

Innovation, Technology, and Knowledge Management

Carmen Păunescu  
Katri-Liis Lepik  
Nicholas Spencer *Editors*

# Social Innovation in Higher Education

Landscape, Practices, and Opportunities

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Carmen Păunescu • Katri-Liis Lepik •  
Nicholas Spencer  
Editors

# Social Innovation in Higher Education

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 Springer

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# Foreword

As Professor of Information Technology, with an academic experience of more than twenty-five years, my whole career was dedicated to pursuing the vision of transformation in higher education. My recent experience as Dean of the Faculty of Economics of Sapienza University of Rome during the pandemic helped me to deeply understand the tools that can be used for digital teaching and to understand the fundamental role that these tools can play in a normal situation, too. My hope is that, as soon as we will return to a normal situation, this digital heritage will not be lost, and we will understand how to exploit its potential to improve the learning process and transform existing educational models and practices for greater use by society.

The recent innovations in products, processes, and business models, doubled by the unprecedented impact of the COVID-19 pandemic, are reshaping the higher education approach to entrepreneurship, emphasizing the greater relevance of the social and local dimensions of innovation. In the last decade, innovation and entrepreneurship were boosted by digital technologies, connecting people to the Internet of Things, big and open data, and crowd sourcing platforms. Thanks to new ICT instruments or to a more efficient, sustainable, and fair use of existing ICT tools, higher education institutions are stimulated by new ways of collaborating, creating, and sharing knowledge and resources with the outside world that ultimately lead to innovation and growth.

Globally, two important trends seem relevant now: first, the 2030 Agenda of the United Nations, adopted in 2015, with its 17 Sustainable Development Goals (SDGs), and second, Education for Sustainable Development as one of the key enablers of all the other SDGs. The most relevant link between both approaches is through SDG 4 on quality education, calling us *to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*.

My experience taught me that social innovation in higher education is a lifelong process. It is about actively shaping the future that ultimately leads to the creation of a democratic, healthy, and culturally diverse society. Higher education institutions are expected to ensure that learners of all ages acquire knowledge and skills to be

able to live and act in the interests of innovation. This book captures that philosophy and shows how universities can follow those practices in their daily activities.

Developing the key competences for social innovation generates a challenging transformation agenda for higher education in Europe. This book is one of the responses to the required transformation. Society needs new educational models that will strengthen the capacity, skills, and entrepreneurial mindsets of students and learners from all backgrounds, ages, and cultures, aimed at creating future social innovators and change agents of Europe.

To my joy, this book provides a wide variety of works related to social innovation in higher education. It fosters an analysis of spaces, strategies, practices, and methods that support social innovation in higher education. The overarching goal of this book is to instruct, educate, and provide best practice examples of social innovations in higher education.

The book documents and reflects the experience of multiple experts, researchers, and academics from varied countries of Europe in transforming their educational practices with local living labs, innovative pedagogical methods, multiple actor constellations, and mixed audiences. It was an enriching experience for me to be given the opportunity to collaborate in various projects with some of the editors and authors of this book and take part directly in these experiments.

I believe that this book contains materials valuable both for the actors inside the academia, whether they are students, faculty, researchers, or administrative bodies, interested in contributing as social innovators, and for non-academic external stakeholders willing to join the universities' co-creation efforts for the benefit of society.

I hope the editors and all contributors will hold more conventions and conferences to make both academic and non-academic stakeholders aware of what needs to be done to bring about these social innovations in the university campuses.

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Fabrizio D'Ascenzo

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# Chapter 1

## Introduction: An Overview of the Research



Carmen Păunescu, Katri-Liis Lepik, and Nicholas Spencer

**Abstract** The ambition for this book is to demonstrate how higher education institutions (HEIs) can respond to societal challenges, support positive social change and influence the international public discourse on social innovation. It attempts to answer the question, ‘how does the present higher education system, in different countries, promote social innovation and create social change and impact’. In answering this question, the book identifies factors driving success as well as obstacles. The book offers suggestions about how the present system can be improved both based on existing data and international literature on social innovation in higher education. The book presents a selected set of peer reviewed chapters presenting different perspectives against which relevant actors can identify and analyse social innovation in HEIs.

**Keywords** Societal challenges · Higher education innovation · Context · Third mission · Higher education institutions

## 1 Introduction

Social innovation has been receiving growing attention from policy makers, international institutions, non-governmental organizations, researchers and the business sector around the world. Despite a growing belief that social innovation represents

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one of the key solutions to solving current societal problems, the field of social innovation research in higher education institutions (HEIs) provides disparate discussions of this phenomenon. This situation severely impedes the advancement of social innovation practice and research in its policy area. A macro-lens regarding the awareness of relevant actors about the social innovation landscape in academia, and connectivity with the reality of today, is needed. The book's ambition is to demonstrate how HEIs in the different countries promote social innovation and contribute to creation of positive social change. It also aims to discuss success driving factors and obstacles, if any, that influence generation of social innovations. The book seeks to present the perspectives against which relevant actor personnel should identify and analyse social innovation in HEIs. Also, it examines how higher education innovation assists societal challenges and investigates the benefits of effective social innovation engagement by HEIs. Moreover, the book contributes to understanding about how to further develop the third mission of the universities and enhance their role as a driver of social change towards the paradigm of purpose-driven universities (Haski-Leventhal, 2020). The discussion held in the book is meant to explore the common ground where more actors can sustain social innovation.

## 2 Context and Goal

In recent years, sharing knowledge and know-how between science and society through a consistent dialogue and open collaboration between researchers and societal actors became critical for developing products, services and processes that are useful, sustainable and ethically acceptable (Morrison et al., 2020). Continuous experimentation and learning exchanges according to an open innovation community model (Zhou & Qi, 2018) must be a priority for generating concrete solutions to sustainability problems in real-world settings (Trencher et al., 2014). Usually, higher education institutions do not have an agenda for capitalizing on the local assets and knowledge that surrounds them in the community environment where they are embedded. Communities are expecting the HEIs to actively engage with them and take responsibility by transferring their competence to the direct local context to stimulate social innovation and sustainable development (Westley et al., 2014; Jordaan & Mennega, 2021). Universities can help communities by channeling the expertise, skills and work of their academics and students to critical problems and opportunities facing communities (Schlossberg et al., 2018).

One of the greatest challenges faced by higher education institutions is the effective management of their efforts to solving societal problems, such as the sustainable development goals (SDGs), in an increasingly complex and competitive global environment. This environment evolved dynamically to include numerous aspects that HEIs should carefully consider (Whittle & Rampton, 2020):

- Cooperation with actors from surrounding ecosystem for the transfer of knowledge and talents.

- Cooperation on research and innovation agendas on an international, multi-disciplinary and intersectoral basis.
- Cooperation on innovative pedagogies that empower academics and students as social innovators and change makers.
- Uptake of digitalisation, empowering the further transition to knowledge- and digitally driven universities; and
- Development of digital and entrepreneurial skills among academics, researchers and students.

HEIs, particularly in Inclusiveness Target Countries (COST–European Cooperation in Science and Technology, [n.d.](#)), lack the ability to exploit effectively their innovation capabilities for the benefit of the communities in which they are embedded. Also, there are a lack of systemic approaches to involving stakeholders in the HEIs' innovation ecosystems. The overall change from Triple Helix to Quadruple Helix philosophy includes focus on smarter use of resources and demands greater inclusiveness of different actors and stakeholders. Therefore, HEIs need to partner with other institutions and organizations, and demonstrate research impact, efficiency, and innovation throughout. Academics and business representatives should work together to achieve sustainable development goals in an integrated way. Also, students, along with teachers, have an important role in adopting social and environmental elements through interdisciplinarity, with an impact on daily life. Therefore, the development of constant societal dialogue and targeted communication between HEIs, government, the private sector and civil society plays a key role in achieving greater social impact.

**Scope** The current book is an opportunity for HEIs to boost the collaboration in sustainable social innovation and learn from each other. The current crisis offers an opportunity to better prepare HEIs around the world to deal with society and sustainability challenges. Also, it raised the need to look for more effective interlinkages that would connect their talents, spread best practice, increase their interoperability and encourage a higher degree of coordination in their efforts to solving societal problems.

**Aims** The book ambition is to demonstrate how HEIs can respond to societal challenges, support positive social change and contribute to the development of international public policy discourse. It seeks to present the perspectives against which relevant actor personnel should identify and analyse social innovations in HEIs. Also, the book ambition is to inform interested actors how to further develop the third mission of the universities and enhance their role as a driver of social change.

**Core Arguments, Themes, and Issues Addressed** In an increasingly complex and rapidly changing world, discussions about how best to educate and prepare graduates for the new challenges of the twenty-first century abound. Knowledge Alliances between HEIs and businesses which aim to foster innovation, entrepreneurship, creativity, employability, knowledge exchange and/or multi-disciplinary teaching, learning and research are therefore becoming increasingly necessary and relevant.

The changing nature of contemporary society highlights that social issues are often highly complex and multi-faceted. As we enter an era where cooperative and creative skills, competencies and attitudes are recognized as significant in responding to societal challenges, developing graduates capable of operating effectively in multi-disciplinary and inter-disciplinary environments is critical. The challenge of equipping students with relevant skills and knowledge in the future employment markets can only be achieved by working globally and collaboratively and learning from the wide variety of partners and their networks about the various ways to prepare graduates across disciplines. Higher education includes a set of systematized knowledge and practical skills, which allow to solve theoretical and practical problems on a professional profile, using and creatively developing modern achievements of science, technology and culture. Consequently, higher education aims to ensure that their graduates, by realizing their acquired knowledge in the process of working life, benefit society and the State as a whole, ensuring its constant development.

To draw possible solutions to the complex challenges mentioned above, the core themes discussed in the book include:

- Introduction of the spheres of influence for enhancing social innovation in higher education and the varied facets of social innovation in HEIs.
- Contribution of the higher education institutions in fostering the development of the social innovation ecosystem.
- Uptake of digitalisation in higher education institutions as a driver of social oriented innovations.
- Development of a social innovation competence framework meant to educate entrepreneurs to go internationally.
- Discussion of higher education practices for social innovation and sustainable development.
- Introduction of a higher education social enterprise program that advances understanding of social entrepreneurship and social enterprise development in higher education.
- Discussion of the dimensions of societal impact of research produced by HEIs and introduction of a framework for managing research with societal impact in HEIs.
- Discussion of the role of HEIs in creating socially responsible innovations.
- Analysis of how responsible research and innovation activities are understood by regional stakeholders, particularly regarding how the roles of different actors are constituted, and how different actors facilitate social innovation.
- Introduction of a co-creation platform developed on a quadruple helix framework for solving week social challenges.
- Analysis of social innovations emerging from academic nursing-community partnerships.
- Discussion of social innovation in HEIs from a Disability Studies perspective.
- Analysis of the possibilities of using financial instruments such as social impact bonds for additional funding of higher education institutions.

**Questions Raised by the Book and Solutions Provided** Following aims of the Cost Action 18,236 Multi-Disciplinary Innovation for Social Change the following research questions emerge:

- How to develop students to become the next generation of ‘innovators’ prepared to create, collaborate and navigate the world’s complexities (Der Zwaan, 2017)?
- How can HEIs equip their students (and other learners) with the knowledge and skills necessary to engage with and respond to twenty-first century challenges and opportunities?
- How can various stakeholders (academia, private and public sector institutions and end-users) be more actively engaged in developing changes in education to support multi-disciplinary education?
- How to boost the HEIs’ ability to translate research results into the economy and civil society?
- How to foster digitally facilitated social innovation collaboration?

The overall research questions that incorporate the above are two-fold: What is the HEIs’ role in creating social change, transformation and impact? And how to strengthen the HEIs’ social innovation efforts in order to be sustainable? Answers provided in the book include:

- Identifying conditions for innovation in academic settings to produce socially relevant outcomes.
- Insights about how HEIs promote social innovation and suggests how the present system can be improved.
- Understanding the capacity of the HEIs in fostering community-based learning that leads to social change and inclusion.
- Exploring digital challenges in HEIs and social innovation opportunities from digital transformation in HEIs.
- Highlighting the key role that the HEIs play in production of research with societal impact.
- Discussing higher education practices for social innovation and development, stressing the importance of a multidisciplinary approach.
- Presenting innovative pedagogies that empower students as social innovators and change makers.
- Debating the potential of social innovation in higher education from a user-led, inclusive and participatory perspective related to disability studies.
- Examining the co-creation platform concept aimed at improving the wellbeing of those in the most vulnerable positions through co-creating societal innovations, services, and capacity building.
- Outlining the crossing points of the quadruple-helix model and the priority guidelines for the development of scientific research and innovations with societal impact.
- Exploring the peculiarities of social impact bonds and the possibilities of their application in higher education for additional funding of HEIs.

### 3 Distinctiveness and Primary Contributions

**Distinctiveness** The book offers unique and novel discussions of social innovation landscape, tools, practices, pedagogies and research with impact in the context of higher education. It brings together international, multi-disciplinary academic and industry leaders in the respective fields of social economy, community development, public health, governance and public policy, to inform the development of social innovation in HEIs. This work supports the sharing of international research evidence and practice expertise across academic and professional disciplines and multi-countries in Europe.

**Primary Contributions to the Field** The most compelling and provocative contributions of the book are:

- Demonstration of how HEIs can respond to societal challenges and support positive social change, by firstly identifying spheres of influence for enhancing social innovation, continuously fostering the development of the social innovation ecosystem, successively collaborating through co-creation platforms in the quadruple helix framework and ensuring delivery of social innovation competences and outputs.
- Sharing of best practices of how the present higher education institutions in different countries promote social innovation and create social change and impact.
- Information of interested actors about how to further develop the third mission of the universities and enhance their role as a driver of social change towards the paradigm of purpose-driven universities.
- Overview over the assessment of the societal impact of research in HEIs, meant to explore the common ground where more actors can sustain the social innovation.

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# Chapter 2

## Facets of Social Innovation in Higher Education



Mary McDonnell-Naughton and Carmen Păunescu

**Abstract** Emphasis on social engagement and innovation for the higher education sector is a priority, despite the various challenges that have arisen as result of Covid-19, for third level providers. It is a conversation that continues to evolve of how the higher education providers can prepare students for global citizenship and societal innovation. There are specific concerns regarding best practice and the contribution of higher education to teaching, research and ultimately public policy. Universities are embedded in teaching and research whereby the onus is to engage collaboratively with outside organisations to develop competences and create products for greater use by society. This chapter aims to explore how the higher education institutions can contribute to transforming teaching and research so that the student, and ultimately each academic community member, experiences the full value of contributing to a successful society, reflecting on sustainable partnerships, engagement, whilst reflecting the whole idea of societal innovation. Its ambition is to define spheres of influence for enhancing social innovation in higher education.

**Keywords** Social innovation dimensions · Higher level education · Social and community engagement · Teaching and learning · Society

### The Key Points of the Chapter Are the Following

- To explain the concepts of social and community engagement in higher education and gain an insight into their manifestations in practice.
- To gain an understanding of what enablers in relation to social innovation are of benefit to higher education providers.

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- To clarify how students can be encouraged to participate in specific community engagement activities.
- To understand how higher education institutions can contribute to enabling and exchanging social innovation.
- To identify practical dimensions of social innovation in higher education and how they can be best implemented.

## 1 Introduction

Higher education is going through a great deal of change worldwide. The world pandemic because of Covid-19 has highlighted the importance of active engagement by its citizens and social innovation by all public, private, and governmental actors. The catalyst for social change and innovation is to ensure and sustain an economy that benefits everyone in society. One response to these challenges is the development of the entrepreneurial university model, which adds a strong third mission to Higher Education Institutions (HEI's) (Stolze, 2021). Within this structure there is an implied commercial orientation and a required social engagement. Stolze (2021) suggests that there are exogenous and endogenous forces which determine how HEI's can engage with community and innovate. Schröder and Krüger (2019) highlighted the necessity of new governance structures in universities for enabling and fostering social innovations and a more active role of HEI's in exchanging social innovations that contribute to enhancing education and realizing societal impact. Hunt's (2011) report on various challenges that are facing higher education acknowledged that "higher education will need to innovate and develop if it is to provide flexible opportunities for larger and more diverse student cohorts." (Hunt, 2011, p. 10). In agreement with this, Thomas (2012) highlighted the importance of students having a sense of belonging to the third level education sector and spoke about nurturing students to have a clear academic purpose. Pascarella and Terenzini (2005) pointed to several variables that influence the transition of students to third level education, one of which is social involvement. The social involvement needs to be extended to the concept of community engagement (Machimana et al., 2020). As per Hunt (2011), "higher education institutions need to become more firmly embedded in the social and economic contexts of the communities they live in and serve" (p. 77). This philosophy is meant to underpin the ethos of higher education institutions and within its action plan to support campus-community volunteering and innovation opportunities.

The chapter aims to explore how the HEI's can contribute to transforming teaching and research so that the student, and ultimately each community member, experiences the full value of contributing to a successful society. It also seeks to answer the question of how social innovation in higher education can contribute to realizing educational change and societal impact and evaluates enablers that can contribute to the higher education providers to act. Moreover, the chapter argues the need for a more active and a new role for universities in fostering social innovation and in recognizing its multiple facets within their educational system.

## 2 Role of Higher Education in Society

### 2.1 *Need for New Roles for Higher Education Institutions*

The 2020 global pandemic began a period of enormous change and created unparalleled societal challenges. Many HEI's had to embrace digital technology in order to meet its obligations to students. Teaching remotely became the norm for HEI's. It transformed the whole concept of education and placed enormous emphasis on community wellbeing and engagement. Many HEI's helped by contributing to civic society organisations, frontline workers, and policymakers in an endeavour to address societal challenges and support the emergency response in every way possible. The health and wellbeing of students and staff were of enormous importance to the higher education sector. Avenues were exhausted providing support and in most cases the use of technology was shown to be so important in assisting students to accomplish their programmes of study.

The current worldwide pandemic has worldwide economies counting the costs. Governments all over the world are endeavouring to tackle the spread of the virus. Despite the development of new vaccines, many are still trying to visualise a global recovery. Epidemics of infectious diseases are occurring more often across the globe. Planning and preparation for epidemic prevention and control is essential (World Health Organization, 2018). Education equitably will be pivotal to the recovery from the pandemic. Efforts to fund this equitably needs to be at the heart of the recovery with emphasis on building robustness in educational systems (Global Partnership for Education, 2020). Reducing inequities in education will be the norm and there will be a positive societal impact which will benefit from a reimagination of our educational systems (García & Weiss, 2020a, b).

Education has a critical role in restoring human and social capital. A decrease in learning will have negative long-term impacts on productivity and economic growth (Global Partnership for Education, 2020). It cannot be underestimated the importance of education within this sphere and ensuring that certain members of society do not get left behind in relation to third level access. This may occur due to demand for places and changes in admission criteria of HEI's. Students may have encountered challenges in completing final examinations prior to commencing tertiary level. This maybe because of poor digital infrastructure due to their personal circumstances.

