific specialised competences, companies also indicated shortages, but not at such a high level. The shortages of competences are illustrated in Fig. 3.

For nearly half of the entrepreneurs (48%), the competence in short supply was creativity, i.e. the ability to find not obvious solutions. Many entrepreneurs also indicated that they lacked people with industry-specific competences (45%) and the ability to cooperate with others, i.e. the ease of completing tasks as part of group work (41%). Slightly fewer companies indicated a shortage of employees with developed critical thinking skills, i.e. the ability to make rational and logical inferences about the causes and effects of phenomena (36%). Around 30% of the employers felt there was a shortage of employees capable of solving complex problems (33%) and characterised by cognitive flexibility, i.e. the ability to look at a problem or event from many different perspectives in order to take appropriate action (32%). The smallest numbers of the entrepreneurs pointed out the shortages in the ability to think systemically, i.e. to see the business in a broader socio-economic context (4%), the ability to identify signs of unlikely events which could still significantly affect the business (7%) and the ability to find and interpret signals of change in the organisation's environment (9%). In addition to identifying the competences in short supply, the entrepreneurs also assessed the importance of the competences from the point of view of the industry's future development. The ability to act in a situation of uncertainty was considered by all companies to be the most important competence for the future. It received by far the highest average score of 4.21 (on a scale of 1 to 5). After transposing the listed competences into the three groups of competences listed above in the context of the employee 4.0, it should be noted that the most desirable competences in the future are digital competences and the least desirable competences are cognitive competences Fig. 4.

Among the ten competences of the highest importance, only two were from the digital and specialist group. Of these, in terms of average scores, industry-specific competencies ranked the highest (3.94). Companies also anticipate that creativity (mean score of 4.01) and collaboration with others (4.02) will be of very importance in the future. However, the respondents attached a slightly lower importance to

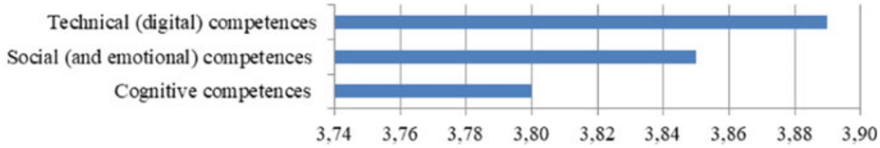

Fig. 4 Desirable employee 4.0 competences in the future. Authors' own work based on previous work [24]

the competence of assuming responsibility (3.99) and sector-specific competences (3.94). It should be noted that these competences of the future are now also frequently desired by entrepreneurs and were often indicated as being in short supply.

6 Conclusion

In the twenty-first century, the rapid pace of change in connection with technological development is evident. In every area of life and in every industry or sector, the dynamics of change is significant. Such rapid changes necessitate permanent adaptation of every company to the changing environment and, consequently, the adaptation of employees to the changes taking place. This requires constant upgrading of skills in new activities that have a key impact on the development of companies. The growing competitiveness of businesses is increasingly dependent on not only available material resources, but also so-called soft resources, including human capital. For this reason, there is a growing interest on the part of both the academic and business communities in the competences of the future. There are more and more discussions on human resources in the context of the fourth industrial revolution, a consequence of which is the increasing complexity of the surrounding world. Employers should be increasingly aware that employees, in addition to specific professional skills, should be able to manage stress and react flexibly to unexpected developments. Entrepreneurs representing various industries differ quite significantly in their assessments of the importance of social competences in the future recruitment of employees. Most companies forecast that social competences will have become as important as professional competences by 2035.

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An Onboard Tourist Experience Over the Sunken City of Epidaurus, Greece

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Abstract Underwater cultural heritage constitutes an invaluable asset that needs to be conserved, preserved and enhanced. Innovative technologies can facilitate public access to underwater archaeological sites and make them more accessible, thus enhancing positive effects on tourism and the local economy. Focusing on the case of Greece, the paper aims at presenting how an underwater archaeological site, like the Sunken City of Epidaurus, can be transformed into a new tourist destination both accessible and appealing to a wider audience, including Greeks and foreigners, both younger and senior audience. In this paper, we present an autonomous guided and narrated tour designed in the framework of the Periplous Project, combining innovation in the scientific and technological level, emphasizing the following: (1) transparent openings on the bottom of the boat, offering direct view of the underwater remains, (2) an autonomous navigation system, (3) a digital multimedia-enhanced storytelling approach, offered through tablet devices available on-board. The narration is provided in three languages (Greek, English and Chinese) and in Greek Sign Language so as to be accessible to people with hearing impairment. Implications are discussed.

Keywords Tourist experience · Digital storytelling · Autonomous guided tour · Underwater cultural heritage · Epidaurus

1 Introduction and Background of Research

The Underwater Cultural Heritage constitutes witness to our common memory and allows effortless retelling of numerous historical events. For this reason, the Hellenic Ministry of Culture established the Ephorate of Underwater Antiquities (EUA) in

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1976 to preserve, protect and to acknowledge to the public the antiquities found in the territory of the Hellenic State [1].

Underwater cultural heritage sites differ significantly from the ones found on land, in terms of the environment and its accessibility and, thus, restrict the general public's access to them. Differences also exist among the UCH sites, e.g. there is a different approach to a shipwreck at a certain depth and another approach to a submerged site accessible via swimming.

In the case of sites in deeper waters, diving is the only option for a visit thus making them accessible to a specific group of people. Advanced technologies like Virtual Reality (VR) can offer a glimpse to the site to people who are not able to dive [2]. This issue does not always apply to submerged sites, like in Epidaurus. Visitors can easily swim over the submerged remains due to the short distance covered from the shore and its shallow waters.

Several submerged ancient sites along the Greek coastline have been detected (e.g., in Dardiza, Ermioni and in Phourkari, Troizenia etc.), but only a few can be visited with a glass bottom boat. Beside the sunken city at Epidaurus, other potential sites suitable for visits with a glass bottom boat are Pavlopetri, a submerged prehistoric settlement where underwater archaeological trails are in place, the submerged roman remains at Cenchreae, Corinth and the shipwreck at Sapientza, Methoni.