Educational planning in this pandemic requires the recognition of Maslow's hierarchical of needs placing safety and survival first before formal education (Doucet et al., 2020). The pandemic has provided an avenue for third level education delivery systems to be tested to see if they are fit for purpose. Nations that endorsed public health guidelines promptly have managed to keep their communities safe, with less harm to their citizens. Valuing and developing innovation partnership and collaboration with communities is paramount. Collaboration with national and local agencies can enhance inclusion and agility of a community that will benefit all citizens. It is important that we learn from history and follow these steps to develop a broader, deeper reimagination of our society (Walker, 2020). Enabling leadership

within cultures will be essential for ensuring that innovation spreads and becomes a cultural norm (West et al., 2017). Compassionate leadership, seen as ability to take institution to a higher level of performance and wellbeing, is central and fundamental as an enabling factor that will create a culture of improvement and radical innovation across health care (West et al., 2017). This analogy can also be applied to higher level education as it also helps to promote a culture of learning. Compassionate leadership is seen as an enabling condition for innovation across sectors (Amabile & Khaire, 2008; Worline & Dutton, 2017). Compassionate and collective leadership encourages individuals to respond to challenges by innovating, and this is focused on working together across boundaries (West et al., 2017). All leaders need to model authenticity, openness, and transparency, and, above all, compassion (West et al., 2017). This is now of paramount importance in education. The United Nations proclamation of 2005-2014 focussing on sustainable development has been pivotal in driving higher education institutions in integrating sustainability into their system (UNESCO, 2005). It placed emphasis on partnering with civil society. A modern university produces numerous interrelated effects that affect several social factors and focuses on the quality of university management, considering its applicability to local communities (Belov et al., 2020).

Education must be a priority in post Covid-19 recovery as it is one of the most protective mechanisms to inequalities and lends itself to responsible citizenship and innovation. Our world needs it now more than ever before. The pandemic has placed enormous emphasis on the impact of technology on learning and teaching within education. Covid-19 has put an impetus on educators to reflect on the tools that will best serve their students and reflect pedagogical practice (Doucet et al., 2020). Consideration must be given to what is accessible and fit for purpose, along with devising routes that will bring connectivity, relationality, and humanity into a distance learning model. Some countries were able to respond expediently to the pandemic because of their prior stance on technology access for education (see for example the *International Council of Education Advisers Report 2018-20*, published by the Scottish Government in December 2020). Society needs graduates that are fit for purpose, with a talent pipeline that can deliver services. Lifelong learning is very important, this also needs to be made available in an easily accessible environment. Leadership educators recognise community engagement for the purpose of developing civic and socially responsible leaders (Purcell, 2017). Community-engaged scholarship and teaching as “pedagogy of practice” can be advantageous (Ganz & Lin, 2011). A great deal of universities is committed to engaging their campuses in their surrounding communities, whilst place-based community engagement helps to creatively connect with the community to foster positive social transformation (Yamamura & Koth, 2018). Sustainability has made inroads into HEIs, with only a few universities implementing it holistically (Menon & Suresh, 2020). Initiatives adopted by institutions have been successful in incorporating sustainability in education, research, campus operations and outreach programs (Menon & Suresh, 2020). Experiences of community partners with higher education qualifications highlight the importance of the third level education providers in promoting social justice, recognising that community challenges are not confined to a lack of material

resources, but a dearth of knowledge about the local resource (Machimana et al., 2020). Universities can partner with communities to address critical twenty-first-century challenges and LaDuca et al. (2020) reflected on an innovative initiatives that provided for transdisciplinary community engagement in pursuit of social justice.

There are drawbacks associated with neo-liberalisation in higher education (del Cerro Santamaría, 2021). What society needs for the future cannot rely on what evolved in the past as there has to be a bridge between the academic and the global economy. Planning for higher level education needs put in place a strategic plan to ensure that societal needs are met, and employment opportunities created. Strategic plans of HEI's need to endorse, develop, and foster spin out companies within the academic world. Most HEI's have research offices and innovation centres built into their physical campuses. Policies on intellectual property are built into HEI's protocols which is important to nurture innovation and give support to companies that can develop and employ people. The development of entrepreneurial activities incorporating a third mission proved to be a complex matter (Almeida et al., 2016). Almeida et al. (2016) showed that when commercial entrepreneurship was beginning and when patenting, technology transfer, and spin-offs were new and untested, although embodied in university proposals, it was difficult to see the evidence in practice. Change takes time and investment. It must be reflected in the ethos of the university and the scholarship of research innovators requires nurturing. The entrepreneurial university focussing on initiatives and endorsing the commercialization of technology and appropriation of knowledge, will ultimately create social value within a society.

## ***2.2 Community Engagement in Higher Education***

The Irish National Strategy for Higher Education 2030 highlights civic and community engagement as one of the “three core roles of higher education” (Hunt, 2011), with the Higher Education Authority's devising a tool to measure indicators in relation to civic society engagement. Hall et al. (2010) described community engagement in higher education as a cluster of activities that includes service-learning programmes and research that addresses some aspects of social, economic, and political needs. Community engagement is also about bringing together new knowledge through research and improving teaching with a centrality of the relationship between community, goals, and respect (Wynsberghe & Andruske, 2007; Vickers et al., 2004). Jacob et al. (2015) urged HEI's to engage with their local community where they are geographically located so that they would have a sustainable impact on society showing that engagement activities between communities and higher education can be either formal or informal. This can lend itself to certain members of society availing of an opportunity in third level education. They may be the first in their family to embark on that journey.

Over twenty years ago, Remenyi (1999) spoke about placing emphasis on information sharing to an increased understanding of development issues and their

significance for good citizenship. Freire's *Pedagogy of the oppressed* (1972) spoke about hearing those with the least voice and he also placed emphasis on the reflective, experiential, activist, and the worldview of affairs. This contrasted with only the elitism in society that were afforded the opportunity to be educated. This has changed within Europe. However, the concept of social and community engagement, although not new, needs further development in line with progress for the twenty-first century. The educational process that is necessary must be embedded in the learner and must also include interactive methodologies. Universities are morally accountable to society (Cooper, 2005). Putman (2000) spoke about the concept of social capital and highlighted in 2000 that trends of civic disengagement would lead to a crisis in society. The concept of the American dream is now becoming more of a dream than reality as education costs in the US places a serious financial burden on families. The concept of working hard leaves very little room for younger people to engage in voluntary activities, thus they need to ensure that it is placed firmly in their undergraduate degree programmes. Putman (2000) argued that society needed to renew civic engagement by creating new structures and policies.

The process of engaging the community to act centres around building commitment to a common set of values and principles that motivate community's members to act. International comparisons of community engagement in higher education varies as the concepts can be completely different in each country with different understandings. Bernardo et al. (2012) showed that the role of university leadership was found to have a critical role in embedding community engagement. The application of both leadership and management is needed to ensure sustainable and effective community engagement (Bernardo et al., 2012). Krčmářová (2011) defined the "third mission" of the university as extending the role of the universities beyond the traditional roles of instruction and research, to encompass community engagement and in principle opening HEI's to external partners. Elements such as cultural, social, political are often missed within the realm of community engagement (Winter & Wiseman, 2008; Sandmann et al., 2009). The breadth of community engagement spans across all levels of university leadership inclusive of both academic, administration and support staff. Watson (2011) speaks of universities on their evolution embracing community engagement, with specific cultures and historical events having an influence.

Third level embodies the intellectual independence and critical thinking that engages students during their studies. That engagement now must lend itself to policy development, thus improving society, embracing the concept of digital transformation. The onus is to engage collaboratively with outside organisations to develop products for greater use by society, in an efficient manner. This may involve multi-nationals working alongside interdisciplinary teams, to create an impact. It also places emphasis on the critical evaluation of the various dimensions of education to ensure that knowledge is shared, which now can have a global impact due to technology. The value system of individuals who are educated in a reflective way emerge with a vision and capacity to make a difference to society. Harris (2005) echoed the sentiments that the process of schooling is more orientated towards producing communities which are "obedient" as opposed to critically engaged



individuals in society. Education needs to foster the ethos of critical engagement. Tackling social inclusion amongst a community group where members are encouraged to engage in exercise can be a very simple way of innovation which can be supported by HEI's especially where there are sports facilities available. This can be intergenerational and can also assist in family dynamics, such as the parent participating with their child, both benefiting from exercise leading to greater wellbeing.

Promoting social engagement and retention is one of the aims within the National Higher Education Stem programme in the UK (Jones & Thomas, 2012). They found that students benefit both academically and personally from social engagement with peers and staff. This social engagement extended to collaboration with appropriate communities which enabled the student in acquiring the skills that are needed to benefit society including the ecosystem. All third level educational programmes leading to an award needs to embed the concept of social and community engagement. Curriculum integration of community engagement across the teaching and learning processes is vital to instil the infusion of social values (Bernardo et al., 2012). Bernardo et al. (2012) on "institutional advocacy" encourages social activities regarding information on social and political activities as critical to national development and projects that are prioritised are those that have a direct impact on poverty alleviation and the promotion of justice and peace. Managers in education need to review curricula so that there is a platform for a commitment to civic engagement (Spiezio et al., 2005).

Bernardo et al. (2012) clearly articulated that there would not be single community engagement framework "where everyone should fit" and it is more crucial to generate understanding that could lead to collaboration "where everyone has a space to be". Essentially it is a philosophical belief that can help evolve, shape and progress higher education for local national and international communities. Marston et al. (2020) showed how digital technology has played an integral role during Covid-19, assisting various sectors of the community and highlighting that smart cities can provide opportunities to respond to many future societal challenges. Higher level education institutions have an enormous role here to ensure that students are best prepared to engage in this infrastructure and plan accordingly. Hoof and Marston (2021) place emphasis on all members of the wider scientific community, local, regional, and national governments along with social enterprises and industry leaders working together can afford citizens various opportunities for active engagement within age-friendly cities and ecosystems. This is an example of excellent community engagement with the development of educational pathways which can be provided by higher level institutions. It is an intergenerational, interdisciplinary approach to enable a better quality of life for the older person and thus enhancing society. In essence, it is the sharing of knowledge, expertise, and skills to make a difference. This is an opportunity for academics, stakeholders, policymakers and governments, and other personnel within industry to ensure that the adjoining facets associated to the quality of life for both younger and older people are met (Hoof & Marston, 2021). All of this can positively benefit wider communities.

Integral to the development and growth of HEI's is research. Companies who wish to develop their research capacity can enhance the connection with the university in their area. Centres can grow through collaboration and bringing together academics, researchers and innovators who can develop an innovative solution that can transform an area and enhance economic growth. Health and wellness are areas constantly expanding and the sharing of knowledge from academia can assist in building capacity, all of which has a positive impact on the community. Digital health is an area that is growing and has been accelerated by Covid-19. This will become the normal in the future so it is essential that HEI's play their part by investing in resources that can enable the infrastructure around the development of technology that can assist in the development of innovative digital solutions to address societal issues. The partnering with key stakeholders in this area is essential. Most HEI's will have a digital strategy, this will need to include community partners.

### ***2.3 Leading Innovation through Community Engagement***

Citizenship is multidimensional (Khoo, 2006). Civic duty instils in the individual a desire to participate and engage positively with public matters. How this engagement occurs varies from one individual to another (Ward, 2005). The concept of elective placements by health professionals is one of the ways that higher education students can embody civic and community engagement. Those who are undertaking professional degree accredited programmes may through their higher education institution be afforded the opportunity to explore the concept of social and community engagement by choosing to participate in a relevant elective module. This can also provide an opportunity for one to whet their appetite in this area and provide very valuable experiences that can underpin their lifelong career(s). A network for the promotion of civic engagement activities in Irish higher education already exists and is known as Campus Engage. It is open to all higher education institutions and community organisations in Ireland. It aims to strengthen the relationship between higher education and wider society, through civic engagement activities (Campus Engage, 2014). Existing community knowledge initiatives place emphasis on student's civic engagement through "service learning". Kanj (2003) spoke about service learning as a continuum in life which includes various life skills including social responsibility, ethical and moral development and professionalisation. It implies the whole area of professionalisation, upskilling, greater accountability, outcome driven approaches within the concept of ethics and community engagement. In terms of social responsibility, community engagement increases understanding of the facets of community service, social justice, diversity, empathy, and social responsibility ([www.campusengage.ie](http://www.campusengage.ie)). Examples exist that are wonderful and highlight very clearly the area of social engagement. In Trinity College, Dublin, students are encouraged to participate in "Foodcloud" which aims to reduce food waste, reducing food poverty and bringing communities together, with two of the university students sitting on the board. Another example in Letterkenny Institute of Technology is

students helping to evolve culture and attitudes towards sexuality. In National University of Ireland Galway another example is students promoting positive mental health, this reflects other colleges as emphasis on mental wellbeing is of paramount importance and is nurtured in all third level colleges.

As managers of HEI's, there is a discussion that is warranted on socially-constructed meanings, their implications, and the institutional factors that influence the extent to which faculty members engage in innovation projects. The theoretical foundations of interdisciplinarity and collaborative research is paramount to developing new insights and modern methods of operating that will enhance society. Collaborative research is supreme and potentially beneficial to students however, it can also be institutionally challenging and often incongruent to the dominant culture of teaching within a university. Technology transfer is there which assists industry to link in with academia which can enhance collaboration and lead to greater developments. The management of this is vital to ensure there is gain for all concerned. Autonomous decision making is essential ensuring there is fairness and processes need to ensure that transitions due to digital transforming is available which benefits all in society.

It is important to engage with communities and society to identify what their specific needs are and therefore HEI's can then, through their innovation centres, develop what is required that can assist people and ultimately, if the idea is good enough, can create employment. Knowledge sharing is pivotal with community engagement and collaborating with various institutions. In essence, third level educators and universities must ensure that social and community engagement is endorsed and linear collaborations developed. The concept may assist in creating partnerships that are of value to society, in essence the sharing of knowledge. Flexibility will allow for people to engage with potential benefits and build up resources that can be trialled within the academic environment and may have the potential to be commercialised. Universities linking in with the local community can enrich development through education, focused research, volunteering, and activities specific to that region. Local government organisations coming on board for the greater good is also an example of serving the community and may provide financial resources to assist in the sharing of knowledge and upskilling individuals. There are government backed organisations which assist greatly in these endeavours such as Enterprise Ireland as an example ([www.enerpriseireland.ie](http://www.enerpriseireland.ie)). Innovation and sustainability are the keys to the future and technology will be so important in assisting societies to live better. Remote delivery of healthcare is another example of developments that will be utilised much more in the future. Trust has to be in place so that patients can trust the technology and that the results from monitoring of their conditions can be picked up accurately and managed professionally by the healthcare experts.

When students see the benefit of those structures, they may replicate this altruism in their careers later. One of the leading volunteering educational programmes within higher education UCD Volunteers Overseas ([www.ucdvo.org](http://www.ucdvo.org)) enhances the student's awareness of key international developments and encourages them to reach their potential to bring about positive global change. Ensuring that higher education

level staff are given the recognition and the training that is needed to develop civic engagement is vital (Thomas, 2012). Collaborative learning and teaching, involving joint intellectual efforts by students and faculty, needs recognition and be visible on timetables and modules. Vaughan (2016) reflects on students with a range of disabilities and difficulties, endorsing the concept that they are accommodated appropriately to ensure they have access to curricula that addresses socio-cultural capital in third level and higher education. This may influence communities and is reflective of communities of learning and building upon a learner's experience and knowledge (Henson, 2003). Bourdieu (1986) in reviewing social capital visualized it as something that can be used by those in position of power or dominance to exclude people from various social groups or structures. Pedagogical action enables Bourdieu's (1986) culture and replicates itself based on vested interests of groups or classes within society. This results in the distribution of social capital amongst those groups only. Therefore, it is necessary that students are facilitated through their university education to participate in activities outside of mainstream academia. This will heighten social mobility occurring within certain circles and change the habitus. There is an ethical imperative that the students through their own development and acquisition of knowledge become part of the systemic change that can positively impact on society (Thomas, 2012). The benefits to the economy and society cannot be underestimated.

Social research on resilience often takes on a macrolevel systemic perspective and it may be adopted as a systemic characteristic (Capano & Woo, 2017). Due to Covid-19, resilience has become of great importance to governments. It may not always apply to policy (Duit et al., 2010; Duit, 2015). Resilience is of enormous concern during the policy formulation phases of any public developments. This is where all concerned need to have a voice at the table. Policy makers are often reluctant to take on new developments due to the fear of existing policies being perceived as failure (Capano & Woo, 2017). This subscribes to the dichotomy of 'dynamics without change' (Woo & Howlett, 2015, p. 1).

Covid-19 has shown how communities and HEI's can be very resilient despite adversary. Facilities including access to technology must deliver to all. The question remains as "to whether a policy system that has encountered shock should aspire to become resilient or whether it should seek to adapt or transform into something different" (Capano & Woo, 2017, p. 5). It may not always be possible to embed resilience within policy, nevertheless the harsh lessons that have been learned from Covid-19 must not be lost. The development of technology such as the Covid Tracker app helped to combat the disease. This was an innovation that no one could have foreseen the need for two years ago. Yet, it was developed by an Irish company developing technology that had enormous capability ([www.NearForm.ie](http://www.NearForm.ie)), which was tasked by the Irish Health Service Executive with coming up with a contact-tracing app prototype in just five days. This is an example of innovations through technology which has made an enormous difference to the quality of life of people worldwide.

Narbutaite-Afaki & Freise, 2019 reflected on how Sweden and Germany reacted to the unprecedented increase in unaccompanied asylum-seeking children in 2015.

Their work showed that this triggered transformative policy changes, however it also led to reduction of the legal rights of unaccompanied asylum-seeking children, demonstrating the importance of proper consultation and integration of various viewpoints especially those who are in a minority. Refugee children have a greater complexity for social inclusion that necessitates specific skills (Elikaksoy & Wadensjo, 2017). This vulnerable person has other requirements such as legal, psychological and pedagogical needs (Narbutaite-Afaki & Freise, 2019). The question is who takes responsibility to ensure that they are cared for appropriately and that they can integrate into society and participate fully into age specific activities. Public policies need to be in place to address these specific needs, however those needs may change thus necessitating a review of the policy. Public-sector policies may have an impact on users which varies from the macro or policy level to the micro or service level (Windrum, 2008). This can vary depending on time and place.

### **3 Higher Education and Social Innovation**

#### ***3.1 Concept of Social Innovation in Education***

The experience of Covid-19 teaches us that as a society it is imperative that we all work together. Social and community engagement is an educational goal of the higher education institution along with teaching, learning and research, all integral in defining the role of higher education, in the wider social context. There is a role for universities situated in a region to ensure there is economic growth and opportunities created for innovation and sustainable development of communities. A wide variety of initiatives such as engaging diverse communities in health, education and environmental sustainability projects are excellent, however social responsibility and sustainability development is still far from being fully integrated into the core activities of the HEI's (Symaco & Yee Tee, 2019). Engagement with the community can have various interpretations in the academic world and integrates amongst teaching and research to reinforce drivers and outcomes of the academic work (Renwick et al., 2020).

There is an abundance of research into innovation in higher education, whether in curriculum, pedagogical approaches, support service mechanisms or governance and networking (Carayannis et al., 2012; Kolleck et al., 2017). Most of these studies, however, tend to overlook the dimensions of innovation that generate educational change and societal impact (Hasanefendic et al., 2017; Schröder & Krüger, 2019). Higher education plays a significant role in creating better youth employment opportunities, reducing societal disparities, ensuring better inclusion of vulnerable and marginalized groups, and creating impactful research that generates sustainable socio-economic returns. As per Kapoor et al. (2018) social innovations in education are regarded as “novel solutions addressing social challenges in education contributing towards newer and better practices” (p. 190). In line with this definition, Schröder et al. (2018) regard social innovations as ways of identifying and

addressing the deficits, constraints and limitations of an educational system. Social innovations take part in all core and organizational processes and involve several groups of actors who are expected to take responsibility for initiating entrepreneurial actions which address social challenges. The Stanford Business Centre for Social Innovation (2018) defines social innovation “as a process which utilizes effective solutions to challenging, complex, and systemic social issues.” Therefore, social innovators identify a problem, which can be a social demand or an unmet social need, and, by using creative tools and novel approaches, create a novel way (solution) to filling the gaps in service design and provision (Chowa et al., 2019). Given the complexity of social problems, the overall process of social innovation requires a multidimensional approach to developing effective solutions (Chowa et al., 2019).

Loogma et al. (2013) conceptualized a model which describes social innovation as a process that aims at “facilitating educational change or innovation” by taking into consideration several elements: social problem or need, concrete logic of steps, social change agent, social mechanism, basis of legitimacy, social outcome, or gain. According to Conrad (2015) various challenges in education, such as students drop-out and disengagement, school violence, digital learning and technological advancement, social integration, and diversity, can be resolved by determining sustainable innovative solutions. Conrad (2015) highlighted “social innovation in education has a wider scope to create influence for ensuring innovative learning environment, organizing and managing schools, discovering new ways of teaching, learning and collaborating with local communities” (p. 5). As such, social innovations can be found in all organizational processes top-down or bottom-up and horizontally in the education organization. In line with the social mission orientation of Mazzucato (2018) (cited in Schröder & Krüger, 2019, p. 20), the social innovation in education could build-up new capabilities, knowledge and expertise for public administrations, enriched curricula which are better linked with local market demands, new or connected governance forms. This will further lead to changing current routines and practices as well as the building of a more dynamic capacity for the development of new governance structures of higher education institutions.

### ***3.2 Practical Dimensions of Social Innovation in Higher Education***

Social innovations can take place across the higher education ecosystem. Schröder and Krüger (2019) discuss four types of social innovation in education which can lead to educational transformation: learning through diversity, facilitating digital and virtual learning (for instance, for disadvantaged groups), offering home schooling (particularly for groups with special needs) and separating with the provision of alternative learning opportunities. Social innovations can happen through governance, teaching and learning, research, knowledge transfer, social and community

engagement, cooperation and collaboration, funding, impact, diffusion and transfer (Table 2.1). These practical dimensions are not necessarily representing the only possible classification of social innovation in higher education. They are an instrument for building the framework of social innovation in higher education for educational change and further societal impact.

Social innovation through governance takes place when innovation is institutionalized and embedded in all HEI's organizational structures across all management layers, participation of multiple actors and stakeholders in the decision-making process is expected, and various communication channels are used (Schröder & Krüger, 2019). There are overarching and connected governance structures of multi-actors and multi-stakeholders from policy, economy, civil society, environment, and academia—quintuple helix—(Kapoor et al., 2018; Schröder & Krüger, 2019), established to resolving societal problems. The institution can benefit from digitalized systems and technology assisted processes, and strategies are developed to demonstrate flexibility, sustainability orientation and impact achievement. HEI's performance is monitored by an advisory board against society relevant KPIs, and priorities regarding for example industry cooperation, community engagement or international rankings are jointly decided. A culture of diversity is nurtured to sustain multi-sector, multi-nations, and multi-disciplinary learning and research. The HEI's strategic plan extends to incorporate a social integration strategy concerned with ensuring access to quality education and offering equal opportunities to employment for disadvantaged groups, including low-income groups, immigrants, ethnic groups, refugees, mature groups, and people with disabilities.

Social innovation through governance also means developing a culture of volunteering and continuously nurturing it. Training and counselling offered by faculty and staff in collaboration with professional associations or private companies, mentoring and training offered by students in exchange, for example, for tuition fee or rent subsidy are a few examples of widely spread volunteering practices. Moreover, HEI's networks are extended to include not only alumni network (entrepreneurs and investors), but also research network (corporate and industry) and other professional networks (local, regional, national, and international level). Local networks with actors and stakeholders coming from outside of the formal systems are also carefully established (Kolleck et al., 2017).

Social innovation through teaching and learning can happen through building quality education that develops talented human capital (graduates, teachers, researchers, and academic entrepreneurs), through the spread of knowledge and intellectual exploration (Kim et al., 2020) and in close connection with the market changing demands (Tyumaseva et al., 2020). Innovation through teaching and learning also means implementing modern pedagogies and alternative forms of education. The ambition to comply with new educational standards pursues HEI's to promote creativity as a learning tool in a multi-disciplinary setting, by bringing together academics, scientists, entrepreneurs, designers, artists, teachers and students, and linking arts, music, technology, businesses and sciences (Kapoor et al., 2018; Schröder & Krüger, 2019). Investments in digital learning through development of online learning platforms, Massive Open Online Courses (MOOC)

**Table 2.1** Social innovation dimensions in higher education

<b>Social innovation dimension in HE</b>	<b>Arguments/ Reasons</b>	<b>What?</b>	<b>How?</b>
Governance and networking	Pressure from the society to provide consistent socio-economic returns	New governance structure	Institutionalized and integrated innovation in structures (Schröder & Krüger, 2019), systems, leadership, strategies, and culture
		Overarching and connected governance structures	Quadruple or quintuple helix (Carayannis & Campbell, 2009; Carayannis et al., 2012)
		Social integration strategy	Access to quality education and equal opportunities to employment; digital inclusion (Schröder & Krüger, 2019) Culture of volunteering
		Networking	Alumni network; research network; professional networks Local networks (Kolleck et al., 2017)
Teaching and learning	Pressure from the society to deliver highly skilled, talented and entrepreneurial graduates more prescient of the societal problems and better equipped to act themselves as agents of change	Quality and effective teaching and learning	Education that develops the human capital through the spread of knowledge and intellectual exploration (Kim et al., 2020) and based on the market demands (Tyumaseva et al., 2020)
		New educational standards	Multidisciplinary learning International mobility
		Digital learning	Online learning platforms; MOOC; blending learning (Archer-Kuhn et al., 2020); webinars and online tactics using social media (Morley & Clarke, 2020)
		New pedagogies	Mentoring, coaching, consulting, guidance (Tyumaseva et al., 2020) Problem-based learning and project-based learning Story-crafting (Kapoor et al., 2018)

(continued)



**Table 2.1** (continued)

<b>Social innovation dimension in HE</b>	<b>Arguments/ Reasons</b>	<b>What?</b>	<b>How?</b>
		Alternative / new forms of education	Learning communities, collaborative projects, service learning, capstone learning (Vught & Ziegele, 2012), (overseas) experiential learning trip (Kim et al., 2020), remote student learning and self-directed field practicum (Archer-Kuhn et al., 2020),
		Education for sustainable development	Learning that addresses the SDGs/ societal challenges
		New strategies and structures for lifelong learning	Cross-border, flexible lifelong learning
Research	Pressure from the society to develop innovative and sustainable solutions to social and environmental issues (SDGs) and to increase the impact of public policies	Research on sustainability development	Research directed to improving sustainability and wellbeing (Kapoor et al., 2018) Research driven by social demands and societal challenges (Schröder & Krüger, 2019) Research directed towards environmental problems (Kim et al., 2020)
Knowledge transfer	Pressure to ensure the transfer and exchange of knowledge across educational areas, societal sectors, actors, disciplines and borders	Incubators, technological parks, business portals, hubs for local development	Partnership with business incubators, innovation products, leased workforce for business incubators Spin-offs or start-ups (Kim et al., 2020)
Social and community engagement	Pressure from the civil society to contribute to increasing the responsiveness and impact of public policies	Service to humanity	Structures for collaboration and support with local, regional, and national communities and partners (Archer-Kuhn et al., 2020)
Cooperation and collaboration	Pressure to innovate at the local, regional, national or international level	Co-design and co-creation platforms	Use technology to create structures to support the intense work circumstances (Archer-Kuhn et al., 2020)

(continued)

**Table 2.1** (continued)

<b>Social innovation dimension in HE</b>	<b>Arguments/ Reasons</b>	<b>What?</b>	<b>How?</b>
		Partnerships and alliances	Quadruple or quintuple helix
		Channels and networks	Communication channels with media and culture-based public (Kim et al., 2020) Academic planning meetings, regional meetings,
Funding	Pressure to ensure a broad range of sustainable sources of funding	Sustainable funding for teaching, learning, research, community engagement	Local governments, philanthropic foundations, royalty income from intellectual property, student fees, alumni fundraising, social impact bonds (Katz et al., 2018)
Impact, diffusion and transfer	Pressure to contribute to the economic and social development at the local, regional, national or international level	Teaching and learning	Talents, unique skills Businesses and community engagement Absorptive capacity of workforce International mobility
		Research and innovation	New knowledge, innovation partners, innovative products (Păunescu & McDonnell-Naughton, 2020) International rankings
		Social integration/inclusion	Cooperation with local groups with specific societal relevance
		Social and community engagement	Service to humanity (Archer-Kuhn et al., 2020), civic engagement, citizenship role Leading roles of universities in the community agenda
		Emotional support and interactions	Virtual connections and celebrations; structures to support the intense work circumstances for faculty and staff (Archer-Kuhn et al., 2020)

(Dargaud & Jouneau-Sion, 2020) and blending learning is of extreme importance. A blend of on-line learning and work with hours of volunteering and internships at different community agencies, companies, and other organizations for the direct practice and work experience is gaining more and more ground currently (Archer-Kuhn et al., 2020). Innovation through digital learning also integrates tailored support and resources meant to enhance learning, offered by instructional designers and technology coaches to faculty and staff in the form of consultation, training, joining sessions, and workshops (Archer-Kuhn et al., 2020; Morley & Clarke, 2020).

A broad range of innovative pedagogies, which proved their value in society, have been adopted by the HEI's to different extents to enhance their students' learning experiences. Some examples include mentoring, coaching, consulting, and guidance, where volunteers of all types—retired faculty, business professionals, community actors, artists, and even students—act as mentors and coaches (Tyumaseva et al., 2020). Other methods have shown their merits as well: teaching through enterprise projects and real work with local employers; teaching through which learners receive something for themselves personally and know how to develop from here (Tyumaseva et al., 2020); and story-crafting that enables sharing and listening (Kapoor et al., 2018). Alternative and new forms of education have gained momentum recently. For example, learning communities, collaborative projects, service learning, capstone learning (Vught & Ziegele, 2012), (overseas) experiential learning trip (Kim et al., 2020), remote student learning and work and self-directed field practicum (Archer-Kuhn et al., 2020), entrepreneurship education are a few of them. Supervision and engagement of students with clients, organisations and stakeholders via remote/distance placements (Morley & Clarke, 2020) have received a strong attention recently. In all these situations, alternative assignments, requirements and expectations, rigorous enough for student learning and accreditation standards, should be developed (Archer-Kuhn et al., 2020).

Lately, education for sustainable development has shaped new curricula to create learning that addresses the SDGs and societal challenges for the local and regional environment, including climate change, skill shortage, ageing population, and integration of migrants (Kolleck et al., 2017). Also, it included cases of innovative solutions that utilize cutting-edge technology for a broad spectrum of social problems (Kim et al., 2020). HEI's are also concerned with development of new strategies and structures for lifelong learning to support the local development and innovation. Some common practices include building up a lifelong learning system beyond the borders of educational institutions and areas and arranging lifelong learning possibilities in a more flexible way, especially at the local level (Mazzucato, 2018 cited in Schröder & Krüger, 2019).

Social innovation in higher education can also happen through research. Research on sustainability development is of paramount importance. One stream of research can be directed towards problems or technologies that can potentially contribute to improving sustainability and wellbeing (Kapoor et al., 2018). Research driven by social demands and societal challenges, including climate change, skill shortage, ageing population, integration of migrants, energy supply, health and social care, transport and mobility, poverty reduction (Schröder & Krüger, 2019), receives big

interest in the society. Also, research directed towards environmental problems—fine dust, food waste, diaper waste, clothes waste, CO<sub>2</sub> from excessive meat consumption (Kim et al., 2020)—raises a broad interest.

Social innovation takes also place through community engagement and happens through creation of structures for collaboration and support extended with local and regional communities. Collaboration within and beyond the faculty, leading to invitation of regional, provincial and national partners to listen, share, learn and vision together for increased innovation and local development, is a good way to engage with communities (Archer-Kuhn et al., 2020). Social innovation through cooperation and collaboration can happen, for instance, through building co-creation platforms where multi-actors from various sectors embrace technology, join resources, rethink practices, and create environments to support the intense work circumstances for faculty and staff and their external partners (Archer-Kuhn et al., 2020). A sign of social innovation in higher education through collaboration are also partnerships and alliances developed with professional associations, governmental agencies, corporate, research institutions, environmental organizations, and other NGOs to addressing societal problems at the local, regional, national, or international level. Various channels and networks are used to develop communication and improve collaboration with media and culture-based public (Kim et al., 2020). Academic planning meetings, check-ins with staff, regional meetings with field staff, and faculty meetings are common management tools used to improve cooperation and collaboration.

Social innovations can also happen through sustainable funding for teaching, learning, research and innovation. In many European countries, public funding of universities has indicated declining trends. Identifying and attracting new and creative sources of funding is of paramount importance for modern HEI's. Therefore, searching for multi-funding opportunities is critical: local governments, private companies, philanthropic foundations, royalty income from intellectual property, student fees, alumni fundraising, and more recently social impact bond funding (Katz et al., 2018), a form of capital provided through public-private partnerships for better social outcomes in certain areas.

Social innovations take also place through the HEI's knowledge transfer mechanisms, dissemination practices and impact evaluation. Various channels for dissemination and transfer of knowledge in society are used and different spheres of impact are identified. For example, innovation through teaching and learning is measured through the capacity of HEI's to develop talents and unique skills and to engage businesses and communities in the educational act. It is also measured through the absorptive capacity of workforce on the local or regional market, higher education mobility and HEI's positioning in the international rankings. Innovation through research is measured through the new knowledge created, innovation partners engaged and innovative products delivered (Păunescu & McDonnell-Naughton, 2020). Innovation through the social integration strategy is measured through cooperation with local groups with specific societal relevance, including persons with disabilities, ethnic groups, disadvantaged/marginalized groups, and abandoned children. Innovation through community engagement is measured

through the service to humanity (Archer-Kuhn et al., 2020), civic engagement, citizenship role and the leading roles of universities in the community agenda. Innovation through emotional support and interactions can happen through opportunities for virtual connections and celebrations, structures meant to support the intense work circumstances for faculty and staff (Archer-Kuhn et al., 2020) and mind-sets, attractiveness and relevance of social innovation itself (Schröder & Krüger, 2019).

Table 2.1 summarizes the forms of manifestation of social innovation in higher education and its spheres of influence

## 4 Conclusions and Recommendations

This chapter has highlighted some of the concepts of social and community engagement in relation to their manifestations in practice. It has sought to identify enablers and to encourage development and growth in enabling social innovation in higher education. The heart of social and community engagement resides in supporting HEI's to achieve their goals. The understanding of the importance of embedding social innovation in higher education is central to the research agenda of the new modern higher-level sector. There is a critical need to acknowledge and engage fully with all members of society to enhance and nurture the capabilities of everyone and facilitate more nuanced conversations around the multiple facets of social innovation in higher education. Governmental and European policies need to emphasize and support the responsible action by higher education institutes in their navigation to ensure that they are empowered to meet these criteria. Leaders can promote conversations amongst communities, academics, and the wider stakeholders to place emphasis on how they can incorporate best practice in this area. Educational approaches that recognise the unique geographical location of the higher educational institute can pay enormous dividends with reference to community and social engagement. Challenges to addressing specific issues for equitable educational access will be a priority. The conceptual complexity of the notion of 'equity' adds to the challenges. There is impetus for implementing and evaluating important various community engagement strategies, their tendency towards deficit-based portrayals risks overlooking positives of engagement. Encompassed in these socially constructed approaches may involve dealing with the complexity of competing interests. By identifying these interests and creating a space for ongoing dialogue a positive outcome can be ensued.

Higher education providers are expected to encourage the members of their wider scientific and academic community to promote conversations amongst communities, governments, and businesses, at local, regional, national, or international level, leading to various opportunities for active community engagement, educational change, and social innovation. These areas, where social innovations can take place in higher education and priorities should be as follows:

- **Governance and networking.** For social innovation to happen there is a need for new, overarching, and connected governance structures, with distinctive, intercorrelated roles and responsibilities. Also, HEI's need to ensure that social and community engagement is endorsed and there is a social integration strategy in place.
- **Teaching and learning.** Engagement as a key element of institutional teaching and learning strategies needs to be embedded. HEI's need to ensure that all educational programmes leading to an award embed the concept of social community. This will assist in strengthening the concept of innovation that can lend itself to developing communities and help to foster an equitable society. There is an urgent need to invest in interactive and enhanced digital pedagogies for the various curricula and address cultural inequities in access to higher level education. Digital learning, alternative or new forms of education, new strategies and structures for lifelong learning, as well as education for sustainable development are some of the main priorities in the area. Experiential learning assists students reflecting on their learning gains. Graduates need to have a range of skills and achievements which will enable them to gain employment and contribute positively to society. The question of ensuring that students get recognition for prior learning is also pivotal, thereby opening access to a whole new group of learners. Modular short, based specific accredited courses would open the doors to higher level education for those working in industry or other fields of the economy who wish to upskill.
- **Engaged research for societal impact.** The duty that is embedded into students in higher education needs to reflect Ward's (2005) desire to participate and engage positively with public matters. HEIs' engaged research, involving collaborative engagement with communities aiming to address societal challenges, illustrates share knowledge for positive societal impact. It also has very good transferable skillsets, such as management, and ethical knowing around issues. It is important that research evidence is gathered to show the impact on the local economy by HEI's engaging with the community. National policies need to be in place that encourage engagement with communities for producing impactful research and build on capacity. Partnerships with incubators, establishment technological parks, business portals or hubs for local development are critical for ensuring the transfer and exchange of knowledge across educational areas, societal sectors, disciplines, and borders. HEI's need to embrace political and social reform that enables positive change for all members of society.
- **Social and community engagement.** HEI's should take responsibility to devise new methods to engage with communities to meet societal needs and demands. It is essential that the higher education institute bridges the gap with the local community and enriches development through education, focused research, volunteering, and activities specific to their region. Higher education students should be given opportunities for national and international engagement so that the learning environment is aligned with enterprise and the wider community. This would also assist in meeting social and economic objectives.

- **Cooperation and collaboration.** HEI's should bring together capabilities of its staff and students to work collaboratively with local communities, businesses, industry leaders, to achieve sustainable outcomes for their mutual benefit. They need to support social, cultural, and economic development as identified by Conrad (2015). Inclusivity must be an essential principle of HEI's. Concepts that assist in creating partnerships are of value within HEI's. Interdisciplinary research and collaboration with colleagues in other fields is paramount to enrich academic research and give new insights into areas relevant to social and community engagement. HEI's provide a teaching and learning, nurturing and social structure for students and academics across the spectrum of disciplines. Organising seminars and exhibitions across various campuses can help to promote and encourage public engagement. This area is beginning to grow; however, it was not traditionally seen as part of the work of the HEIs'. Collaborative research with a purpose of public engagement is to create knowledge collaboratively. This engagement needs to be in place from the inception of the idea to setting the research questions to evaluating the results. This helps to promote civic engagement and the work produced is for the public and community. Projects can be driven by a defined community's need, which then can be addressed by research leading to social innovation. The learning from one project can assist in helping to developing structures, sharing learning, and resources for other engagement research or projects.
- **Funding.** Funding streams will vary across Europe. Inherent in any funding mechanism is the investment that provides and sustains equal access and also embraces diversity. Sustainable funding for teaching, learning, research, and community engagement with different opportunities can lead to promote interdisciplinary research whilst identifying benefits for the community. Creative sources of funding, such as social impact bonds, are needed to create academic carrier incitements to engage in collaborative teaching, learning and research with the surrounding society for social innovations. Funding needs to be part of the wider discourse with governments focusing on a wider social policy strategy that discusses and addresses issues of hardship across society.
- **Impact, diffusion, and dissemination.** Engagement needs to be firmly embedded in HEI's strategic plans. Central to this is students perspectives and identifying key priorities, such as research and knowledge exchange and engaging with communities. To achieve this, HEIs will need to be a recognised presence in the region's where they are located. The creation of new partnerships and fostering relationships in their area will help in having a positive impact.