In this paper, we present Periplous, an autonomous guided and narrated tour over the underwater remains of the ancient city of Epidaurus in a glass bottom boat. It entails a journey through past and present times with the use of storytelling to provide visitors with a unique multidimensional cultural experience.

Digital storytelling has long been recognized as an effective method for the communication of cultural heritage [3–5] and considered a high priority for cultural institutions [6]. Storytelling has shown to function as "an incentive to delve deeper into history" [5], while narrative elements such as "humor, links to everyday contemporary life, an informal tone, perhaps the surprising use of unconventional characters" which have been deemed as important in supporting the learning objectives of cultural institutions [7]. Different approaches balance fiction and facts in different proportions [4]. Coerver [6] discusses the importance of shifting from facts to stories that cultural heritage consumers may relate to, by promoting emotions and curiosity and claim that, "what most visitors really need is a story–a memorable, emotionally resonant way to connect with a fundamentally foreign object."

The multimedia narrative combines fiction, in the form of "Snapshots" of everyday life of the people of ancient Epidaurus, with archeological information in the form of questions and answers.

2 The Onboard Tourist Experience

2.1 Designing a Tour Over Underwater Antiquities

As already mentioned, the aim of Periplous guided tour is to offer visitors of the submerged city of Epidaurus an unforgettable, multidimensional educational experience, onboard a sea vessel specifically designed for its needs. This project is materialized under a cooperative scheme, by (1) the Ephorate of Underwater Antiquities, (2) Athena Research Center and (3) Polatidis MARINE.

The aim of the consortium was to design a tour that combines nature and sea alike, and the impressive ancient remains of the area, using advanced technologies as well as rich and engaging multimedia content. In this section, we briefly discuss basic characteristics that we have taken into consideration in the design of the tour.

Innovative Tools Used to Provide an Appealing Touristic Activity. The Periplous tour goes beyond offering a relaxing boat tour of the scenic Epidaurus coast. Its advanced technology can by itself be appealing due to its high novelty factor: The navigation of the boat is supported by a navigational system that functions without human intervention. The tour also features each visitor's access to their individual tablet device where they can experience a multimedia-rich digital storytelling.

Direct Contact with Nature and the Antiquities. The transparent bottom of the boat offers visitors onboard visual contact with the underwater remains, as well as the rich underwater scenery and life.

Modular Digital Content. The design of the digital storytelling experience provides independent narrative content at each stop, offering the visitor choices as to its type (fictional "Snapshots" of the past people's life or factual information and 3D reconstructions of the antiquities). As the content spans across time and space, this modular approach allows visitors to experience a taste of the past at a pace they control. More on the content design will be presented in Sects. 2.2 and 2.3.

Accessible to a Wider Audience. The narration is provided in three languages (Greek, English and Chinese). It is also accessible to people with hearing impairment through videos in Greek Sign Language (Fig. 5—Right). The multidimensional and modular digital content can be both accessible and appealing to a wider audience including Greeks and foreigners, both younger and senior audience.

2.2 The Tour: Combining Digital and Physical Experience

The sea journey starts off at the modern harbour which lies at the same place as the one of Ancient Epidaurus. The ancient city of Epidaurus was built next to the only natural harbour of the east coast of Argolida towards the Saronic Gulf [8]. Inside and outside the port, on the sea bed, there are architectural remains possibly related to the operation of the port.

The boat makes its first stop at the two submerged moles (north and south). It then begins the circumnavigation of the peninsula that today we call "Nissi" (Island). The second stop is dedicated to the ancient city-state of Epidaurus, which was built on the peninsula, where the ancient walls are still visible in places.

The next stop is inside St. Vlassis Bay. Here, visitors can observe a plethora of architectural remains, dating from the classical to the early Christian years. What stands out is a large square construction, with stoas that extend on each of the four sides. The latter are further divided into smaller rooms. An ancient inscription bearing two ancient names: Ι Σ V Λ Λ Ο Σ and Δ Α Μ Ο Κ Ρ Ι Τ Ο Σ [9] (Figs. 1, 2 and 3) is visible in this area.

It is generally thought that the name Ι Σ V Λ Λ Ο Σ refers to an Epidaurian poet living around 300 BC, while Δ Α Μ Ο Κ Ρ Ι Τ Ο Σ was probably a 4th c. BC priest of the god Asclepius or a proxenos and thearodokos (a citizen hosting foreign ambassadors), from neighboring Argos, who lived at the end of the 3rd-beginning of the 2nd c. BC.

The final destination of the boat is the "Sunken City". Here, there are submerged architectural remains of an extensive Roman villa (the Villa of the Dolia = jars) that are visible today at a depth of about − 1.00/− 4.00 m. and extend over an area of about 1600 square meters.

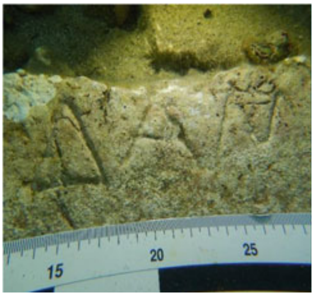

Fig. 1 Ancient inscription (Copyright I.S.C.R. Rome-Italy)

Fig. 2 Ancient inscription (Copyright I.S.C.R. Rome-Italy)

Fig. 3 Ancient inscription (Copyright I.S.C.R. Rome-Italy)

Once they arrive at the Roman villa, visitors focus on the storage area of the Dolia through the glass bottom boat. Here they can see the masonry of the walls in the large, elongated hall, consisting of clay tiles, rubble and lime mortar. Inside the hall, there are many jars (Dolia or pithoi) that are still preserved in situ and were probably used to store food (liquid or solid). It is obvious that in antiquity many pithoi were repaired, using lead joints. Next to the south wall of the area, a floor made of ceramic tiles in second use is preserved in good condition (Fig. 4).

The next point of interest lies west of the storage area: a row of small rooms with an apsidal south end (next stop). This apsidal structure belongs to a different construction phase. One of the rooms in this wing could be associated with a dining room most likely equipped with beds along the three walls used at symposiums.

Fig. 4 Floor made of ceramic tiles (Copyright I.S.C.R. Rome-Italy)

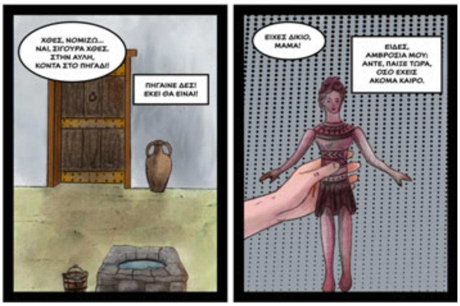

Fig. 5 A "Snapshot" of the ancient past: Mother and daughter talking about offerings to gods

The last stop is in the northeastern part of the complex. Here, there are several indications pointing to the existence of baths, such as disc-shaped tiles from a hypocaust. Two rooms with floor made of ceramic tiles are still visible in this area.

During this trip, and the return trip too, visitors have access to multimedia storytelling content that "ties" in with what they see with information, delivered in an original and creative way.

2.3 The Storytelling: Combining Fun and Facts

As already mentioned, during the tour, visitors have access to digital content, while admiring the natural environment and its ancient remains. Digital storytelling is employed as a means to engage and entertain, while conveying information about the ancient Epidaurus and its monuments, but also about the way of life in the past.

The storytelling concept that we have developed for this "phygital" (physical and digital) experience is called "Snapshots". As the word itself reveals, "Snapshots" capture moments of the past, fictional, though based on archaeological findings and on reasonable assumptions. So, for example, at the harbour, visitors have the chance to "witness" a scene inspired by the naval life, while at the submerged villa, they have access to different everyday life stories in Roman Empire. By being exposed to fictional everyday stories of everyday people, users will hopefully not only learn but also sympathize with them and adopt different perspectives contemplating on the past. The "Snapshots" are not confined to the remote past, Greek or Roman, of the area. Three of them bring to the stage modern archaeologists and conservators, skilled divers who undertook the demanding and important task of excavating and restoring the ancient Roman villa lying at the bottom of St. Vlassis Bay.

The fictional stories that we have created are in fact brief dialogues between two or more characters, most of them fictional. To be more specific, the first "Snapshot" is a quarrel between the captains of two ships, who both want to unload their precious cargo, but one of them has occupied the full length of the pier. At the second stop, visitors have the chance to "witness" the visit of the Roman emperor Hadrian (2nd c. AD), through the eyes of two women, inhabitants of Epidaurus, a provincial city of the mighty Roman Empire at the time. The third stop is focused on the ancient inscription, mentioned before. Here visitors have access to two different «Snapshots»: the first one is a conversation between the poet Ι Σ V Λ Λ Ο Σ, who is trying to finish writing his hymns to god, and his wife who wants him to go to the market place and do some shopping for their dinner; the second one recreates the reception of an Epidaurian called Menippos (a fictional character), by the Argive proxenos and thearodokos Δ Α Μ Ο Κ Ρ Ι Τ Ο Σ. While looking at the storage area of the Dolia, visitors are presented with three "Snapshots". Two of them revive fictional scenes, taking place during the roman era: a craftsman talks with his grandson about the construction of the storage room and the production of wine, and two slaves, a man and a woman, talking about the damage of one of the pithoi. The protagonists of the third "Snapshot" are real archaeologist-divers who talk about the damage on the submerged villa. The next point of interest is the room possibly associated with symposiums. Here, there are also three storytelling choices: a discussion between three Romanized Greeks, during a symposium, about gastronomic pleasure and politics, and another one between a "master-chef", hired by the owner of the villa, to prepare a special dinner, and the women slaves that are tasked to help him. The third "Snapshot" refers to the conservation and restoration work carried out on the site, on the ceramic floor and the walls of the complex [10].

The last "Snapshot" is inspired by the roman baths: three young men enjoy their bath, when the young brother of one of the characters appears and asks questions about the heating of the water, irritating his older brother.

The "Snapshots" are presented to the users in both visual and audio form. The themes and the tone of voice of the "Snapshots" are selected to appeal to a broader audience, adults but also children and young adults alike.

The visual form is exploiting the advantages of the comic technique, a powerful tool for humor and storytelling (Figs. 5 and 6). It is a dynamic and expressive form of art that has captivated audiences for centuries. Rooted in humor, wit, and satire, it utilizes a combination of images and text to convey interesting and engaging narratives. Visual elements make it easier for readers to grasp the story's flow, engage with characters and immerse themselves into the fictional world. Comics often utilize symbols, icons and caricatures to represent ideas and emotions concisely. This simplicity makes them accessible to diverse audiences, transcending language barriers and cultural differences. Comics can also be a valuable educational resource. They have been used to explain complex concepts in subjects like history [11], science and social issues, making learning engaging and enjoyable.

The short stories are basically expressing the fun aspect of the experience, although they also contain "disguised" information. Their aim is to intrigue visitors' interest and curiosity. In order to present them with more facts, "Snapshots" are interlinked with purely informational content. Each story leads to a series of questions, concerning historical figures, historical facts, terminology etc., mentioned by the characters in the dialogue, and the relevant answers. Users can read and listen to the "Snapshots" and the relevant Q&A sections or skip the "Snapshots" and access only the informational content, i.e. the Q&A sections. Wishing to further enrich the informational content, we have also used 3D video reconstructions (Figs. 7 and 8) and

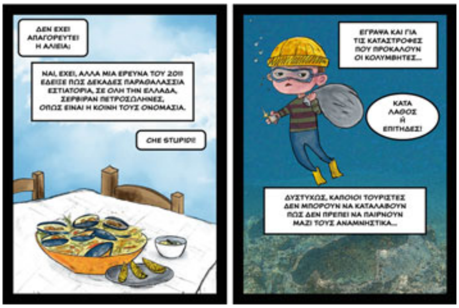

Fig. 6 A more recent "Snapshot": Divers-conservators talking about their job

Fig. 7 Conjectural 3D representation of the sunken villa

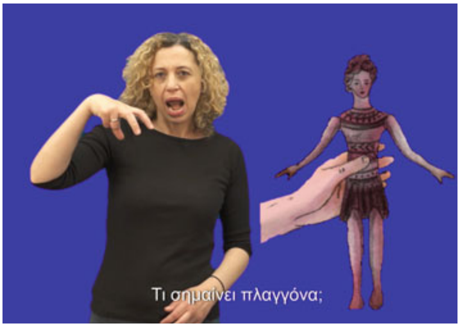

Fig. 8 Video in GSL

photographs of artifacts, architectural remains and divers in action. By combining fun and facts, images and sound, physical and digital, we have created a rich experience that, through choices, addresses different types of audience, with respect to age and preferences.