Progress has been made in higher education with regards to developing competences and creating knowledge for greater benefit by society. However, emphasis must continue to ensure that its populations are inclusive and reflective of the diversity and dynamics of society. Talents if appropriately nurtured will become visible in the economy by having graduates who are critical thinkers by their innovative and creative ways of addressing challenges. Digital and remote access to education will provide opportunities for learners to engage and complement their

development. The opportunity is now to review processes which embeds and has at its core inclusivity. HEI's can now transform and build on its reputational history so that the future is bright for all potential learners by having a transparent and open access for people to build and develop new careers. This can be achieved by having clear and effective pathways to nurture talent so that it is fit for purpose and has at its core the concept of rigorous scholarship and the development of new ideas through its innovative approaches.

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# Chapter 3

## Pathways towards Enhancing HEI's Role in the Local Social Innovation Ecosystem



Danijel Baturina

**Abstract** Social innovation as a potential way of looking for new ways to combat the most challenging social problems is underdeveloped in Croatia and Europe. This chapter assesses the contribution of specific Higher education institute (HEI) to developing a social innovation ecosystem in the Zagreb agglomeration area (and beyond) in several dimensions: (a) research and evidence that informed social innovations (SI) and wider policies; (b) education; (c) creating networks and advocating, and (d) community engagement. Additionally, the introduction of the service-learning program is presented to illustrate that contribution. The capacity of the higher education institutions in fostering the development of the social innovation ecosystem is discussed through the prism of the local and national education, science and public (social) policy development in Croatia.

**Keywords** Social innovation · Social innovation ecosystem · Higher education institutions · Croatia

### The Key Points of the Chapter Are the Following

- Higher education institutions (HEI) can have a significant contribution to developing local social innovation ecosystems.
- There are several areas in which that contribution can be realised (a) research and evidence that informed social innovations (SI) and wider policies; (b) education; (c) creating networks and advocating, and (d) community engagement.
- Opportunity or necessity can be HEI's drivers in developing the local social innovation ecosystem.
- As demonstrated in the Croatian example, in doing so HEI can have different specific drivers (personal enthusiasm, knowledge and networking capacities,

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embeddedness in local context) and obstacles that can relate to the overall conditions of the specific educational system or national innovation culture.

- Service-learning programs are one of the innovative ways to connect HEI's and the local community.

## 1 Introduction

The former economic crises that have stricken Europe in recent years have prompted many discussions on the search for new paths, creating new approaches and concepts of social and economic policies (Crouch, 2011). The current COVID 19 pandemic has put significant new challenges in organizing social and economic life. Social innovation generally is discussed at the international level (BEPA, 2010) with the notion of looking for new ways to combat the most challenging social problems.

On the other hand, Higher Education Institutions (HEIs) are key institutional players within their localities since they have been shown to have significant economic and social impacts on their communities (Glasson, 2003). The goal of higher education should not be to acquire only those skills that will enable permanent employability, but also those that will equip students for active citizenship, resulting in social cohesion and reduced social exclusion of the individual and social groups. Public and the private sector as well as the civil society are relevant for social innovations, but science and research are so far only taking a minor role in social innovation initiatives (Domanski & Kaletka, 2018).

Therefore, the goal of the chapter is to assess the contribution of the Institute of Social Policy, Study Centre of Social Work, University of Zagreb (from here on the Institute) to developing a social innovation ecosystem in the Zagreb agglomeration area (and beyond). The ecosystems are considered to be institutional, cultural, political and socio-economic aspects that operate in various combinations to support or restrict social innovation activity (more specifically formulated in TEPSIE, 2014).

After defining social innovations and presenting characteristics of a social innovation ecosystem in Croatia, we will look into different aspects of the Institute's work: (a) research and evidence that informed social innovation (SI) and wider policies, (b) education, (c) creating networks and advocating, and (c) community engagement. We will use specific case, the introduction of the service-learning program, to additionally highlight HEI's contribution. It demonstrates the capacity of the HEI in fostering community-based learning that leads to social innovation and inclusion. The methodological approach will be based on the secondary data analysis and researcher own critical reflection as part of HEI as well as an illustrative case of the specific service-learning program.

Challenges and scope of this specific HEI case capacity in enabling social innovation will be key aspects of the discussion. They will be connected it wider local and national education, science and public (social) policy development in Croatia. The conclusion will focus on the recommendations on how to further

developing the HEI third missions and enhancing their role as a driver of social change towards the paradigm of purpose-driven universities.

## 2 Social Innovation: Short Introduction

The concept of social innovation is not new as the writings of both Durkheim and Weber stressed the importance of social innovation in the creation of social order, especially in the context of social and technological change. Historical development of the notion of social innovation is developed in Godin (2012) and Moulart et al. (2017). However, social innovation has become “fashionable” relatively recently. Some analysts consider social innovation to be no more than a buzzword or passing fad that is too imprecise to be usefully applied to academic scholarship. It should be noted that social innovations are by some viewed as a quasi-concept (European Commission, 2013; BEPA, 2014; Anheier et al., 2014).

There have been numerous attempts to define social innovation. More on the history of definition of social innovation can be found in Edwards-Schachter & Wallace, 2017. Social innovations can be defined as new ideas (products, services, and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations. In other words, they are innovations that are not only good for society but also enhance society's capacity to act (BEPA, 2010). Stanford Social Innovation Review (Phills et al., 2008) defines social innovation as “a novel solution to a social problem that is more effective, efficient, sustainable or just than current solutions, and for which the value created accrues primarily to society as a whole rather than private individuals.” (p. 36). Social innovation can be a product, production process, or technology (much like innovation in general), but it can also be a principle, an idea, a piece of legislation, trends in governance, a social movement, intervention, or some combination of them.

Some core elements are highlighted (Caulier-Grice et al., 2012; BEPA, 2010; Howaldt and Schwarz, 2010; Mulgan, 2007; Baturina & Bežovan, 2015). The first is a novelty. Social innovation needs to be new in some way (either new to the field, sector, region, market or user), or to be applied in a new way. Secondly, social innovation meets a social need and is explicitly designed for these purposes. The main goal is to find solutions to social problems. Social innovation should be effective, at least more so than the existing solutions. In the end, it enhances society's capacity to act by empowering beneficiaries, creating new roles and relationships, developing assets and capabilities and/or better using assets and resources. They leave behind compelling new social relationships between previously separate individuals and groups which matter greatly to the people involved (Mulgan, 2007). Social innovation often comes from the bottom up, are geographically dispersed and local (Caulier-Grice et al., 2012) and therefore can have a significant impact on the local level. They are often locally rooted and guided by demand, not supply, tailored because most solutions must be adapted to local circumstances and



individuals. In a wider context, the Atlas of social innovations captures different context and cases of social innovations around the world (Howaldt et al., 2019) and Terstriep et al. (2015) give a comparative report on social innovations across Europe.

There are different examples fostering social innovations to address social challenges in Europe, especially and the local (urban) level (Brandsen et al., 2016). They call for policy recognition of social innovations that are occurring today and wider support but acknowledge that social innovations are context depended. Moulaert et al. (2019) highlight bottom-linked governance' as central to the analysis of social innovations initiatives. Moulaert (2009) gives a perspective of social innovation in integrated area development, which is close to the community development process. He notes their possibilities in urban areas in developing new types of social relations and being drivers of alternative agendas.

On the other hand, understanding of social innovation in community-led local development initiatives in rural areas of Europe was studied by Bosworth et al. (2016). In considering local social innovation action within social and institutional networks authors found that incorporating social innovation goals into policy was seen to be highly subjective and dependent upon the support of local communities as well as the networks and human capital attached to key actors.

Putting social innovations into practice involves cutting across organisational, sectoral or disciplinary boundaries. One of the inherent characteristics of social innovation is that it is taking place across the boundaries between public, private, civil society and households. Their resources can come from academic research, political campaigns, civil society, the public sector, social entrepreneurship, new technologies and many other domains. People and organizations involved in them are diverse and HEI's have their important role.

Universities are increasingly expected to facilitate economic development and societal welfare (Etzkowitz & Leydesdorff, 2000), especially today in times burdened with complex societal problems. Universities are seen as in heart of innovation ecosystems (Rucker Schaeffer et al., 2018) but their role in social innovation ecosystems is rarely researched. The current research suggests that academia (and universities) have an underdeveloped role in the social innovation ecosystems (Domanski & Kaletka, 2018; Schröder & Krüger, 2019). Kumari et al. (2020) introduced key issues for social innovation in HEIs; how to integrate social innovation in the function and working model of HEIs, how to integrate societal needs into HEI activities and solve real-life societal challenges with generated knowledge. A systematic review of knowledge on the role of the university in enabling social innovation (Bayuo et al., 2020) is noting growing interest in the topic and consider three important domains teaching, research, and universities third mission.

HEI's are usually considered as a part of the helix model of social innovation or the institutional entrepreneur perspective focuses on the role of HEIs as a change agent (Leydesdorff, 2012; Kumari et al., 2020). Social innovations can be discussed in the concept of the third mission of the university (Bayuo et al., 2020), going beyond research and teaching, towards contributing to society. Other examples are specifically mentioning the role of HEI social innovation concerning some of the social problems (as SI's based on youth-related problems in Terstriep et al., 2015).

A specific aspect of looking at social innovations in HEI's is analysing social innovations within the educational system. In their analysis of numerous cases across the globe Schröder and Krüger (2019) found that new social practices are developed incrementally mostly with relation to the formal education systems, structures, frameworks, and policies, serving local demands and using leeway on the regional/local level. Loogma et al. (2013) similarly analysed educational changes by implementing the concept of social innovation. From recent developments, the intersection of higher education and social innovation in higher education institutions (related to research, teaching and community engagement) is studied comparatively in East Asia (Hazenbergh et al., 2020).

Schuch (2019) recognized obstacles in the lack of material and immaterial professional structures available within higher education for supporting social innovation. The author also notes (Schuch, 2019) that neither social innovations initiated by higher education institutions nor practices and systems how to monitor, measure and promote their way from universities to society are regularly documented. Therefore, our goal is to contribute to those efforts with a specific Croatian perspective and enhance understanding of the role of the HEI's in developing the local social innovation ecosystem.

## ***2.1 Social Innovation Ecosystem in Croatia***

Croatian experience and understanding of the development of social innovations (Bežovan et al., 2016) suggest that social innovation is a neglected topic, the concept relatively unknown in the creation and implementation of public policy. On the other hand, taking about innovations generally analysis that looked at Croatian innovation system suggests that values like statism, paternalism and traditionalism make innovation system weak and inefficient (Švarc, 2006; Švarc et al., 2011; Švarc, 2017). The concept arose more prominently from the academic community and it is relatively unknown to key stakeholders in designing social or other programs or policies (Bežovan et al., 2016). Previous research recognized some characteristics of social innovations in Croatia. Bežovan et al. (2016) recognize three types of social innovations in Croatia. First, there were social innovations from the public sector, which were often developed with the support of experts from outside the sector. Social innovations that come from abroad were second. They are often results of international financial opportunities related to specific projects. Problems of sustainability and embeddedness were recognized. Social innovations coming from civil society was the third type. Research has shown that they, in some cases, develop the social capital needed to produce visible positive social change.

Other research recognizes the third sector/civil society as the main source of social innovations. Respondents in the mapping exercise (Jelinčić et al., 2016) also saw that the greatest number of innovations comes from the civil society as well as OECD Social Innovation Competition (OECD, 2016). Third sector social innovations impact was studied by Baturina (2016) and impact was recognized in several

aspects such as modalities of action, social services, local community, social entrepreneurship and (social) governance. The local community is seen (Baturina, 2016) as a domain for innovative action as it is the one in which organizations are closer to the needs of citizens and where the impact can be more immediate.

Regarding strategic documents, the concept of social innovations was slowly introduced in the policy area but it became part of some documents, especially related to the third sector. In the Strategy for the Creation of an Enabling Environment for Civil Society Development 2012–2016 (Government of Republic of Croatia, 2011) social innovation and social entrepreneurship emerge as concepts described as one of the ways how civil society organizations can contribute to social and economic development. New Strategy (for the period 2017–2021) dedicates one measure to tenders for the development of new models of socio-economic development through social innovations. However, the Strategy is still not delivered due to political challenges. Strategy for development of social entrepreneurship 2015–2020 (Government of Republic of Croatia, 2015) mentions the concept in the sphere of stimulating the financial mechanisms for social innovation, the development of educational programs for social entrepreneurship and social innovation in the field of the public good. The Strategy of Education, Science and Technology entitled ‘New Colours of Knowledge’ do not mention social innovations, although mentions innovations in several aspects (Government of Republic of Croatia, 2014a).

There are a couple of institutional actors that shown interest in the topic of social innovations (Baturina, 2019; OECD, 2016). Among them is the Ministry for Work, Pension System, Family and Social Policy, the Ministry of Entrepreneurship and Crafts, and the Ministry of Regional Development and EU Funds. They made social innovations (in wider notion) eligible for financing in different tenders. However, generally funding for social innovations is sporadic as it usually goes through rare tenders, competition, and awards. EU funds were an important source of financing social innovations in different spheres (Baturina, 2019). Some academic institutions cover the topic related content in their research and teaching. National Foundation for Civil Society Development promoted the concept and organized the Social Innovation Award (in period 2012–2014). Government Office for Cooperation with NGOs advocates the concept and promotes it in strategic documents. Croatian Chamber of Economy is also becoming increasingly involved with social entrepreneurship (and social innovations) as a theme. International stakeholders had some impact too. For example, OECD South-East Europe Regional Programme organizes OECD Triple Helix Competitions and has published Social Innovation Policy Framework for Croatia. NESsT work was important for the introduction and development of social enterprises and initiatives. Overall, we can conclude that the social innovation ecosystem is in the initial phase of development, especially in comparison to some other European countries, with some recognized cases but underdeveloped institutional recognition and support (Baturina, 2019).

### 3 Institute for Social Policy as Space for Fostering Social Innovation Ecosystem

First, we will give a short introduction to the University of Zagreb and Faculty of Law in which the Institute for Social Policy operates, before zooming into the Institute of Social Policy role in fostering social innovation environment, especially at the local level.

Trends in the last two decades in higher education in Croatia are reflected in the strong growth in the number of higher education institutions and the number of enrolled students and the main institutional changes in the implementation of the Bologna process and principles (Babić, 2019). The 2005 higher education reform brought the Croatian higher education system in line with the Bologna principles (University of Zagreb, 2021). The University of Zagreb, founded in the second half of the seventeenth century, is the oldest continuously operating university in Croatia and one of the oldest in Europe (Agency for Science and Higher Education, 2021a). The University of Zagreb accounts for 44 per cent of students in Croatia (OECD, 2019) and employs about 40 per cent of academic staff. It has thirty-four constituents—thirty faculties, three academies and one university department—each with its own autonomy and governance (World Bank, 2019). In the academic year 2018/2019 it had 65,178 students. The Faculty of Law is one of the oldest institutions of the University of Zagreb and the only one with uninterrupted continuity. It was founded in the year 1776. In the academic year 2018/2019 it had 6931 students (Agency for Science and Higher Education, 2021b).

The beginnings of education for social workers in Croatia go back to 1952 when a vocational college for social workers is established, the first of the kind in the socialist world (Puljiz, 2008). Since 1972, a parallel system of education for social workers has been organized, one lasting two and the other lasting four years. Since the academic year 1982/1983 the study of social work was organized at the Faculty of Law in Zagreb (in the Study Centre for Social Work) for a duration of four years.

Following the changes within the Bologna Process, since 2005 the study centre has been organized for four years of undergraduate study and one year of graduate study. There are also two university graduate studies, social work and social policy. Postgraduate and doctoral studies are organized related to these topics. Study centre has two institutes, Institute for Social Work and the Institute for Social Policy. Both are engaged in teaching and scientific research. The two institutes of study centre for social work are in a way a “natural” place where students develop solidarity for social problems and groups affected by different social risks in the local community.

Through the lenses of the Institute for Social Policy of the Study Centre of Social Work, the University of Zagreb, we will highlight potential contributions to the dimensions a) research and evidence that informed SI and wider policies, b) education, c) creating networks and advocating and d) community engagement. Research and evidence that informed social innovation and wider policies are the first aspects in which the Institute of social policy contributes to social innovation ecosystems.

Regarding research and evidence, we may state that first relevant research project in Croatia on the topic of social innovations was FP7 project WILCO-Welfare Innovations at the local level in favour of cohesion (2010–2014) in which three members of the Institute participated. The project tried to understand innovations in local welfare to strengthen social cohesion and lower social inequalities. Institute members studied six social innovations in two Croatian cities and published the first social innovation typology in Croatia (Bežovan et al., 2016). TSI-Third Sector Impact (2014–2017) was the second FP7 project related to social innovation research. It was aimed to understand the scope and scale of the third sector in Europe, its current and potential impact, and the barriers hindering the third sector to fully contribute to the continent's welfare. Several scientific articles were published about the third sector and social innovation challenges in Croatia (for example Baturina, 2019; Bežovan & Matančević, 2017). Project produced the report „Social Innovation Impact—Unlit Road” (Baturina & Bežovan, 2015). These two research projects introduced the notion of social innovations in the research and policy context. Also, at the same time, from Croatia, organization Social innovation Lab participated in the FP7 project SI-DRIVE (2014–2017).

Currently, Institute members participate in several COST actions two of which are specifically orientated towards social innovations. First one is CA18236—Multi-disciplinary innovation for social change (SHINE) which aims to demonstrate, through the adoption of Multi-Disciplinary Innovation methods, how we can respond to social problems. The second one is CA16206—Empowering the next generation of social enterprise scholars (EMPOWER SE) which aims to foster evidence-based policy from local to European levels and to support the development of SEs and their eco-systems in synergy with main industry representatives and stakeholders.

Additionally, Institute members contribute to two other projects that are connecting them to a variety of stakeholders thought Europe and have partly research dimension. Some are Danube Interreg project “D-Care Labs-Developing Labs to Facilitate Home Care Innovation and B WISE- Blueprint for Sectoral Cooperation on Skills in Work Integration Social Enterprises is Erasmus + project which will, among others, study innovative WISE's in 13 European countries.

Besides, Institute members are editor and parts of the editorial board of the Croatian Journal of Social Policy, only one related to that topic in Croatia. The journal is also a valuable for informing policy and practice on topics related to social innovations and new development in social policy.

Education is the second important aspect. In the social policy master level studies social innovation is topic that is discussed extensively and is part of several courses (for example, *Methods of analysis in social policy* and *Social economy and social entrepreneurship*). In addition, students study case studies of social innovations and as course assignments develop a project that is encouraged to be social innovative. In the development of the project, they use a template from tenders that are related to the topic: such as Social Impact Award, European solidarity corps, or European social fund tenders in Croatia. Other courses like *Civil society and social policy*,

*Croatian social policy* or *Social policy and social development* also give examples and introduce students to social innovations.

Student practice fosters continuous engagement through bachelor's and master level studies with different actors in social sector, welfare institutions, centres for social care and civil society organizations. Evaluations (Sušac et al., 2015) show that when there are adequate support and guide student practice can be sources of new knowledge and expertise.