3 Discussion and Conclusion

Greece is a country with many seas and a long and glorious past with extensive underwater cultural heritage that constitutes an invaluable resource, from an ecological, educational, and economic point of view and needs acknowledgement and proper treatment to continue offering great benefits to humankind. It is the duty of the international community to preserve, protect and educate the general public about the history of underwater archeological sites.

In the framework of this paper, we have presented how the Sunken City of Epidaurus can be transformed into a new tourist destination, accessible and appealing to a wider audience, including Greeks and foreigners, younger and senior audience. The outcomes of the project are expected to be used as best practices and have a noticeable impact on a scientific level, but also on the growth of tourism and entrepreneurship in general, combining marine entertainment and cultural marketing but also the creation of synergies between different stakeholders involved (the state, the private sector etc.). Regarding the scientific results, the technologies concerning the automated guided tour could be launched to the market and be incorporated in other sites of underwater antiquities in Greece as well as abroad.

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An Empirical Study on How Grit and Work Values Affect Generation's Z Entrepreneurial Intention

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Abstract Generation Z are the young people born and grown up in the age of social media and digital technology, within the Internet era and who are currently in the higher education-to-work transition phase. It is the generation that makes its first working steps in a global economic environment heavily affected by Covid-19 consequences and digital transformation's influence. Empirical studies conducted provide results that vary across national cultures indicating the need for research in different countries, especially when it comes to Greek Generation Z for which little is known. This study contributes by providing a new approach when investigating entrepreneurial intention, by investigating Greek university students' work values and grit. A convenience sample of 255 business administration students were surveyed in terms of their entrepreneurial intention. Grit, extrinsic and intrinsic work values, alongside social values are studied to understand student entrepreneurial intention, while results indicate that only grit has a positive and statistically significant effect on entrepreneurial intention. Results are useful for higher education's stakeholders and for employers seeking to attract and to effectively integrate Generation's Z employees to their organizations.

Keywords Grit · Work values · Entrepreneurial intention

1 Introduction

Work values and grit have both gained research interest over the last years as core characteristics of entrepreneurs' personalities, being frequently related with entrepreneurship outcomes such as performance, entrepreneurial intention and specific behaviors [1–3]. Researchers from different academic fields tested the proposed relationships by using different scales including mindfulness [4], personality traits [5] among which the Big Five [6], self-efficacy [7, 8], and dark triad's traits [9].

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Searching the extant literature we found a series of studies related entrepreneurial intention with various traits such as achievement motivation, agreeableness, risk avoidance, extraversion, autonomy, conscientiousness, action orientation, creativity and openness to experience [10]. Only recently researchers developed and tested multidimensional constructs in order to make an attempt to predict entrepreneurial intention [11].

Despite the existing extensive research, it remains difficult to determine what makes a student more entrepreneurially minded or more importantly how to foster students' entrepreneurial intention within the educational process [10]. Indeed, there is little academic research on "Generation Z" (Gen Z) which is now about to face the education-to-work transition [12]. Although there is increasing research interest on the environment in which this generation grows up (e.g. Covid-19 and digital transformation) [13]. As far as Generation Z is concerned, authors include young people born with or after the Internet [14].

Such a research gap is evident in Greece, where limited research exists on how grit and work values affect Generation's Z entrepreneurial intention. Current research contributes to portray these relationships, adding to the existent knowledge about previous generations. Such knowledge is rather useful since today's students are the new generation of future employees. Understanding their current perspectives is the key for developing their future characteristics [15, 16], a rather significant aspect for higher education's stakeholders.

2 Literature Review

Entrepreneurial intention as part of the entrepreneurial process has long ago attracted research interest as a key prediction driver [17]. Entrepreneurial intentions reflect the "effort" an individual is prepared to give [18], while after years of empirical testing [19] and theoretical literature reviews [20] intentions are still the best predictor of entrepreneurial behavior [21].

2.1 Grit and Entrepreneurial Intention

Grit and its role in entrepreneurial intention is not a new area of research since various studies contributed on providing evidence about the above-mentioned relationship during the last 15 years. In all these studies grit has been studied as a combination of concentrating on long-term goals and of persistence through adversity [22]. As a concept, grit has been linked to both educational and entrepreneurial orientation, by supporting students' performance [23], college student engagement [24], alongside with salespeople performance and job satisfaction [25]. Recent studies, provided evidence about grit's effect on entrepreneurial intention and entrepreneurial success as well [10]. Grit was found to be positively and statistically significantly associated with entrepreneurial intent among undergraduate students [26], while results suggest that young people with higher levels of grit are more likely to engage in self-employment [27]. Research has gone a step further by using grit measures to evaluate the effectiveness of an entrepreneurial educational program [28]. Nambisan and Baron [29] identified grit as a core element when it comes to entrepreneurship within innovation ecosystems. Finally, it should not be neglected that grit was found to be a good predictor of entrepreneurial success [30]. Talent or IQ, alone, cannot guarantee success, if not combined with grit [26], while it should be regarded as the main parameter allowing people to reach brilliant accomplishments [31].

2.2 Work Values and Entrepreneurial Intention

Work values include a domain specific set of values, consisting of life values relevant to work-related issues Work values play a significant role on work preferences and choices [32], on required job characteristics and types of rewards [33], while motivating students to choose their career path [34]. The importance of Work values on effective goal settings, capable to guide individuals' actions [35] and entrepreneurial decisions [20]. Work values not only represent priorities and behaviors that lead to entrepreneurship, but also reflect the anticipated consequences individuals expect upon entering the workplace [36]. Employment of self-employment choices are strongly related to work values, often divided into intrinsic and extrinsic values [37]. Extrinsic values are associated with personal gain, while intrinsic values are connected with creativity and problem solving [38]. Existing research supports the idea that entrepreneurs embrace certain personal and work values which can enhance their entrepreneurial intentions [35, 39]. Moreover, these values seem to determine not only entrepreneurial intentions [40] but success in entrepreneurial endeavors as well [41]. Although there is growing scholarly interest in the proposed relationship, the question of how entrepreneurial intention can be developed by cultivating specific values is still a subject of research, as there is a limited number of related studies [34].

3 Methodology

In order to investigate the complex relationship between work values, grit and entrepreneurial intention, a literature review was conducted to identify and analyze the factors involved. A quantitative research method in the form of an online survey was selected. A convenient sample of 255 business administration students (Gen Z) from a public university based in Athens were asked to participate anonymously as part of this research. The sample of respondents represented more than half of the students registered in the class, which was also a convenience sample given the limited resources available at the time. Our expectation is that this size sample will enable us to generate valid and coherent conclusions through reliable statistical analyses. For the assessment of work values (Extrinsic, Intrinsic and Social), grit and entrepreneurial intention a 20-item survey question of a 5-point Likert scale was used. We used a combination of questions coming from various studies [12, 42, 43] as presented in Table 1. The SPSS Statistics Version 24 software and R language were used to conduct the empirical analysis. Principal component analysis (PCA) with Varimax rotation was used to test for linear components in the data. Our internal consistency was measured using Cronbach's alpha reliability test. Multiple regression analyses were used to determine the predictive power of the independent variables (work values and grit) for predicting entrepreneurial intentions.

4 Results

This study included 255 participants, 121 women and 135 men. Principal component analysis with Varimax rotation was used to verify the linear components in the data. Table 1 presents the reliability coefficients of all the components (KMO = 0.848). Sample's internal consistency was measured with Cronbach's alpha reliability test, while results that alpha coefficient for extrinsic values is 0.718 (N = 3), for intrinsic values is 0.783 (N = 4), for social values is 0.783 (N = 5), for Grit is 0.712 (N = 3) and for entrepreneurial intention is 0.950 (N = 5).

Based on the questionnaire data, Table 2 shows the predictive power of the independent variables in terms of entrepreneurial intention. Based on the results, 14.9% of the variance in the dependent variable can be explained by the independent variables.

In Table 3, predictability is shown for the factors affecting entrepreneurial intention. Only grit affects positively entrepreneurial intention (p-value < 0.001).

5 Discussion

The results are consistent with similar research on grit and its impact on entrepreneurial intention [10]. Grit appears to be critical factor in the development of entrepreneurial intention among Generation's Z, Greek students. Findings should be taken into account alongside with the fact that working and social values do not have a statistically significant effect. Although this may be considered as a limitation, it should be regarded as the era where higher education's stakeholders may put emphasis on. Greek students appear to lack working values in a systematic and wide-spread way, so as to provide statistically significant results. Educating them to further develop their grit and be inculcated with work-oriented values can increase their chances for a successful carrier as employees, as self—employed and as future employers [44]. Generation's Z business orientation will take place in the post—Covid era and in a more digitally transformed business environment, the cultivation

Table 1 Rotated component matrix[a]

Items of questionnaire	Extrinsic	Intrinsic	Social	Grit	Entrepreneurial intention
It is important to have good prospects for advancement within the company	0.607				
The existence of job security and stability is important to me	0.779				
It is important to me to have a competitive compensation package	0.733				
Exciting working environment is important		0.696			
Working in a professional environment with a vision for the future and innovative working practices is important		0.758			
Working for a company with high quality products/services is important		0.654			
Working for a company with innovative attractive products/ services is important		0.773			
Developing good interpersonal relationships with colleagues is important			0.660		
Feeling accepted in the business is important			0.748		
Good interpersonal relationships with superiors are important			0.725		
Being supported by and encouraged by colleagues is very important			0.719		
A fun work environment is important			0.634		
It is very important to me to work hard				0.745	
My goal is to complete what I start				0.806	

(continued)

Table 1 (continued)

Items of questionnaire	Extrinsic	Intrinsic	Social	Grit	Entrepreneurial intention
I am diligent				0.796	
The goal of my career is to become an entrepreneur and own my own business					0.917
I will do anything to become an entrepreneur & run my own business					0.902
In order to run my own company/business, I will make every effort					0.909
In the near future, I intend to start a business					0.923
The idea of starting a company/business is very important to me					0.895

[a]Rotation converged in 6 iterations

Table 2 Model fit measures

Model	R	R^2
1	0.221	0.149

Table 3 Model coefficients

Predictor	Estimate	SE	t	p
Intercept	2.309	0.783	2.950	0.003
Intrinsic	0.100	0.143	0.700	0.484
Social	−0.071	0.151	−0.469	0.639
Extrinsic	−0.065	0.157	−0.414	0.679
Grit	0.359	0.105	3.411	< 0.001

of both intrinsic and extrinsic working values can provide them a framework for successful "doing business". The study's contribution lies on enlightening Greek Generation's Z working values and grit, as far as their entrepreneurial intention is concerned. Research is needed since the sample was only coming from business administration students and can expand to Generation's Z representatives that already run their own businesses to compare results providing higher education institutions with valuable information.