Creating networks in the social innovation area is a third important aspect of the work of the Institute fostering social innovations at the local and national level. Researchers are active in direct research networks that promote social innovations and innovative thinking in the wider third sector like ESSI- European Schools of Social innovation, EMES- International research network, CIRIEC International scientific network, International Society for Third Sector Research (ISTR), or ARNOVA-Association for Research on Nonprofit Organizations and Voluntary Action. Institute members are part of different research networks like European Social Policy Network (ESPN), which provide high quality and timely independent information, advice, analysis and expertise on social policy issues in the EU, or the International Network for Social Policy. This membership and their active role enabled them to create variety of networks throughout the world and gather relevant knowledge that can be used for the transfer of knowledge and development of innovative projects at national and local level. Institute members are also active in variety of the national and local research and civil society organizations.

For the development of networks within the country, it is important to mention that Institute researchers, in wider partnership with civil society organizations and research institutions, are currently partners in two projects within European Social Fund Tender: Thematic networks for socio-economic development and the promotion of social dialogue in the context of improving working conditions. One is "SUSTINEO- Collaborating, participating, researching and educating for sustainability" and the second one is "A new perspective for homelessness". The researchers also participate in wider policy bodies at national and local policies related to social innovation. Some examples are local partnership for employment, Zagreb's Social plan 2014–2020, Urban agglomeration development strategies Zagreb for period till 2020 or working groups like was one related to the development of Strategy of development of Social entrepreneurship in Croatia 2015–2020.

Community engagement beyond the work of the Institute is importantly done by CERANEO-Centre for development of civil society. It is a civil society organization that was founded in 1996 and whose president and several members are part of the Institute. CERANEO is oriented toward research and development of social services and innovations in the areas of social policy and civil society. It is a relevant stakeholder in Zagreb and at the national level in research and education and development of new services for vulnerable groups. CERANEO currently leads the Social Council of the City of Zagreb. An important outcome is a Social picture of city of Zagreb (first done in the year 2000, CERANEO is leading it since 2013).

The goal of establishing the Social Council of the City of Zagreb is the quality systematic planning of effective social interventions and social policy measure based

on realistic indicators of the situation and needs of the citizens of the City of Zagreb. Social picture establishes new relevant topics in the local social policy are contributed to modernization and Europeanization of local social policy. For example, the Social picture for 2014 was named “Good governance and social innovation in response to new social risks” (CERANEO, 2015). Besides, Institute’s researchers cooperate and support numbers of other smaller community initiatives.

### ***3.1 Service-Learning Program: Exemplary Case***

Service-learning is a type of experiential learning which provides an opportunity for learners to enhance their understanding of concepts and theories in a practical environment. Experiential learning theory by Dewey (1938) provides a theoretical foundation for service-learning pedagogy. Service-learning can be seen as a teaching method by which students apply the knowledge and skills acquired through study to the development of a project that addresses a specific social problem (Mikelić Preradović, 2009). Service-learning connects academic expertise with social needs to deepen the learning process, develop long-term solutions to specific problems in the community, and to create new knowledge and build a knowledge society. Service-learning is very close to the third mission of the university concerning the integration of the university into the local community, the mutual partnership and interaction of the university and the wider non-academic community, the useful exchange of knowledge and resources and the integration of basic academic activities and needs of the (local) community (Ćulum & Ledić, 2010; Ćulum & Ledić, 2011).

Development of a Service-Learning Program for Active Student Engagement in the Field of Homelessness Prevention and Social Inclusion of Homeless is the project which we will use as an exemplary case. Total funded with 672,827 HRK (around 90 thousand EUR) the project lasted 18 months. Project was funded by the ESF Call for Proposals for Supporting the Development of Partnerships between CSOs and Higher Education Institutions for the Implementation of the Program of service learning, which is the first tender aimed at developing service learning. The project leader was CERANEO and partners in the project were the Croatian Homeless Network and Faculty of Law, University of Zagreb.

The project consisted of two elements: Element I: Development and preparation of community-based learning programs, in which stakeholders were trained to prepare and implement community-based learning and developed mentoring programs and methodologies for systematically organizing student engagement in the local community. Element II was: Implementing mentoring programs that involve students in the direct activities of civil society organizations services in addressing the needs of the local community, which included implementing projects in the local community. Community service-learning projects were conducted in two courses *Methods of Analysis in Social Policy at the Graduate Study of Social Policy* and *Civil society and social policy, also in the graduate study of social policy*. Thematic

units within the services learning courses were preparation and implementation of homeless social integration projects, policy analysis in the field of homelessness, civil society and active citizenship and social innovation and social entrepreneurship. Implementation of this project corresponds to the field/discipline-based service-learning model (as one of the six service-learning models identified by Heffernan 2001, cited by Modić Stanke, Mioković, et al., 2019), which is created by replacing part of the teaching with community work/service.

The evaluation of the project (CERANEO, 2019) showed that students were very satisfied with the introduction of the service-learning principles and the innovative organization of classes in the course. Although this was the first time that they encountered these types of work, they recognized their importance. Besides, they were satisfied with activities within the course and with relationship and collaboration that they had with partners/community organizations. Students evaluated integrating the principles of service-learning as a step forward in the ways of teaching at the Study Centre for Social Work. It is recommended that it be continued and expanded to other courses (CERANEO, 2019). It also, according to the students 'experiences from the project (CERANEO, 2019), strengthened the specific students' skills to better integrate into the labour market. Service-learning can also be a framework for strengthening the student practice, this time in a more innovative and meaningful way than practices that often involve going to relevant social policy institutions or other organizations for a more passive approach.

#### **4 Discussion: That's One Small Step for HEI, One Big Leap for Social Innovation Ecosystem?**

Universities can play important role in the social innovation ecosystem. Benneworth and Cunha (2015) establish three kinds of university-provided inputs, which could contribute to social innovation processes. The university could provide knowledge that helps progression between the stages in helping move the process forward, it might make its resources available, or support the social innovation process, either through advising social innovators how to access external knowledge resources or persuading others to support participation in social innovation. Knowledge sharing and experimentation in a social context is the important way through which HEIs can participate in the development and implementation of social innovation activities (Kumari et al., 2020).

Institute's example is aligned to those typologies with different demonstrated contributions in several dimension of education, research and evidence, creating networks and advocating and proactive community engagement. Institute introduced the social innovation as concept in the policy and research context, developed a wider network of collaborations and transfer of knowledge and developed innovative education as well as community advocacy and projects.



Social policy is in Croatia the most prominent area to develop social innovations. Advantages of social innovations seen in research (Jelinčić et al., 2016) are that they mostly fit to fill the gap in the market and satisfy social needs. Findings of mapping exercise (Jelinčić et al., 2016) showed that the majority (51%) of respondents see a high potential of social innovations' contribution to society. It can be argued that the Institute for Social Policy is therefore an appropriate space for supporting the social innovations ecosystem in Zagreb and Croatia.

Some strength and weaknesses of the Institute in developing a social innovation ecosystem can be identified. Strengths are mostly internal related to, "pioneer" status in research, deep embeddedness and cooperation with local stakeholders, openness to new initiatives, and solidarity as the principle of „work". Academics who innovate in higher education have some characteristics such as motivation to change institutionalized practices, interest in change, experience in the field, multi-embeddedness, the authority to act, and the strategic use of social networks (Hasanefendic et al., 2017). That is in a way similar to characteristics that were found in Croatian social innovations (Bežovan et al., 2016) and work that Institute does. Researchers at Institute can be considered scholar-practitioners with multiple roles (Carton & Ungureanu, 2017). In that, they adopted a boundary spanning roles that involve communication of knowledge across boundaries within and external to an organization orientated toward the local community.

Weaknesses in Croatia are perceived as external in areas such as support to social innovations or enabling environment (Bežovan et al., 2016; Baturina, 2019), (very) gradual transformation of the education system in Croatia (World Bank, 2019), or lack of entrepreneurial spirit in the University. Constraints posed by institutional factors can delimit the level of success for innovation in higher education (Campbell & O'Meara, 2014). Becoming more flexible and deviating from silo thinking within bureaucratic structures is a relevant precondition for developing social innovations in wider context (Schröder & Krüger, 2019). In Croatia, several systemic factors limit innovation like the underdeveloped human resources management in HEIs, the strong autonomy at a faculty-level which goes hand in hand with the limited steering power of HEI leadership in non-integrated universities, and the sporadic funding availability for innovation and entrepreneurship (OECD, 2019).

Additional challenges related to the development of social innovations are that the public sector in perceptions of stakeholders is rather inflexible and puts more than needed administrative burden on the innovative organization (Bežovan et al., 2016; Baturina, 2016). Social intrapreneurs are not the usual phenomenon (Bežovan et al., 2016) and the concept of an entrepreneurial university is still an odd idea in Croatia (Dabic et al., 2016).

Putting weaknesses in national innovations context, Croatia is lagging behind EU countries measured by European Innovation Scoreboard. With Innovation Index score of 54. For example, the EU average is 102, and the best-placed Switzerland has a score of 164.6 (European Commission, 2020). Croatia is assessed as a moderate innovator. Global Innovation Index 2017 places Croatia on 41 place from 127 observed economies (Cornell University, INSEAD, & WIPO, 2017). Attractive research systems and finance and support parts are seen as weak dimensions.

Research and development expenditure is way below EU 27 average (Eurostat, 2021). The Strategy for Innovation Encouragement of the Republic of Croatia 2014–2020 (Government of Republic of Croatia, 2014b) states as crucial problem nonexistence of systemic innovation policy which is more than a relevant for the social innovation field. There are other strategies: like Croatian Smart Specialisation Strategy 2016–2020 but in general innovation policy has a status of an unwanted child among policymakers which means that was poorly understood, not a priority and mainly discussed within a narrow circle of experts (Švarc & Lažnjak, 2017). On the other hand, Croatian HEIs have been modestly improving their capacity to collaborate with external stakeholders to exchange knowledge and promote innovation (OECD, 2019). Strengthening public opportunities in the field of research and innovation is one of the key recommendations of the Croatia RIO report (Račić et al., 2018).

Similar to wider findings (Bosworth et al., 2016) we should consider are social innovations in each social innovation ecosystems driven by opportunity or necessity and how is that influencing their trajectories. Our analysis has shown the combination of both, but highlighting the opportunity as a driver. That can be instructive for other local communities (especially in post-socialist countries) with a focus on realizing different available opportunities in research, education, networks and community engagement (and funding). However, special attention should be given to other more general elements of the ecosystem already recognized as of key importance across Europe (Terstriep et al., 2015) like institutional context and resources.

Contextualizing results in the local Zagreb area we can say that compared to other agglomerations, the City of Zagreb is an above-average developed local self-government in Croatia. The City of Zagreb, the area of this research, as the capital of the Republic of Croatia, has a special status as a city and county and is significantly more economically developed than the rest of Croatia. For example, according to the development index of 117,758, Zagreb ranks first in Croatia (Ministry of Regional Development and EU Funds, 2021).

Zagreb has a particularly generously developed social policy. Researchers consider it a local welfare state (Babić and Baturina, 2019). The City of Zagreb is also developing numerous social services and programs, especially those at a disadvantage (City of Zagreb, 2014; Babić and Baturina, 2019). Social innovations in the Zagreb area are recognized in various strategic documents. The vision of the Development Strategy of the Urban Agglomeration of Zagreb is harmoniously developed metropolitan area of common innovative concepts (City of Zagreb, 2017). The connection with the academic community and a wide range of professional staff for the development of innovative services following the specific needs of individual user groups is stated as a strength is a local area (City of Zagreb, 2017). In addition, the Social plan of the city of Zagreb recognizes the necessity of social innovations in dealing with a high concentration of people who need help, often to overcome multiple problems. City of Zagreb is also a rare positive example of continuous financing of social entrepreneurship. Similar to social policy, we can say that the Zagreb area provides a more favourable infrastructure for the

development of social innovations. Part of the local advantages is related to being the business and education centre of Croatia and having a higher level of human capital (City of Zagreb, 2017; Babić and Baturina, 2019). As such, we may state that it represents a receptive context for the Institute's work and additionally highlight opportunity as a driver in developing social innovation ecosystem.

More generally, in the HEI context, different conceptual frameworks have been applied recently to descriptions of the role of academic research in "post-modern" industrial societies and stress new kinds of relations between universities and economic development. Some of them are Mode 2 concept (Mowery & Sampat, 2006), triple helix model (Leydesdorff, 2012), open innovation (Cai et al., 2020), socially responsible entrepreneurial university (Cai, 2018) or entrepreneurial university (Dabic et al., 2016). From the innovation spectrum besides social innovations recently the concept of inclusive innovation has become widely used (Brundenius et al., 2017).

Social innovation challenges universities in terms of the desirable outcomes, delivering socially innovative organisational forms and delivering social justice, which is socially desirable, but not universities' core missions (Benneworth & Cunha, 2015). Being part of and fostering social innovation ecosystem is therefore close to HEI third mission (Brundenius & Göransson, 2011). The third mission has different characteristics. Authors (Ćulum & Ledić, 2010; Ćulum & Ledić, 2011) see it as a university contribution to economic development (economic, technological or commercial third mission); as a contribution of the university to the development of civil society and democracy (civilian mission); as an integrative concept of cross-sectoral cooperation in the contribution of (local) community development; and as the foundation of the academic profession and the responsibility of university teachers for university and local community development.

Croatia still faces significant challenges in creating an enabling environment for the integration of the third mission into universities. They are: incorporating a civic mission as an integral part of key legal and strategic documents, developing collaborative teacher relationships with experience in such projects, a space for education and training, and linking teacher performance evaluation and community engagement activities (Ćulum & Ledić, 2011). That also influenced the development of service-learning. Research (Ćulum et al., 2015) show that the interconnection of teaching and community engagement is absent which can be a burden for the development of social innovations.

Besides role on HEI in developing social innovation ecosystem, we reflect on service-learning as an exemplary case of social innovation in education. It is in its infancy phase of development in Croatia. For example, Modić Stanke, Mioković, et al. (2019) recognizes (in the year 2013/2014) 13 courses with a component of service learning in higher education institutions throughout the country. Besides, service-learning has become it became one of the measures of the National Youth Program (2009–2013) but without further policy recognition. Some other strategies have a broader perspective because they emphasize the importance of connecting higher education institutions and civil society organizations for the purpose of educating socially responsible and active citizens.

Service-learning, demonstrated by the exemplary case, can be considered as part of contemporary education that emphasizes the importance of critical thinking and practical experience in education. It can foster innovative thinking and provide social policy and social work students with leverage in the ongoing and future work to address important social problems and as such is considered social innovation in education. Social work/social policy students have a motivation to achieve social benefit in the community. This is, in our example, evidenced by their evaluations, which partly speaks to the character of the study centre itself (CERANEO, 2019). Implemented service-learning project is close to the "critical" approach to service-learning (Mitchell, 2008) with its explicit social justice aim. Service-learning can take a social structural approach looking for root causes of problems (Kronick & Cunningham, 2013). In that perspective project showed a notion of enabling students to be agents of social change.

Public and the private sector as well as the civil society are relevant for social innovations on a more or less equal footing, with science and research only taking a minor role in social innovation initiatives" (Domanski & Kaletka, 2018). In the end, the question that can be posed is how can HEI in Croatia (and in Europe) be a more significant part of the social innovation ecosystem? Promoting co-creation for social innovation is an important aspect. HEIs should actively encourage collaborative learning tools that focus on open platforms for collective action and systemic change that help them to engage with society and strengthen their collaboration with social actors (Kumari et al., 2020). The central role of (cross-sector) networks and collaborations from emergence to the diffusion of social innovations is highlighted (Krlev et al., 2019) and HEI could direct their efforts towards fostering and developing new networks and collaborations. Giving institutional visibility to knowledge exchange and collaboration is also recognized as a recommendation for Croatian HEI's (OECD, 2019). It is also important to reconnect the social dimension of education with the economic as social innovation in higher education stimulates and sustains diversity, social inclusion, citizenship, and local learning communities and partnerships (Elliott 2013).

The second question is what is needed for the more relevant ecosystem of social innovations in the Croatian (and European) context? The sustainability of social innovations can be guaranteed by new relationships that come into force, mediated by socio-economic factors in which sectors are increasingly referred to as co-operation, changing how things are done (Baturina, 2016). For the promotion of social innovation, further inclusion of social innovations in education programs, especially at the university level is crucial (Baturina, 2019) and a recent systematic review (Bayuo et al., 2020) is giving evidence that universities are increasingly doing so.

Obstacles and resistance to social innovation are primarily coming from the conflict between the culture of the context and the new culture that social innovations bring (Terstriep et al., 2015), which can be a threat in different SI ecosystems. That is shown in a very gradual change in Croatian universities (World Bank, 2019). The reforms in the science and education area from the 2013 led to certain organizational

improvements and the introduction of greater competitiveness in the research community, but that at the same time they produced several undesirable consequences, endangering, among other things, the material basis of scientific work and the transparency and publicity of the scientific system (Švarc et al., 2019). Another aspect in the Croatia case is the lack of modernization capacities of the welfare state (Bežovan et al., 2019). Those external constraints can highlight necessity as a driver of the development of the social innovation ecosystem.

The more significant focus on innovation-driven governance (Brandsen et al., 2016), which is characterized by the general orientation to innovation, is the search for synergy between economic and social policies is needed. Bosworth et al. (2016) conclude that there is evidence that rural communities are innovative when they have the necessary space and power to act. The openness of local structures and policy to social innovations could be a factor of further advancement of social innovation ecosystems in different contexts. Generally, local authorities tended to favour innovations that were complementary to their growth strategy (Brandsen et al., 2016). In the presented case, HEI's efforts align with the city of Zagreb strong orientations on social policy which could be a factor in creating a favourable environment for social innovations in the future. Therefore, innovation-driven governance and a high level of alignment in the orientations of universities and other stakeholders can be drivers of more supportive social innovation ecosystems.

## **5 Conclusion: Why Does HEI Matter in Social Innovation Ecosystem?**

The twenty-first century's global challenges are entirely different to those of the 20th, but their solution requires innovative ways forward and wider cooperation's. Social innovation, although there are high hopes in the field, is not a panacea for resolving social problems. However, if encouraged and valued it can bring immediate solutions to the pressing social issues, which many citizens are confronted with. Universities can have a big role, especially at the local level.

Along the lines of the analytical framework of the knowledge gaps about the role of universities in social innovations (Bayuo et al., 2020) we discussed drivers, process and (in minor aspect) impact of HEI activities in social innovations on concrete example in a specific context. Analysis of Institute work gave a glimpse of how Croatian universities can be drivers of solidarity and social engagement, and thus socio-economic development. It recognized Social Work Study Centre as a "natural" place where students develop solidarity for social problems and develop social innovative initiatives. Analysis has shown that actions of the analysed Institute contributed to local (and national) social innovations ecosystems in several dimension of education, research and evidence, creating networks and advocating and proactive community engagement. They created knowledge spill-overs and

fostered wider policy engagement in social innovation areas. Although for social innovations context is important (Krlev et al., 2019) our analysis contributes to recognizing and promoting pathways (different drivers and potential factors) towards enchaining higher education institutions' role in the local social innovation ecosystem. It can potentially foster awareness of relevant actors about the social innovation landscape in academia and "open eyes" towards the opportunities and ways in making steps forward in developing the social innovation ecosystem.

Croatia may be far from the institutional changes that support service-learning that we analysed as an exemplary case of social innovation in education. But presented the project, as well as others implemented within first service-learning tender, may be guideposts towards making progress in those areas. Service-learning can become one of the essential vehicles to connect universities to communities (Kronick & Cunningham, 2013).