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The Czech Republic and Non-governmental Non-profit Organizations After the Impact of the COVID-19 Crisis

Marcela Gottlichova

Abstract The period of the pandemic crisis in the Czech Republic significantly reflected the uncertainty of the time. It was characterized by the loss of the guarantee for the services of non-governmental non-profit organizations, which the public will demand and accept in the future. The period coincided with financial impacts on the running of these organizations, declining public confidence, and declining interest from supporters. The presented study, based on the secondary and mainly primary data reflecting the attitude of non-governmental non-profit organizations of the Zlin Region based on quantitative research aimed at the communication of organizations during the pandemic, has once again confirmed the still-persistent shortcomings demonstrably requiring necessary changes leading to the efficiency of the current form of communication on a professional basis. One of the ways to offer a solution to the ongoing unhappiness is the intensive cooperation of non-governmental non-profit organizations with students of marketing communications, as documented explicitly by the collaboration of the Faculty of Multimedia Communications of the Tomas Bata University in Zlin in cooperation with the Zlin Region, which enables significant assistance in the professionalization of non-governmental non-profit organizations' communication in continuity with development of the Zlin Region on the one hand. On the other hand, it strengthens the interest in non-commercial marketing among university students in continuity with their future professional classification.

Keywords COVID-19 crisis · Strategic marketing · Civil society · Non-governmental non-profit organizations · Higher education

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1 Introduction

"The COVID-19 pandemic has caused the most universal health and socio-economic crisis in recent history. According to data from Johns Hopkins University, 176 out of the 179 countries covered in the World Economic Situation and Prospects (WESP) 2021 registered coronavirus cases in 2020. At the same time, almost all of the world's Governments implemented far-reaching containment measures to slow the spread of the virus, causing massive disruptions to economic activity [1]."

The rapid and decidedly unpredictable arrival of the "pandemic" era, which not only directly or indirectly affected the personal lives of each individual, further intensified the tension in the nonprofit sector (NS), primarily affecting non-governmental nonprofit organizations (NGOs), as it brought with it the fear of complete and irreversible loss in the sharpening "necessary race" in continuity with a growing "fear of an equal chance." It has also clearly shown that "for a free and democratic society" based on the work of NGOs to function fully, "it must be supported by people of their convictions and willing to be involved in its support" [2].

With a gradual entry into the post-pandemic period, the present shows how big a test the COVID-19 pandemic has been and a challenge or even an opportunity for the nonprofit sector. It must be that it is "nonprofit organizations" that are the key element in the emergence of a strong civil society and play a key role in the transformation processes in Central and Eastern Europe, which points to the fact that "they should therefore be given more opportunities and support for communication with the public, sharing experiences, building new partnerships and further education and growth" [3]. Therefore, we can agree with the current view that the starting point for achieving this goal in this growing NGO race during the pandemic is the growing need for professionalism in marketing and promotion in continuity with innovative thinking [4]. Communication of any subject (especially an economic one) is the basis "for creating a permanent position in the national and international economic area"—"communication activities are then a link between the subject and the environment in which it operates and a bridge to those for whom its tender is addressed" [5].

The effects of new trends and technologies are increasingly reflected in the rapid development of marketing communication as part of a marketing strategy, not by changing principles but by forms and modes of transmission. It is evident that even for non-profit organizations, it is in this period that the inevitability of "aligning the interests of customers and other entities with their goals and communication strategies and tactics comes to the forefront even more prominently" [6].

This paper aims to present the efforts of NGOs to manage a given crisis in continuity with the recognition of the necessity leading not only to changing the current form of communication, whether it is the application of new communication technologies or the effectiveness of communication itself. To achieve the required efficiency, i.e., for a product or service to appeal to the most significant part of society, it is no longer enough to produce a quality product or service, but it is increasingly important to correctly communicate the product (tangible or intangible). An essential factor is thus the awareness that NGOs can currently win on the market with a professional approach. University students with the appropriate qualifications can assist them, in innovation, strategic thinking, and creativity, representing the essential core of what NGOs should provide to their clients.

2 Civil Society, Non-profit Sector and Non-governmental Non-profit Organizations in the Czech Republic

2.1 Civil Society

Despite the heterogeneity of the concept of civil society (CS), the primary aspect is the effort to "articulate the problematic relationship between private and public—individual and social interest, private desires and public need" [7], we are talking about an area characterized by "collective civic activity" [8] in continuity with the necessity of the existence of active citizens directing their attention to the administration of public affairs, thus becoming a "generator" of the NS [9]. It presents not only the provision of a specific range of services. Still, it is also an indicator of the development of CS, in continuity with a significant impact on public opinion and its participation in social changes [10].

The CS and its organizations (CS → NS → NGOs) play an important social, political, and economic role in democratic countries [11, 12]. Characteristic features include "participation and action, the central features of the activity present spontaneity and activity, autonomy and voluntariness"—"with room for creativity and innovation" [13].

2.2 Non-profit Sector

Salamon called the civil society sector "the invisible subcontinent on the social landscape of most countries, poorly understood by policymakers and the public at large, often encumbered by legal limitations, and inadequately utilized as a mechanism for addressing public problems" [14]. The connection of nonprofit organizations with civil society, reflected in the subsequent continuity with the term "civil sector," presents a long-term terminological lack of definition of the term "nonprofit sector", which is perceived in the Czech environment in connection with the primary role of the sector. i.e., the sector, for which, unlike commercial organizations, the aim is not to profit and distribute it among the owners. Other applied possibilities can be assigned with the terms: the "third sector" emphasizing the role of the sector operating between the state and the market; a "voluntary sector" highlighting the specific role of volunteering; "non-governmental" or "independent sector" presenting the activities of organizations operating independently of the government [15].

2.3 Non-governmental Non-profit Organizations

Even though NS is mainly understood as a whole, its primary feature is heterogeneity. Due to the impossibility of including in the characteristics of NGOs all their diversity of activities and specifics, the primary features can be considered those outlined in the internationally shared definition of NGOs by Salamon and Anheier: 1. organization (formalized structure), 2. private nature and independence 3. non-distribution of profits, 4. self-government (internal structure), and 5. voluntariness [16].