The Institute work also demonstrates how it is possible to aligning universities' core teaching and research missions with a contribution to enhancing the social innovation ecosystem. Global standards for training in social work state that social work studies (and social policies in this common context) should strive to involve practitioners and service users in the design and implementation of programs and to establish partnerships between educational institutions, social services and service users in decision-making refer to field teaching and evaluation of students' work in practice.

Fostering social innovations are especially important in Croatia, as its welfare state is very slow in changing, addressing new social risks and needs and developing appropriate and enabling social services (Bežovan et al., 2019). New challenges demand a new kind of (social) innovation, changing existing established routes and social paradigms, which can presumably, be easier to achieve at the local level. Social innovations are not recognized in Croatia but Universities with the knowledge they create and share and proactive action can foster a significant step in developing a social innovation ecosystem. The chapter has shown by the example of one Institute how this is work worth doing. Others are also acting in enabling social innovation ecosystems (OECD, 2016), and potentially others will join in doing so. An institutionalized framework for recognizing and valuing social innovation is also expected to develop, both at the university and beyond, at the policy level.

It is just an example of one Institute of the wider University but can have some lessons relevant to a wider European context. Social innovations can be bottom-up with „messages" or examples worthy of mainstreaming (Evers et al., 2013). Also, innovation has not just a rate but also a direction. It is important to know how that direction is set and what can different actors and socio-political forces (Mazzucato & Dibb, 2019) and in our case, Universities do. There are certain institutional limitations in higher education and the University of Zagreb (World Bank, 2019). However, the rigid institutional environment and lack of flexibility to adapt to changing social context are also factors that are reducing the effectiveness of HEIs in social innovation initiatives in a wider context (Kumari et al., 2020).

Many universities now seek to make a transition to greater impact in the local social innovation ecosystem but there is diversity in how this is pursued and what results are achieved. The HEI example analysed could be instructive for universities in Europe but there is a need for further researching other HEI's in their contexts. Future legitimization of HEI's may lay in the capabilities in going beyond teaching and researching towards "contributing" especially in local communities. Connecting our example to the wider European context, we may state the closeness of mission-oriented approach (Mazzucato, 2018) and social innovations which enable us to tackle societal challenges (in this case wellbeing at the local level), attract cross-sectoral partnership and investment.

Analysed HEI's shows a small step forward in developing purpose-driven universities (Haski-Leventhal, 2020) that would be an integral part of enabling social innovations ecosystems. The time for purpose is now. Universities can become strategic social innovation institutions. However, we need to see their work in a holistic view of their activities especially related to engaging the community and different stakeholders in research and practice.

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# Chapter 4

## Digital Transformation in Higher Education Institutions as a Driver of Social Oriented Innovations



Vladislav Kaputa, Erika Loučanová, and Fernando A. Tejerina-Gaite

**Abstract** Higher education institutions have in the digital transformation an opportunity to facilitate access to education for individuals of different social backgrounds. At the same time, it will provide them with the necessary tools and skills to face current global problems (poverty, health quality, income disparities, environmental crises, among others) from a transdisciplinary perspective. Progress in the digitalization of higher education has been significantly accelerated by the onset of a pandemic in early 2020 (in European conditions). Such a rapid and massive transition to distance (online) education with comprehensive support for digital technologies is unparalleled. The survey conducted reflects the consequences of this change. Results show that digital transformation improves some of the most demanded skills in the new knowledge society (searching and processing information, digital communication and socialization or working with text). Likewise, it has an important role in reducing costs related to education, but also in degradation of abilities in personal communication.

**Keywords** Digital transformation · Higher education institutions (HEIs) · Social innovation · Distance education · Pandemics

### The Key Points of the Chapter Are the Following

- To understand the concept of Digital Transformation and its social dimension.
- To identify the main challenges facing universities in the digital era.
- To clarify the relationship between Digital Transformation and Social Innovation.

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- To understand the role of digital tools in fostering the social dimension of higher education institutions.
- To verify whether the accelerated application of digital learning has favoured the social dimension of this innovative pedagogical method.

## 1 Introduction

We live in a rapidly changing, hyper-connected world and face increasingly global, complex, and dynamic problem situations, such as poverty, income disparities, environmental crises, organized crime, and health quality problems. These complex or “bad” problems are not caused by just one field of society (Kaputa et al., 2020a, b) and cannot be adequately solved through one scientific discipline (Rittel & Webber, 1973; Özbekhan, 1970) but comprehensively, through the cooperation of several partnerships.

Higher education institutions (HEIs), as providers of knowledge, take on a leading role in activating a public-private partnership. Partnership is now becoming a necessary and at the same time dynamic element of development and innovation based on the knowledge economy. It enables the involvement of the whole spectrum of the organization’s actors in decision-making on development activities. It contributes to the fact that organizations can adopt new ideas, expand their knowledge and constantly learn, which can ultimately also contribute to significant support for innovation as such.

The biggest challenge today is pandemics, and its impact significantly affects various areas of our lives. Innovation in this situation is a means and a tool to mitigate the effects of a pandemic on all stakeholders. The most important is the nature of innovation—that it should lead to the creation of something new, the improvement and change of the current situation (Pavie & Carthy, 2015), as well as problem solving and increasing competitiveness based on the knowledge economy. Social innovation is important in this situation in education. Social innovations aim to create value for society. The drivers of social innovations can come from many different backgrounds, including civil society, entrepreneurs, government, public institutions, and universities. Universities around the world have started to create a learning environment that allows students not only to acquire knowledge and skills needed in their respective subject areas, but also the necessary tools to make a difference (Russo & Mueller, 2013).

This chapter introduces the theoretical concepts of the digital transformation and social innovations in HEIs. It aims to evaluate the digital transformation of HEI on the basis of research of students’ attitudes after their experience with distance education during pandemics. Subsequently, social innovations are discussed in the context of the ongoing digital transformation of HEIs.

## 2 Digital Transformation

In recent years, digital transformation (DT) has emerged as an important phenomenon that attracts the attention of both researchers and practitioners. Nevertheless, we currently lack a comprehensive understanding of this topic. At the macro level, DT refers to the changes experienced by institutions and society in general as a consequence of the use of new digital technologies (Vial, 2019). At the organisational level, companies can find ways to innovate with these technologies by developing strategies that embrace the implications of digital transformation and drive better operational performance (Hess et al., 2016).

The DT is deeply connected to the so-called fourth industrial revolution, a process through which digital technologies are shaping the future society and economic development in a comparable manner to the case of steam power for the first industrial revolution (Schwab, 2016). DT is the engine of the fourth revolution, the digital revolution. The literature on information technologies and its consequences on organisational transformation, may be seen as one of the scholarly roots of DT research (Nadkarni & Prügl, 2021). Recently, Vial (2019) analysed more than twenty definitions of the term DT and tried to identify their essential features by proposing to define DT as a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies.

However, DT is more than merely migrating paper records to a computer, and it is more than adopting technologies to perform business operations faster and more efficiently (Brooks & McCormack, 2020). In this respect, DT is a series of deep and coordinated culture, workforce, and technology shifts that enable new educational and operating models and transform an institution's business model, strategic directions, and value positions. Thus, it is not just about disruption or technology, it has to do with the fact that technology and digitalization are becoming a basic necessity for the society (Curaj et al., 2018), meaning a significant change in terms of people's jobs and skills, the type of work they do, aiming to significantly impact all aspects of human life (Grosseck et al., 2020). In this vein, some definitions take a broader perspective. According to OECD (2019a) digital transformation is the result of digitization and digitalization of economies and societies. It is a process involving several digital technologies, from 5G to artificial intelligence, big data and blockchain. These technologies form an ecosystem through which future economic and social changes will arise. In general, the different definitions of DT may be categorized in three distinct elements (Reis et al., 2018): (1) Technological, DT is based on the use of new digital technologies; (2) Organizational, DT requires a change of organizational processes or the creation of new business models; and (3) Social, since DT is a phenomenon that is influencing all aspects of human life.

The DT is the new opportunity for business and renewal strategies for any organization, company or institution that arise from the emergence, development and use of new technologies. A scenario that also demands new attitudes and skills both in individuals and in organisations and institutions. Therefore, the DT is not

focused on the technology used (big data, artificial intelligence, the internet of things, cloud computing, mobility, connectivity, 3D printing, social business, etc.), but on using it to achieve new objectives based on innovation and creativity, which could not be achieved without them. DT is linked to business objectives and strategies. The digital transformation means that digital uses, beyond the improvements and support of traditional methods, allow or encourage new forms of innovation and creativity, both in business and in society in general: government, education, global communications, health, art, science.

## ***2.1 Digital Transformation in HEIs***

Never, during the millennium since the founding (1088) of the University of Bologna, has the university been so radically and urgently challenged as it is today, as a consequence of the digital revolution that has induced a new socio-technological scenario: global, competitive, dynamic, internationalised and digital, in which it must develop its activity. It must do so in competition with new agents— institutions, companies and individual experts (icons) with millions of followers, with extraordinary power of attraction—which with the rise of new technologies provide and exchange new knowledge. This, together with the new generations, already digital, demanding training, means that new actors have considered a golden opportunity to create networks, share and create knowledge, train and certify knowledge and skills. For this reason, the university is obliged to accelerate the transformation required by the digital revolution, its digital transformation.

According to Rampelt et al. (2019), DT influences all activities of HEIs. It permeates all processes, places, formats and objectives of teaching, learning, researching and working in higher education. This transformation includes the development of new infrastructures and the increasing use of digital media and technologies for teaching and learning, research, support services, administration and communication, but also the need of students and staff to develop new digital skills for their current and future workplaces.

The university is an institution that has always been committed to knowledge, education and training. Throughout history, it has taken on new functions and missions induced by the sometimes disruptive changes experienced by society.

The industrial revolution, especially in the middle of the nineteenth century, reveals the importance of knowledge for the industrial development and prosperity of nations, and calls for the need to transfer new knowledge, generated in universities, institutes and research laboratories, to the business and productive fabric for its application, to generate innovation, economic value and social development. After the equator of the twentieth century, the knowledge society replaces the value-work binomial with the value-knowledge binomial, and elevates knowledge to the condition of social good, which is necessary (socially obligatory) to produce, disseminate, transfer and apply in order to generate economic development, cultural progress and advance in social cohesion.



In this context, the global competition for knowledge economy together with the dominant roles of the digital connective tools is forcing the HEIs to evaluate their current structures and take drastic decisions to improve these structures to better suit the needs and requirements of the twenty-first century (Odabasi et al., 2010).

In a comprehensive literature review, Castro et al. (2020) provide a systematic analysis covering 19 academic studies about the DT in higher education institutions (HEIs) from 2016 to 2019. They identify three perspectives: Technological, organizational and social. The tendency has evolved over time, from the technological view, then organizational, to finally consolidate in the social perspective. In the same way, they show the dimensions, which within a HEI, have received the DT or have been forced to intervene in DT processes. The most influenced dimensions by technologies intervention are teaching, infrastructure, curriculum, and administration, well above research, business process, human resource or digital transformation governance. Finally, they emphasise teachers and students as the main actors. On this matter, Brooks and McCormack (2020) carry out a survey about DT in HEIs. They find that six of the top seven major benefits of DT that respondents highlighted are directly related with student success.

## *2.2 Challenges of the Digital Age for Universities*

Higher education institutions should set up in their strategies clear and specific goals towards their DT. Universities need a strategic vision that allows the whole institution to join efforts in the implementation of the digital initiatives. For doing so it is important to have a strong leadership and a specialized team that can confidently explain and implement their plans. A clear vision will make the team and stakeholders more involved and invested in the process of digital transformation (Rodrigues, 2017). Only institutional conviction of the need to exploit the boost of the digital revolution and the solid commitment of students, professors, researchers, staff and managers, will allow the university to be successful in the digital era. This process entails the digital infrastructure growth, the development of the academic staff's skills to use digital methods in their teaching and the improvement of its students' digital skills, as well as other significant challenges among which we emphasized the knowledge leadership and pedagogical and curricula changes.

**Knowledge Leadership** The educational paradigm, which rests on the conditions and requirements of the industrial age, appears to fall short in terms of meeting the needs and demands of the twenty-first century learner. The emerging digital connective technologies and the educational innovations they triggered are disrupting learning processes and structures of the industrial age such that it is now an imperative to develop a new educational paradigm (Saykili, 2019).

In the current digital age, new actors are emerging that are capable of fulfilling the functions of guiding the learning of others, improving and expanding the knowledge available and sharing it through technological platforms. Companies have not

hesitated to integrate themselves into this new global and digital ecosystem and are exploring and exploiting the opportunity provided by the network to promote and exploit knowledge in conditions unimaginable until now, as well as to accredit knowledge, skills and competences. As a result, we can see the increase in social and business acceptance of the certification or degree given by companies and non-university institutions, and even by specially recognized experts. Nowadays a Google certification in certain fields—digital marketing, for example—is as valuable as a university certification.

Therefore, the university must accelerate its digital transformation, the transformation induced, driven and supported by the technological revolution, which will allow, on the one hand, to take advantage of the enormous potential offered by the field of educational technology and, on the other, to offer new generations of students from anywhere in the world, new educational opportunities and training, as well as to provide new training and accreditation alternatives to professionals in the social, administrative, business and industrial sectors.

**Pedagogical Methodologies and Curricula Changes** The new economy, based on knowledge and information is generating new employment niches. It is estimated that around 65% of the primary school children today will work in jobs that do not exist now (Şahin & Alkan, 2016). To perform the new jobs, training in digital skills is not a requirement but a must, because digital technology is not the future, is present. In addition, the learner profiles are changing and diversifying (Saykili, 2019). An increasing number of individuals perceive the need for further training in order to obtain the new knowledge and skills required in the digital age. Learners are more and more digital natives. They have already integrated digital tools in their daily life. Another change is the increased learner diversification. Learners with different demographics such as age, experience, culture and ethnics, learning styles and paces bring their distinct characteristics into learning environment, which poses new learning potentials and challenges for HEIs.

Consequently, the digital revolution means new challenges to the university: to provide training in digital skills and to accelerate the renewal of learning methods, especially face-to-face. In this regard, the emergence of digital technology has contributed to the revolution of classrooms and learning methods. The potential of digital technologies to enhance student learning has been well established. Benefits include the enhanced diversity of provision and equity of access to higher education, alongside the increased efficiency of delivery and personalization of learning processes (Henderson et al., 2017). DT drives a practical and creative education, incorporating new didactic models for students to learn and teachers to teach, such as Digital Cooperative Learning, Virtual Reality, Gamification and so on (Abad et al., 2020). Betting on creativity and entrepreneurship, the DT applied in education advocates establishing learning methods based on individualized training, personalization of content, and the development of one's own skills, through social learning (Jahnke & Kumar, 2014).

Moreover, the great challenges of humanity today are global and complex problems—environment, climate change, health, food, migration, biodiversity,

sustainable development, etc.-. Their solution, beyond the necessary social awareness and international political will, requires the integration, participation and contribution of more than one field of knowledge from a transdisciplinary perspective. This reality must be present in the university offer of curricular itineraries, so that the offer of classic or traditional itineraries must incorporate interdisciplinary ones, itineraries resulting from the interrelation between the different fields of knowledge.

This means, in a certain way, a change in the university education approach, which should have an increasingly intense focus on the study of problems and not so much on the study of disciplines, since society demands to solve problems and problems can transcend the limits of one discipline, requiring the concurrence of a variety of knowledge.

### **3 Social Innovations in HEIs: The Role of the Digital Transformation**

While business innovation remains rooted in the world of commerce and competition, social innovation has as its starting point notions of social beneficence and public good that supports people in organisations, communities and society in general (Dawson & Daniel, 2010; Loučanová et al., 2018). However, the concept of social innovation encompasses a wide variety of dimensions, so there is currently no generally accepted definition. As a result, the social innovation area is not yet well integrated and consolidated as a research field. This complicates the systematic accumulation of knowledge and growth of the emerging social innovation research field (van der Have & Rubalcaba, 2016; Loučanová & Nosáľová, 2020). Authors such as Dawson and Daniel (2010), Van der Have and Rubalcaba (2016), Pol and Ville (2009) and Hsuan-Yu et al. (2019) carry out interesting reviews of the concept of social innovation.

In this regard, two types of definition of Social Innovation (SI) clearly emerge. On the one hand, a sociological oriented approach, which considers SI as new social practices created from collective, intentional, and goal-oriented actions aimed at prompting social change (Cajaiba-Santana, 2014). This perspective emphasizes on “social practices”. The sociological component was present in the earliest approaches to the SI concept and has evolved to the present day. On the other hand, a more economic view, which defined SI as any innovation which has the potential to improve the quality and/or the quantity of life (Pol & Ville, 2009). It focuses on the value created by the innovation and it is related to the ideas, services or new systemic transformations and associated social impacts. The latter is the perspective that has been adopted by different supranational organisations and is the one we will follow in this chapter.

Thus, the European Commission states that social innovation can be defined as the development and implementation of new ideas—products, services, and models—to meet social needs and create new social relationships or collaborations

(European Commission, 2013). In this context, technology serves as an inherent element of SI (Reynoso et al., 2015). Social innovation can rely on technologies and lead to novel adaptations and developments in technology. Such innovations involve using new (or existing) technologies and knowledge in new ways in order to meet social goals and improve social circumstance (Dawson & Daniel, 2010). Hence, SI is regarded as novel social technologies that create new social value (van der Have & Rubalcaba, 2016). The team of authors who published the Handbook of SI (MIRRI SR, 2021) views them as innovations societal, which represent new, more efficient, effective, sustainable and fairer solutions to social problems and the fulfilment of social needs compared to available alternatives. They can include the creation of new products, services, the introduction of technology, but also the creation of new social processes, organizational structures, changes in set rules or the creation of new roles in the social system. Their goal is a qualitative change in the life of society.

### ***3.1 Social Innovation and the HEIs' Third Mission***

As noted above, social innovation is a concept of growing importance in both academia and society. Several authors (Jongbloed et al., 2008; Goddard & Chatterton, 1999, among others) consider that greater exchange between universities and different interest groups demands a different type of commitment, the so-called third mission. This mission would focus on the university's contribution to social development and would complement the traditional functions of teaching and research. Therefore, among HEIs objectives we should add the purpose of leading change and improvement in individuals and the society in general. While technological innovation is a critical component of future economic growth, social innovation is equally important in building social capital and in improving life chances, for example through social inclusion, community building and higher-level skills development (Elliott, 2013). According to Jaeger and Kopper (2014), HEIs are considered to be key actors in regional innovation systems. The traditional missions of HEIs comprise (1) the generation and accumulation of academic knowledge, and (2) the diffusion of knowledge via academic education. Attention has also been drawn to the regional development role of HEI activities: their "third mission". The authors pointed out that the success of HEI's knowledge transfer is geographically unevenly distributed, with some regions being able to profit from knowledge transfer more effectively than others. Their research focused on an important factor influencing the success of knowledge transfer: the 'fit' between HEI and region. A close correlation between HEI's focus on education and research on the one hand and regional economic structure on the other hand might indicate a higher potential for the HEI's regional engagement and third mission activities.

New social innovations should consider the wider social context within which they are embedded, as well as to be based on the latest knowledge and research. This suggests that HEIs are perfectly placed to lead an inter-disciplinary focus on how best to solve or alleviate social problems (Hazenberg et al., 2019). Traditionally,

third mission of the university has focused on the commercialization of knowledge through spin-offs, patents or forming relationships with firms and other stakeholders. In contrast, the so-called developmental university consider addressing societal needs as the primary mandate of the university's third mission (Arocena et al., 2018). Beyond knowledge and technology transfer, universities should seek to broaden the scope of university engagement in social innovation and inclusion. These concepts focus on democratizing knowledge through teaching and research, thereby reducing the knowledge gap (Arocena & Sutz, 2017).

In this context, digital tools are offered as solutions to the aforementioned challenges that HEIs face today, as well as a great opportunity to enhance their social dimension. Thus, distance learning tools, online social networking tools, open educational resources, massive online open courses, sophisticated learning management systems, and so on, are seen as innovations that contribute to enabling equal educational opportunities for all, accessing quality educational content, and supporting lifelong learning (Saykili, 2019).

The Sorbonne Declaration (1998) already referred to the fact that students should be able to enter the academic world at any time in their professional life from diverse backgrounds. In addition, the social dimension of higher education has been exposed in terms of the need to reduce inequalities, raise social cohesion and enable participation for anyone with the appropriate qualifications and motivation, regardless of their social and economic background (Orr & Mishra, 2015). The social commitment of universities must also be reflected in their determination to improve the employability of their graduates and the transformative power of education on individuals and the community.

However, the 2015 Bologna Implementation Report, among others, exposes that in general the European goal of providing equal opportunities to quality higher education is far from being reached. Similarly, little progress has been registered with regard to lifelong learning (European Commission, 2015). In this context, DT can be a powerful driver of social goals. According to Rampelt et al. (2018) the social dimension and the DT of higher education should not be approached as two isolated challenges, but rather as an opportunity to increase diversity and open up higher education through use of new technologies. Moreover, Orr et al. (2020) state that digitalization itself should be seen as a social innovation.

### ***3.2 Digital Learning***

Digital learning and distance education has emerged as a pivotal approach in disseminating social innovation ideas and new knowledge (Bayuo et al., 2020). The process of using technology to offer training and education to vulnerable groups through less expensive methods has received attention in the literature. Key among the issues suggested is distance learning and lifelong learning (De Pretelt & Hoyos, 2015) which make it possible to deliver quality education to remote areas using social innovation tools and software.

Within the European context, the potential of DT for improving learning has been widely recognized. Certainly, the Yerevan Communiqué of 2015 (EHEA, 2015) set up that “we will encourage and support HEIs and staff in promoting pedagogical innovation in student-centred learning environments and in fully exploiting the potential benefits of digital technologies for learning and teaching”. In the same vein, the European Commission in its “Digital Education Action Plan” established that the access and the use of digital technologies can help reduce the learning gap between students from high and low socioeconomic backgrounds (European Commission, 2018). Indeed, digital learning can significantly lower the cost of access to training and better meet individual needs according to their learning styles and skills (OECD, 2019a). Investing in digital learning will lead to knowledge democratization across borders while demystifying the elitist view of the university classroom. It offers lifelong education for workers who can upgrade their skills while working, thereby increasing their skills premium (Bayuo et al., 2020). The social dimension is therefore very much present, we can even say that it is the main catalyst, of the transition towards a more digital and open learning model. All of the above is particularly relevant in the current pandemic context, which has unexpectedly triggered the digital transformation of education.

The pedagogical shifts triggered by the digital innovations requires the transition from one dimensional learning spaces to multidimensional collaborative learning spaces. Research suggests that learners develop better learning outcomes when they are exposed to hybrid and digital learning environments (Henderson et al., 2017). For deep and meaningful learning experiences in digital age the creation of hybrid learning environments composed of socio-digital participation schemes based on digital, mobile, virtual, online, social and physical spaces is recommended (Lonka, 2015). In recent years, new actors are entering the market of education and at the same time traditional ones, such as universities, can take advantage of DT to develop new teaching and learning material (OECD, 2019b). In 2002 the Massachusetts Institute of Technology (MIT) took a paradigmatic decision: to offer formative in open online courses by means of the program OCW (Open CourseWare). MIT’s decision with the favorable wind of the digital revolution, has originated a kind of tsunami in the field of transmission and accreditation of knowledge and certification of skills. The OCW has been a forerunner of open courses with mass access to quality content, the MOOCs. These are courses that offer online training very fragmented and increasingly specialized. The philosophy of MOOCs rests on the idea that knowledge should be freely shared and the learning process should not be conditioned by geographic, economic or demographic constraints.

This kind of courses have the potential to impact on higher education in two ways: improving teaching; and encouraging HEIs to develop distinctive missions that will include considerations about openness and access for different groups of students. MOOCs also provide institutions with a vehicle to think creatively and innovatively and to explore new pedagogical practices, business models and flexible learning paths in their provision (Yuan & Powell, 2013). In addition, open courses and digital learning can make higher education more cost effective and accessible and may also contribute to balancing work, family and social life.

However, it is argued that for online courses and digital learning in general to achieve their real potential as an effective mechanism for opening up education to society in general, and therefore working as a catalyst for change, more attention has to be paid to the multicultural nature of modern society. In this regard, three dimensions of inclusiveness should be considered: First, the varied digital literacy and competences that a student population might have; second, the socio-cultural norms that dictate how different people behave online; and third, the psycho-historical situation that reflects the varied lives of those who want to study online and how that can limit their disposition to participate in open social learning (Read & Barcena, 2019).

## 4 Digital Transformation of University Forced by Pandemics: A Study from Slovakia

Although distance learning in the digital form has been present in HEIs for a long time, it never had such a huge auditorium as recently due to the pandemics. We can call this a “stress test” of readiness for the digital age education at all its levels. Its arrival could have been expected but not predict such a rapid onset. Adaptation to changed conditions and evaluation of a new way of education were the subject of research, which enriches the theoretical concepts of this chapter with practical outputs. In the conditions of Slovak higher education institutions, the implementation of information systems can be considered as important step in the digitization<sup>1</sup> and informatization<sup>2</sup> of education (including its administrative processes and communication among stakeholders).

Within the information system of university, modules developed to support e-Learning start to be extensively utilised. In addition to the administration of studies and the agenda of courses, it is mostly used for testing and examinations. Online teaching has not been so active and massively implemented in academic education. The online teaching and communication with students take place in the MS Teams environment and with the support of other Office 365 packages (Kaputa et al., 2020a, b).

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<sup>1</sup>*Digitization* of education is a global trend in educational technologies and at the same time a logical step after the advent of the digital age. It characterizes the growth of the use of innovative technologies in society as a whole. Digital educational content involves a wider range of sensory and cognitive functions of the individual. It represents an attractive and effective form of teaching, supports clarity, connecting practical life with theoretical knowledge (Minedu.sk, 2014).

<sup>2</sup>*Informatization* of society is a gradual transition to the maximum use of information and communication technologies in all areas of social, political and economic life. In the field of education, introduction of the most modern information and communication technologies into the teaching process, creation of e-learning content of teaching and training of teachers for the active use of information and communication technologies in the teaching process (Minedu.sk, 2020).

**Table 4.1** Respondents' characteristics (n = 111)

Sex		Study level	
Men	Women	Bachelor	Master
34.23%	65.77%	37.84%	62.16%

## 4.1 The Research Design

The aim is to evaluate the digital transformation of university education through the experience of students with the (unexpected) transition to distance learning. The survey brings the attitudes of students as actors of change, whose social skills predetermine employment in the labour market. Research was carried out in Slovakia at the Technical university in Zvolen (TUZVO). TUZVO is a higher education institution providing education in all three levels of studies within the European Higher Education and Research Area. In the higher education system in Slovakia, the TUZVO has a unique specialisation within a focus on the spheres of forest—wood—ecology—environment with an appropriate expansion in other technical, natural, security, economics as well as design spheres (tuzvo.sk, 2020). Respondents were the university students. Designing the survey, we were interested how the students perceive online education after a year of practical experience with distance learning in order to verify whether the accelerated application of digital learning has favoured the social dimension of this innovative pedagogical method. Also, demographic data were gathered (“sex” and “academic degree” were used for analyses). We used the method of questioning. The electronic questionnaire was distributed to TUZVO students at all levels of study through the University Information System. The survey was conducted from November 2020 to January 2021. We obtained 111 questionnaires, the data of which were evaluated using contingency analysis. The Excel for Microsoft 365 and the PASW statistical software were used to process the data. The statistically significant differences of frequencies between chosen demographic characteristics of respondents and the answers were tested using Pearson chi-square. Fisher exact test was applied in cases where expected count less than 5 slightly exceeded 20% share of cells. Respondents commented on the following areas of questions: (i) Ownership and use of digital devices for school duties, (ii) Installation difficulties and user friendliness of software, and (iii) Assessment of the online education in the following sub-categories: Statements assessing online education; Improving or deteriorating of skills following the digital learning experience; Online education difficulty and requirements assessment; Online education communication assessment; and Pros and cons of online education.

## 4.2 Results

Women accounted for about two-thirds of the sample, out of a total of 111 respondents (Table 4.1). Students of master's degree programmes were represented in the sample by a larger share compared to students of bachelor's degree programmes.



Considering hardware, notebooks (or laptops) are the most often owned digital devices (95.5%) followed by smartphones (72.3%). Very few university students had problems with online learning due to the lack of digital equipment suitable for connection to the educational process and fulfilment of duties. Problems were of minor importance. The most common ones were low quality of internet connection or hardware failure on students' digital devices (audio or video malfunction).

Based on the authors' own experience, students had problems to utilise more advanced features of the software used (e.g. sharing the screen, presentation of semester thesis). Overall, 59.6% of the surveyed students handled installation and occasional technical support for online education by themselves (without any problems). However, 31.2% of students faced minor problems. 6.3% of students needed help of a friend and just 2.7% of students asked for help from university administrators. Although the frequencies of women with technical problems are more numerous, the differences (in relation to men) are not statistically significant. Most students (61.3%) are familiar with the software used in distance education and 38.7% of students are familiar with just minor problems. None of the interviewed students need help using software for education. There is a higher share of women who have minor problems with the software user-friendliness (over 10% in relation to men), but it is not statistically significant.

**Statements about Distance Education** The statements evaluating distance education show that the majority of respondents evaluate it as more flexible (up to 71.2%), more demanding (51.2%) and formally (just join a lecture) by students (50.5%). Given formality is supported by other findings: (i) 38.8% of respondents agreed with the statement that teaching is faster, as students do not actively participate in the discussion, and (ii) 36.9% of respondents agreed with the statement that teaching is passive. This can also include assessments with a minimum share of agreement that online teaching is more fun, more interesting, and that students are more active in distance learning or ask more questions. On the contrary, the last two statements have one of the highest shares of respondents who disagreed. It should be added that despite the perceived formality and unattractiveness, distance education is not perceived as chaotic—up to 57.7% of respondents disagreed with the fact that it would be chaotic. In some cases (learning is: boring, more interesting, more fun, passive, and more interactive) the indifferent percentage is the highest.

Testing in the crosstabs showed statistically significant differences (Pearson Chi-Square: 10.320;  $p = 0.006$ ) in the proportion of men (almost 57.9% of the total number of men) agreeing that students' inactivity in online teaching makes it faster (meaning makes courses shorter) compared to the share of women (28.8%).

The testing in crosstabs also showed statistically significant differences between the answers of bachelor's and master's students (Table 4.2):

- up to 78.6% of the total number of bachelor's do not agree with the statement that teaching is formal by teachers. None of the bachelor's students agreed, but up to 34.8% of master's students did. The difference is statistically significant (Pearson Chi-Square: 13.109;  $p = 0.000$ ).

**Table 4.2** Agreement with statements about distance education (share of answers in %; n = 111)

Statements	Answers (%)		
	Agree	Indifferent	Disagree
Learning is more flexible	71.17	16.22	12.61
Learning is more demanding	51.35	28.83	19.82
Learning is formal by students (just join a lecture)	50.45	32.43	17.12
Teaching is faster (the topic is presented in a shorter time since students do not actively participate in the discussion)	38.74	27.93	33.33
Learning is passive	36.94	45.05	18.02
Learning is more interactive	23.42	45.95	30.63
Learning is boring	21.62	54.05	24.32
Teaching is formal by teachers	21.62	35.14	43.24
Learning is more effective	21.62	36.94	41.44
Learning is chaotic	17.12	25.23	57.66
I ask more when learning online	10.81	26.13	63.06
I'm more active in online class	9.91	37.84	52.25
Learning is more interesting	7.21	53.15	39.64
Learning is more fun	7.21	47.75	45.05

- mainly master's students disagreed (up to 50.7% of them) with the statement that online teaching is more interesting while the attitude of bachelor's students is statistically significantly (Fisher's exact test: 10.214;  $p = 0.004$ ) lower (disagreed 21.4% of them).
- for master's students (up to 59.4% of them), online teaching is clearly more demanding. The share of bachelor's students with such an attitude was lower (38.1% of bachelor's students in the sample). The differences are statistically significant (Pearson Chi-Square: 6.945;  $p = 0.031$ ).
- up to half (49.3%) of master's students consider online education to be passive, compared to only 16.7% of bachelor's students. The difference is statistically significant (Pearson Chi-Square: 13.109;  $p = 0.001$ ).

It should be noted that master's students have longer experience with contact learning. Moreover, the sample of bachelor's students contains more than 70% of those in the first and the second year of study, who studied mainly in the distance (online) form. Online teaching is chaotic only for 7.1% of bachelor's students. This is the statistically significant difference (Pearson Chi-Square: 9.914,  $p = 0.006$ ) compared to 23.2% share of master's students. Regarding the fact that the quality of online teaching is not evaluated negatively by the respondents, the attitudes of those students can also be linked to the highly perceived difficulties of preparing at home for online learning (this is perceived by more than half of the respondents in the sample).

**Skills Improvement or Deterioration** The improvement of digital skills in 79.3% of the young people in the sample, as well as the other skills mentioned, can be considered an important factor to enter the labour market and for their professional

**Table 4.3** Assessment of skills improvement or deterioration (after online experience) (n = 111)

Skills	Answers (%)		
	Get better	Indifferent	Get worse
Digital skills	79.28	18.02	2.70
Working with text	70.27	27.93	1.80
Digital communication—Digital socialization	68.47	28.83	2.70
Searching information	64.86	32.43	2.70
Time management (time for work, leisure etc.)	64.86	27.03	8.11
Learning on your own	50.45	40.54	9.01
Processing information	48.65	45.95	5.41
Detecting hoaxes and sorting information	37.84	57.66	4.50
Thinking or acting creatively	32.43	63.97	3.60
Problem solving and formulation	31.53	60.36	8.11
Regulating own action	18.92	72.97	8.11
Personal communication	10.81	42.34	46.85
Formulating own opinion	9.91	82.88	7.21

growth. It is interesting to note that the online experience enhances the digital skills of all learners regardless of gender and level of education, empowering them all equally, which highlights the social dimension of digital learning (Table 4.3). The indicated improvement in working with text (70.3% of respondents) and the ability to learn on their own (improvement in 50.5%) should also make a positive contribution to labour integration. In the digital age of education and work, the skills of searching (improvement in 64.7% of respondents) and processing information (improvement in 48.7%) are valuable. Procrastination is closely linked to a time when we are losing incentives to develop a diversity of activities. This is especially true in a time of pandemic, when the possibilities of alternating activities are limited and the share of time devoted to the online world is rapidly increasing. Therefore, it can be a positive finding that 64.9% of respondents reported an improvement in time management skills defined in the survey as time for work, entertainment, etc. Of course, if these activities do not take place exclusively online.

Significant shares of respondents could not clearly state whether got better or got worse (indifferent attitude) the following skills: to formulate their own opinion (82.9%), to regulate their actions (73.0%), to think or act creatively (64.0%) and to formulate and solve problems (60.4%). This clearly indicates that online education does not contribute to the ability to act independently and formulate opinions. A high share of indifferent attitudes was taken towards the ability to detect hoaxes and sort information (57.7%). This points out that even university students are unsure in critical assessment of internet content. The development of critical thinking is thus a constant challenge for education.

The significantly higher amount of time spent online compared to the time of personal contacts (due to the pandemics) resulted in the fact that up to 46.8% of the addressed students rated the skill of personal communication as “get worse”. It is

questionable to assume to what extent is this compensated by the improvement of digital communication skills—digital socialization (68.5% of respondents).

Analysis of the obtained data in crosstabs showed differences between respondents based on the obtained demographic characteristics. The results of the analyses point to the fact that online learning and the digitization of education did not affect different demographic groups in the same way. Statistically significant differences were found between the statements of bachelor's and master's students. As many as 69.0% of bachelor's students rated their personal communication skills as got worse. This is a significantly higher share (Pearson Chi-Square: 15,842;  $p = 0,000$ ) than the share of master's students (only 33.3% of them). On the other hand, a larger number of bachelor's students improved their skills during online education in the three following areas:

- Improvement in the ability to process information was reported by up to 64.3% of bachelor's students, which is significantly more (Fisher's exact test: 6.586;  $p = 0.034$ ) than the share of master's students (39.1%).
- Improvement of the ability to work with text was reported by up to 83.3% of bachelor's students, which is significantly more (Fisher's exact test: 6.674;  $p = 0.021$ ) than master's students (62.3% of them).
- Improvement in time management (time for work, entertainment, etc.) was reported by a significantly higher share (Fisher's exact test: 6.586;  $p = 0.034$ ) of bachelor's students (up to 81% of their total number) compared to master's students (55.1% of them)

The following facts emerge from testing the differences between men's and women's responses:

- Statistically significant (Fisher's exact test: 7.250;  $p = 0.023$ ) was the difference in how their ability to formulate their own opinion got improved. Only the women represented in the sample (15.1% of them) stated that they had improved in this aspect. Not a single man stated that the digital education would improve his ability to formulate his own opinion. It should be added that more than 80% of all respondents took an indifferent attitude.
- The skill of searching for information has improved in 65% of respondents, with majority of women—up to 72.6% of all women compared to 50% of all men. The difference in responses between the sexes was statistically significant (Fisher's exact test: 8.283;  $p = 0.009$ ).

Perceived differences between men and women, as well as bachelor's and master's students, can be used in adapting the teaching process and further shaping the profile of graduates for practice.

**Attributes of Distance Education** Up to 52.3% of students rated the difficulty of preparing at home for online learning as higher. Others rated it mostly as standard (42.3%) (Table 4.4).

More than half of the students rated the quality of online teaching as standard and almost 30% as higher. On the other hand, the effectiveness of online teaching

**Table 4.4** Assessment of distance education attributes (share of answers in %; n = 111)

Attributes	Answers (%)		
	Higher	Standard	Lower
Difficulty of preparing at home for online learning	52.25	42.34	5.41
Knowledge requirements for distance education	31.53	63.06	5.41
Availability of information in distance education	30.63	63.06	6.31
Quality of teaching in distance education	29.73	52.25	18.02
Complexity of distance education	27.93	66.67	5.41
<b>Effectiveness of online teaching compared to contact teaching</b>	23.42	36.04	40.54

compared to contact teaching is assessed as higher by only 23.4% of students, but up to 40.5% consider the efficiency to be lower. As many as 58% of the total number of men had such an opinion. Only 31.5% of the total number of women expressed such an opinion. The difference in views between the sexes is statistically significant (Pearson Chi-Square: 7.245;  $p = 0.030$ ). Knowledge requirements for distance education are assessed as standard by most of respondents (63.1%). Statistically significant differences (Fisher's exact test: 9.265;  $p = 0.006$ ) are in the attitudes of men and women, where up to 38.4% of all women (compared to 18.4% of all men) consider knowledge demands to be high.