From a broader perspective, nonprofit organizations are classified according to various criteria: (1) the founder and the legal form—public-law organization (public authorities, organizational units, and contributory organizations), public-law institutions and private organizations; (2) membership—member and non-member organizations; (3) the nature of the mission—organizations mutually beneficial and beneficial to the public; (4) the type of activities—service, interest and legal; and (5) the financing method—from public budgets (entirely, partly), from private sources, from own activities, and multi-source financing [17]. "However, it is not always easy to identify or distinguish functions that are clearly defined sufficiently in the literature or to distinguish them from other functions because many communications, goals, and activities contribute to fulfilling two or more functions [18]." The typology of NGOs in the CR was specified according to the State Policy towards NGOs in 2015–2020, in which "NGOs are presented as legal entities of private law belonging to formalized civil society structures—in addition to churches, unions, In the CR the attention NGOs is most frequently focused on humanitarian aid, sports, culture, environmental protection, and healthcare, professional chambers, political parties, and numerous informalized structures" [19]. In January 2014, a significant recodification of private law came into force. The changes brought about by this recodification have also significantly affected NGOs.

3 Methodology

3.1 Problem Formulation

Although the Czech NS has been developing its activities since 1989, and we are talking about roughly 140,000 organizations, we still need help with the same problems. For NGOs to succeed in both pandemic and post-pandemic times, it is essential that organizations not only function and survive after their inception but also continue to develop, i.e., be able to meet the individual "stages leading to the prosperity of NGOs—1. NGO establishment (starting points and the basics), 2. Long-term sustainability strategy, 3. Qualification (PR, fundraising, marketing, economics and financial management, Leadership and people management), 4. Expansion." However, the persistent problem is that NGOs in practice very often overlook two crucial stages, the second and the third, which is possible but not sustainable in the long term [20].

However, the problem arises with the onset of the pandemic, and the unanswered question remains how great the urgency of the growing issues is and where to look for ways to solve that “unhappy” situation. The Czech OSF Foundation, part of the transnational Open Society Foundations network, surveyed the COVID-19 pandemic´s impact on nonprofit organizations from 27th March to 8th April 2020. The online questionnaire was completed by 346 NGOs from all over the Czech Republic. Based on the answers obtained, the most acute problems are in the first three places: 1. concerns about the lack of funds needed to overcome the crisis period (63.85%), 2. insufficient IT support (22.16%), and 3. coaching, consulting, and e-learning (17.20%). Only 9.62% of organizations did not state any needs [21].

As already mentioned, this is associated with trust in NGOs, as evidenced by the results of *InsightLab* research for DF 2020 conducted in spring 2020 (CAWI) on a representative sample of the Internet population over 18 years of age with a quota selection of 1000 respondents. Only 3% confirmed their trust in NGOs, rather trusted by 53%, and rather not by 36%, with a decisive no of 8%. This is also related to the increased interest in the way the organizations to which they provide the monetary gift are used (definitely yes/35%, rather yes/36%, rather no/23%, and definitely no/ 8%), as the dominant reason why other people do not contribute to public benefit activities, there is a lack of confidence that the money will get where it belongs [22].

3.2 Problem Solution

Previous research has confirmed that trust in the work of NGOs, both on the part of the public and on the part of public administration or the corporate sector, is directly dependent on the transparency of organizations and, at the same time, on their ability to communicate effectively. It could be more efficient and non-professional communication, primarily associated with a growing need for more funds, especially during a pandemic, and a declining number of volunteers and regular staff working in the NS. They are primarily experts in marketing communications, one of the “most painful” places of NGOs. It is necessary to focus on streamlining the communication, i.e., to keep an organization “seen and heard”. It was the pandemic that showed NGOs that in a given crisis, the organization can no longer rely on the current feeling of certainty that the only priority in NGO activities is the implementation of the mission in continuity, with finances, ensuring the smooth running of the organization, but must realize that communicating activities and the mission at a professional level to maintain or gain the public’s trust.

3.3 Objectives and Methodology

As secondary data has already shown, it is evident that trust in NGOs in continuity with the transparency of activities is inherent without adequate communication. In times of a pandemic, we can even talk about maintaining the organizations' existence. In the autumn of 2022, a quantitative survey was conducted among NGOs in the Czech Republic based on completing an online questionnaire (15 closed and open questions) using the database of Czech NGOs. Thus, 621 NGOs/CR filled out the questionnaire in full. From the point of view of the presented study, the focus was primarily on the NGOs of the Zlin Region (ZR NGOs), where 124 NGOs/ZR filled out the questionnaire. In particular, representatives of associations (53.6%/CR; 68.4%/ZR) and non-profit associations (23.8%/CR; 18.6%/ZR) stood in the foreground. In terms of the focus of activities concerning the target group, NGOs dedicated to the general public (28.3%/CR; 23.2%/ZR), children and youth (24.5%/CR; 15.8%/ZR), and persons with a disability (18.5%/CR; 14.3%/ZR). As part of the aim of the presented study, answers to questions that primarily relate to the solved problem area and, at the same time, can help to set a suitable path leading to a successful goal, with a focus on the ZR NGO, will be provided.

3.4 Results and Interpretation

As the specification of the current problem in the field of NS showed, NGOs must still strive to strengthen (or gain) trust in society. This means focusing attention not only on fulfilling your activities but also on marketing activities. As confirmed by the research, these are still implemented intuitively in most ZR NGOs (53.6%) and consist of several other activities besides promotion. Only 22.6% of organizations are dedicated exclusively to promotion. In comparison, 12.2% of NGOs do not conduct any marketing activities. Only 11.6% of ZR NGOs carry out related activities in the full scope and meaning of NS marketing. This situation is also related to the fact that promotion is always carried out by someone who has time (56.6%), such as "externalists; activity managers; club presidents; all employees together; part-time managers; students and volunteers, etc. (3.3%)". We can find a specific marketing department in only 3.8% of organizations. However, it is a favorable answer that 24.7% of ZR NGOs already use a qualified person for promotion.

We also see why NGOs still need a marketing specialist in connection with another problem area, the ever-growing lack of funds, confirmed by 51.6% of ZR NGOs, as in another problem area, which is the need for more human resources (23.8%). According to ZR NGOs, we can also discuss the need for more specialists with knowledge of the NGO environment in the labor market (4.8%). On the other hand, 16.2% of ZR NGOs still confirmed their belief that marketing experts in NGOs are not needed in their answers. Nevertheless, in order to ensure sufficient efficiency, NGOs cannot do without professional marketing experts, the absence of who remains an endless issue reflecting the lack of effective communication of missions and activities, whether to prospective clients, potential workers, volunteers, donors, or the general public, etc. The lack of funding is also related, because "a competitive environment, including non-governmental non-profit organizations, enforces the search for new routes due to limited financial resources" [23]. However, a positive finding is that during the pandemic, we see an improvement in implementing strategic marketing in NGOs, when almost half of the organizations (42.2% × 57.8%/ZR; 45.8% × 54.2/CR) are aware of this necessity. Although 8.8% ZR NGOs (7.6%/CR) do not agree with this and 16.4%/ZR (18.3%/CR) agree but do not consider it essential for NGOs, 23.2% ZR NGOs (25.5%/CR) already consider strategic marketing for their NGOs, and 33.4%/ZR × 36.6%/CR (compared to 18.2%/ZR × 12.1%/CR) would like to know about the benefits of implementation for their NGOs organization.

3.5 Impact of the Pandemic on NGOs

Many NGOs also had to change their primary activities due to the pandemic, which almost half of organizations (39.7% × 60.3%/ZR; 44.4% × 55.6%/CR) confirmed. One of the significant changes was the necessity of transitioning to the online space in continuity with the change in the current way of communication. As the following results show, despite the lack of technical equipment, the extent of using online communication tools has increased considerably. Innovative communication technologies, as well as in higher education, can gradually help also in the organizational, marketing and educational processes of NGOs [24].

3.6 The Way to a Solution

The research also confirmed that, despite the difficult situation brought about by the pandemic, ZR NGOs are interested in expanding cooperation with the students of the Faculty of Multimedia Communications of Tomas Bata University in Zlin (64.2% × 35.8%), especially in terms of the position of volunteers (38.6%), whose declining number represents another of the problem areas. Of the subsequent essential opportunities for cooperation, the main focus is on assistance with promotion in the preparation and implementation of the organization's projects (44.0%), regular internships with an orientation on advertising and marketing (30.2%), entering the necessary analyses in the form of bachelor's or master's theses (24.4%) and more. 26.6% of ZR NGOs confirmed their current cooperation. The ZR NGOs consulted to look at the collaboration of NGOs with the academic sphere both in terms of a mutual benefit (48.8%), as well as in terms of a benefit for themselves (31.3%) or in terms of significant use for future student profiling (19.9%). They consider the willingness and diligence of the student to be a substantial contribution.

However, the Institute of Marketing Communications of the Faculty of Multimedia Communications of Tomas Bata University in Zlin (IMC FMC TBU) outlined a way to connect the academic sphere with the nonprofit sector with benefits for both actors of cooperation. At the beginning of this journey, based since 2012 on regular annual surveys focused on the activities and communication of NGOs in the Zlin Region, was the project Cooperation of Higher Education, Public Administration, Business and Non-Profit Sector for Socio-Economic Development of the Region. Active participants in the cooperation were representatives of NS (Association of Non-Governmental Non-Profit Organizations), ZR, the City of Zlin, the Chamber of Commerce, and the Labor Office [25]. The task of the established partnership is a platform for monitoring the needs of target groups, monitoring the effective distribution of resources, exchange of experience, creation of expert studies, finding innovative solutions, projects of methodological recommendations and legislative proposals, primarily for a constructive discussion of socio-economic development and for human resources development [26].

The development of the established cooperation in solving current issues enabled students to look into the needs of ZR NGOs, acquire or expand the necessary competencies for work in a specific NS environment, or prepare for a future career. However, reciprocity is also reflected in ZR NGOs, which, on the other hand, can obtain the necessary marketing experts for their work, who can help them streamline communication in continuity while strengthening much-needed trust in the intensifying competition.

4 Conclusion

The study implied that the current challenging times have significantly impacted the "life" of NGOs. It was not only about winning the competition but often about the "survival" of the organization. NGOs have become aware of the growing need for more funding, with the declining number of those helping them on their path. At the same time, the pandemic crisis confirmed the inevitability of "making oneself known" to make the public aware of what NGOs can offer even at this time and how they manage the implementation of the mission. However, it was also necessary to enhance or gain much-needed trust, which literally "forced" some NGOs to start using modern communication technologies and online management tools, which they confirmed in terms of verifying their effectiveness in the run-up to the pandemic they had not only time but no motivation for. However, the situation is also related to the fact that in the future, sizable financial support will be needed to retain employees, rent aids, and provide services, even during a possible period of isolation to survive the problem. It is, therefore, necessary to find a way not only to offer support but also to be able to look for it.

However, as the research has shown, most NGOs have confirmed the general absence of professional marketers, in continuity with the need for more relevant communication. It is no longer enough to say, "There is no money and no people", which means "no promotion". So that means the closed circle of the fact that if there is a lack of (or inadequate) promotion (and marketing), there is no money or people. Effective communication in continuity with professionalization thus becomes necessary for NGOs because, as reality confirms, the acquired and thus established habits are removed in a challenging and passive way. Cooperation between higher education and NGOs represents a particular way leading to a solution, as demonstrated by the

FMC TBU and, therefore, the IMC students. Especially for NGOs, given the already mentioned lack of funds and human capital, cooperation with the academia can be a great asset, both in terms of expertise by involving future marketing specialists in the promotion or marketing of the organization, as well as benefits in invention and creative thinking leading to numerous necessary innovations that will enable it to place its organization on the market in today's competitive struggle and to place it in such relations to its surroundings that will help to ensure its constant success, i.e., to realize how necessary applying strategic marketing in the field of NPO is.

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