Most respondents did not evaluate the quality of distance education negatively. Information is available to most of them in this form of education. However, its effectiveness is assessed as low by a higher share of students. In view of the above, also based on the results, it can be stated that this type of education placed increased demands on less than a third of students. This is confirmed both: by the evaluation of knowledge requirements or the evaluation of the overall complexity of distance education. But also, by the evaluation of the difficulty of preparing at home. More than half of the students perceive it as highly demanding.

**Pros and Cons of Distance Education** As the advantages of digital education, students most often mentioned lower costs of transport to school, faster communication, lower costs of materials to school, sufficient software and technical provision of education and others (Table 4.5). As others stated: protection from Covid-19, more time for family, more time-efficient form of education, more free time, flexibility. These results are in line with the approaches of the OECD (2019a) and the European Commission (2018), which stated that digital learning can significantly lower the cost of access to education and better meet individual needs according to their learning styles and skills.

Among the disadvantages, students mentioned the lack of personal contact with classmates, but also with teachers (whereas in some courses personal contact is irreplaceable), insufficient quality internet connection and communication (Table 4.6). Among open questions students mostly mentioned poor sound and internet quality.

**Table 4.5** Students' perception of the benefits of digital education (n = 111)

<i>Statements</i>	<i>Answers (%)</i>
Lower transport costs to school	95.5
Faster communication	61.3
Lower material costs (more is required in digital form compared to contact teaching)	44.1
Sufficient online learning software security	43.2
Sufficient technical provision of online teaching (quality computer, etc.)	36.0
More time for social contacts via digital (internet) network	24.3
Better learning materials for online education	11.7
Greater availability of professional literature	11.7
Quality internet connections	11.7
Other ...	9.9
More space for discussion in the online environment than in contact teaching in lectures and seminars	4.5

**Table 4.6** Students' perception of the disadvantages of digital education (n = 111)

<i>Statements</i>	<i>Answers (%)</i>
I lacked personal contact with classmates	71.4
Unavailability of a quality internet connection	50.0
I lacked personal contact, which was necessary for some curriculum or would be more suitable for explaining the curriculum	48.2
In an online environment, it is not possible to create a suitable space for discussion, as is the case with contact teaching in lectures and seminars	38.4
Insufficient communication	33.9
Unavailability of professional literature	27.7
Health problems	19.6
Insufficient technical security of online teaching (quality computer, etc.)	17.0
Poor quality teaching materials for online education	11.6
High costs (payment for data and internet connection)	11.6
Other ...	6.3
Insufficient software security for online teaching	5.4
I am not a technical type and therefore online teaching caused me problems	5.4

## 5 Discussion

Do we consider DT to be a driving force for socially oriented innovation? Yes, there is an educational space where the benefits of digitization and connectivity can go far beyond boundaries of contact learning. There is a range of assistive technologies that can emphasize the potentially life-changing benefits that technology can bring to disabled people. It has the potential to make higher education more accessible as it will allow, for example, adjusting the learning material and methods to the students

with disadvantages (AmCham, 2021). Furthermore, speakers from different cultures could be engaged to online lectures (e.g. the possibilities of the Erasmus+ platform). Online learners benefit from intercultural interactions that help to build intercultural skills. In that way, digital transformation of HEIs undoubtedly leads to social innovations as it brings new kind of knowledge, deeper experiences and expands social benefits of learners. In the research we found significant differences in perceptions and attitudes towards digital learning by gender and level of education. Taking these differences into account can contribute to the democratisation of knowledge by reducing the learning gap between different types of learners.

Societal changes require the right political decisions. The implementation of social innovations in education in Slovakia faces challenges. The Slovak Rectors' Conference (2021) considers the recently proposed investments in higher education to be insufficient given Slovakia's historical debt in the education and science and research sectors. If "further development of the Slovak Republic depends on human capital and the creation of an innovation environment", reforms and investments need to be re-evaluated in other components and in favour of higher education, science, research and innovation. The pandemic forced the implementation of social innovations in HEIs. There were focused mainly on the areas of social innovation, such as: education and human development in digital form, culture, creativity, community development and the development of technologies to increase literacy. The change from the face-to-face form of education to the distance in the online environment represents a systemic social change, aimed at eliminating the real causes of the social problems of the pandemics. This social innovation of digitalisation of education created a positive impact on education by changing the system settings, conditions, relationships between actors, rules, roles of actors to achieve better communication and education in a contactless way and by limiting personal social contacts to eliminate the spread of the virus, and transform these social contacts in the digital environment not only at the university level but also at the regional level (MIRRI SR, 2021).

The title of this chapter refers to the digital transformation as a driver of social oriented innovations. In this sense, a pandemic situation can also be considered a driver of the digital transformation of all stakeholders in education. In the environment of digital transformation, a new work and social environment is emerging, which requires new skills and professions for this generation of students (potentially proficient in connectivity, mobility, technological innovation, and flexibility). Whether the increased level of digital skills will also increase students' competencies and preconditions for a clearly better integration into the labour market is to some extent questionable. Although the sample is not representative (for the HEIs environment in Slovakia), it provides platform for reflection on the recent situation. Given the results of the survey, it will be more demanding, especially in their ability to self-motivate and in professions based on personal contact and personal communication. Long-term social isolation does not help them to build healthy self-confidence. The recent pandemic is also a significant multiplier of the digital transformation of the university itself. It has caused the complete digitization of the students' involvement in the educational process. Immediate requirements on the

quality of the internet connection, hardware and software equipment and the required level of digital skills were, in a sense, a small revolution in students' lives. Also teaching staff was forced to speed up the digitalization of education and linked processes and to develop new teaching and learning materials—completely digital.

This unprecedented situation has also created an opportunity for a deeper transformation of the education system, which would reflect the needs of modern society and the future labour market better (AmCham, 2021). The labour market will challenge the technological impact, especially automation and artificial intelligence (AI) put pressure on people to be technology and IT literate. Decrease in long-term job positions caused that people would have to be more flexible. Creativity will be demanded since automatization is expected to replace a lot of routine jobs except of services relying on human touch. HEIs must accommodate all these aspects.

## 6 Conclusions

Digital transformation can be the ultimate step towards achieving specific social goals, such as opening up higher education and training professionals capable of coping with a dynamic and complex environment. The DT usually goes its own way in different spheres (public sphere, business, HEIs, etc.), but it can also have an impact on the life of whole society if the state coordinates transformation as part of a national strategy (e.g. Society 5.0 initiative in Japan).

It is obvious that teachers and students were “thrown into the water” by the immediate transformation of households into schools (insufficient technical support and not smooth connectivity). So, investing into quality IT infrastructure is the fundament of the DT for the (educational) stakeholders. The pandemic year deepened relationship of educational process with new ICT and changing contexts of society and each individual learner. The change was predictable in the academic environment (as well as in other parts of society), but no one expected such a rapid implementation of the processes leading to digitization. After a year of almost continuous distance learning since the onset of the pandemic, a survey of university students' attitudes provides insight into the consequences of this change. HEIs should strengthen the features that are less well valued and take into account the dissimilar perceptions among students of different levels and gender. They must adapt learning processes so that all students, regardless of their condition, are favoured and better prepared to face global challenges from a digital perspective. The necessary role of the university is to be a comprehensive institutional background in this rapidly established digital practice of education and take advantage of this transformation to meet social needs and create new social collaborations.

In studies of Biffi et al. (2017) and Bissola et al. (2017) is pointed out that educational networked project programs may develop managerial, behavioural and technical skills and new methods for innovation, and help students to become accustomed to accept discontinuity, conflict and diversity. The rapidly acquired



skills of working with digital infrastructure (indicated by our research and in connection with the described theoretical concepts) are characteristic of the main actors: teachers and students. Nevertheless, not only student-teacher interaction passes through innovation, but also the wider community (which is involved, for example, through conferences, webinars, digital mobility). Our new experience confirms that online academic lectures, projects and student presentations are flexibly enriched by input from experts from other disciplines, and more often from other countries (e.g. sociologists and philosophers comment on topics of economically or technologically oriented students). This creates a strong interdisciplinary, but also international and intercultural dimension of education, so necessary for formation of students. In this way, the DT undoubtedly innovates existing processes and expands the social dimension of academic education.

The euphoria stemming from already applied and anticipated innovations of the digital era (automation and AI era) brings new questions about ethics and about how societies should be run. So, a need for good quality social sciences arises. The DT has the potential to cover all distances but may not create any proximity. Thus, social principle must be applied in any digital platform design if we want innovations to be social.

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# Chapter 5

## Design of a Social Innovation Competence Framework to Educate Entrepreneurs in Developing on the International Stage



Alexandros Yeratziotis, Torgeir Aadland, Sigrid Westad Brandshaug, Christos Mettouris, Evangelia Vanezi, and George Angelos Papadopoulos

**Abstract** The European Commission identifies entrepreneurship as one of eight competences necessary for all members of a knowledge-based society. The Entrepreneurship Competence Framework (EntreComp framework) is a tool that European citizens and organisations can utilise to improve entrepreneurial capacity. Social entrepreneurship in particular, has been gaining momentum for numerous reasons. None more so than it being seen as an approach to offer solutions to worldwide social problems. Despite the increasing demand for social entrepreneurship, mainstream internationalization literature for social entrepreneurs remains underdeveloped and little is known about competences social entrepreneurs require to become successful with their internationalization efforts. In this chapter, the social innovation competence framework is presented; empirical work focusing on educating social entrepreneurs to acquire and improve upon competencies needed for going international. The framework, which uses the EntreComp framework as a foundation for its descriptions of the competences, was developed as part of the Erasmus+ project ISSA.

**Keywords** Social innovation competence framework · Social entrepreneur competencies · Internationalization · EntreComp framework

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### **The Key Points of the Chapter Are the Following**

- Review of EntreComp framework.
- Review of social entrepreneurship competences.
- Report on desk research and survey results in the context of ISSA project (Internationalisation for Social and Innovative Start-up's and Entrepreneurs).
- Presentation of the ISSA Competence Framework and its four competencies.
- Contribution of the ISSA Competence Framework towards the internationalization perspectives of European Union's Social Start-Ups.

## **1 Introduction**

The project Internationalization for Social and Innovative Start Ups and Entrepreneurs' (ISSA<sup>1</sup>) main objectives are focused on developing quality and practical lifelong learning support, with a strategic use of information and communication technologies. The project's main target group is existing and potential social entrepreneurs interested in boosting social entrepreneurship and development of social start-ups. The entrepreneurs will be able to move their entrepreneurial efforts internationally, within and beyond the borders of the European Union. More specifically, ISSA is designed to identify core and innovative learning methods that encourage success in international activities for social start-ups and entrepreneurs. The impact of the 2007–2009 Global Financial Crisis has made it necessary to seek for an innovative vision on how to improve economic growth; one of the most attractive options are social entrepreneurs. Although social enterprises are considered as one solution to increase competitiveness and state the importance of cross-border values on European economy, it should be noted by social entrepreneurs that nowadays organisations active on international markets grow faster and are more innovative than those that limit their activities locally. Due to their social activity, it is highly interesting for social enterprises to initiate international relations with similar organisations to promote their objectives at European level (European Commission, 2015).

Participating organisations in the project carry out a project which focuses on improving the internationalization perspectives of the EU's Social Start-Ups. This entails analysing the most frequent problems and barriers for social start-ups within an internationalization process as an endeavour to address these challenges. The project will deliver self-training in practical internationalization and provide entrepreneurship education among social entrepreneurs. This means that the project will aim to reach entrepreneurs beyond the university setting, which has been the main audience in the past, but where calls for change have been made (see e.g., Wiek et al., 2015). The project's innovative self-training course for the internationalization of social start-ups serves as a guide to solve the special needs of social start-ups and

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<sup>1</sup>ISSA project website: <http://issaproject.eu/>

entrepreneurs to receive proper training in essential aspects of the internationalization process. The self-training course will be complemented with an e-learning platform that will work as support for social entrepreneurs. ISSA will also provide and support a proper Virtual Environment to promote social entrepreneurs' attitude about the vital importance of internationalization of the social start-up in early stages. The Virtual Environment will give the entrepreneurs experiences with and training in, for instance, cultural awareness and social opportunities, such that they can obtain insights in important concepts to consider in their internationalisation efforts.

The chapter presents the development of the content for the self-training course. A special focus is on how the competences for the project were selected based on the needs of entrepreneurs in the project partner's countries, in addition to how the development of the definition and content of these competences were prepared. To be able to develop a solid foundation for the project's self-training course, the EntreComp framework (Bacigalupo et al., 2016) serves as a basis for the development of competences adapted for social entrepreneurs. This chapter therefore starts with an introduction to the EntreComp framework. After that, a section on the approach and method employed to select and develop the competences for social and international entrepreneurs follows. The chapter is concluded with main takeaways from the project's approach and results, including a detailed look at the four competences of identifying opportunities, mobilising resources, increasing cultural awareness and an ability to identify social problems all of which are presented.

This chapter's main objectives are to present the development of the social innovation competence framework and to demonstrate an in-depth example of good practice and collaboration within the area of social innovation.

## 2 Background and Related Work

Entrepreneurship is by the European Commission reckoned as one of eight competences necessary for all members of a knowledge-based society. However, being a competence of life-long learning, few consensuses existed in the definition of which competences entrepreneurship constituted of, and thus was the EntreComp framework developed by the Joint Research Centre (JRC) of the European Commission in 2016. The framework consists of three overarching competence areas, building on the definition of entrepreneurship as acting on ideas and opportunities by mobilising resources: 'Ideas and opportunities', 'Resources' and 'Into Action'. These three competence areas constitute 15 competences that together serve as building blocks of entrepreneurship as a competence for all citizens (Bacigalupo et al., 2016).

The 15 different competences are presented along an 8-level progression model, spanning from foundation to expert level, giving learners a way to look at the different learning outcomes presented at each competence. All the 15 competences' learning outcomes sum up to 442 in total, and with an individual descriptor for all competences, the framework gives a detailed description of entrepreneurship and a valuable tool for educational purposes. Moreover, as Bacigalupo et al. (2016) write in the report, the framework should be considered as a starting point and adjusted to



the individual contexts, and as such, the ISSA project therefore adapts the framework to include its social competences. Thus, the EntreComp framework serves as a foundation for the competences included in the ISSA project, both by using two of its competences and by adapting the framework in the presentation of the social competences applied in the project.

In the past, the framework has been applied and tested in many contexts, for instance in combination with the capability approach in South African primary and secondary schools (Forcher-Mayr & Mahlknecht, 2020), but also as an assessment tool for entrepreneurship education in Romania (Strauti et al., 2018) and the UK (Dinning, 2019). In the work of Forcher-Mayr and Mahlknecht (2020), the EntreComp framework serves as a framework for inclusion of the capability approach, such that this view is included in a similar structure as the EntreComp's design. In the design of the competences included in the ISSA project, a similar approach was applied, using insights from research on social entrepreneurship as a foundation for the competence descriptions, and utilising the structure from EntreComp in the descriptions of the competences.

## ***2.1 Social Entrepreneurship-Specific Competence for Internationalization***

The rise of worldwide social problems enables young entrepreneurs to explore social entrepreneurship. Hence, it is this contextual change that has led to social start-ups and businesses being regarded as solutions to global social problems and even considered as part of a global movement (Misbaudhin & Nabi, 2019). Despite this, mainstream internationalization literature for social entrepreneurs remains underdeveloped. There is an increasing demand for social entrepreneurship, but little is known about the competences social entrepreneurs need to possess to become successful (Miller et al., 2012). Social entrepreneurs have most recently increased internationalization efforts, often as a result of an increased globalisation in the world (Zahra et al., 2008). However, this globalisation development also requires additional skills and knowledge with the entrepreneurs, for instance a knowledge perspective of different social problems (Miller et al., 2012) or cultural awareness of the different contexts in which the entrepreneur pursues opportunities (Zahra et al., 2008). In the research on social entrepreneurship, little insights have been obtained regarding the internationalization process, and the competences needed for this process. However, some studies have investigated the competences necessary for social entrepreneurs.

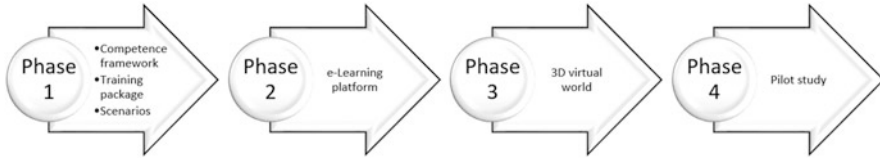
In the work by Miller et al. (2012), the authors identify 35 competences from the literature that social entrepreneurs need in their entrepreneurial efforts, and they further compare these to the educational practices in US higher education. From the study, the authors identify ten competences that are most important for social entrepreneurs such as the ability to solve problems, interpersonal communication

skills and the ability to develop collaborative relations. The results from this study are further tested by Wronka-Pośpiech (2016) and in her study, she identifies ten competences that she explores in the Polish context. While some of the competences have the same level of importance, the results show that the social entrepreneurs in the two countries differ to some degree in their views regarding the most important competences. Hence, in the development of competences for social entrepreneurs, contextual differences are needed to be considered to ensure that the competences are representative for social entrepreneurs in the project partners' countries. The identified competences are presented in the result section, and the insights in these are partly based on the work by Miller et al. (2012).

Misbauddin and Nabi (2019) present a conceptual framework for the internationalization process of social business (SB) based on an in-depth literature review on social entrepreneurship, SB, and internationalization of small business. Creating a social impact in a foreign location was seen as the main factor behind the internationalization decision. Other factors were entrepreneur-specific, firm-specific, and context-specific ones. The framework highlights opportunity identification and the internationalization implementation phases specifically, while their key contribution resides in the visualisation of an internationalization framework for SB, since it points to gaps and directions within this space. The framework's value towards academia is evident but by including information on the antecedents, opportunity exploitation process, and barriers in the way of SB internationalization, it serves practitioners too, since they can consider it in their expansion efforts and also be made aware of issues required for successful internationalization. The authors point to the lack of empirical research as a limitation in their work and future research opportunities are the identification of weak points of the framework, its validation and refinement through multiple methodologies, e.g. case studies, etc. change and specify (Misbauddin & Nabi, 2019). The ISSA social innovation competence framework extends work in this area by incorporating empirical work with a focus on educating social entrepreneurs to acquire and improve important competencies towards going international with their social start-ups.

### 3 Methodology

In this section, the ISSA methodology is described. By employing mixed-method modes of enquiry, it will be possible to accomplish the project's objectives. These are: (i) to promote the use of digital self-training for internationalization of European social entrepreneurs and start-ups; (ii) to promote and enhance use of innovative, digital tools and virtual world environments that will motivate social entrepreneurs to use; (iii) to develop a European education and training area via the strategic use of ICTs, which will be available for wide and open use; (iv) to boost internationalization among social entrepreneurs as a measure to increase their benefits; (v) to endorse distance online learning and to create the proper ground for effective



**Fig. 5.1** The four-phase methodology of the project

entrepreneurial learning. The four phases of the methodology are presented in Fig. 5.1.

Phase 1 focused on the development of a self-training package that educates social entrepreneurs toward the internationalization of social enterprises. The self-training package was based on competences selected in relation to ENTRE-COMP and internationalization to ensure its perfect fitting to social enterprises in their road to internationalization. The self-training package also includes self-assessment tests for further encashment of the learning experience. Scenarios were also developed as part of the self-training package.

In Phase 2 the ISSA e-learning platform was designed and developed. Specifically, the Moodle LMS was implemented, hosting all the learning content (. learning material, the related scenarios and the self-assessment tests) Furthermore, the e-learning platform is a space where social start-ups and entrepreneurs can meet, communicate and share experiences and expertise on internationalization issues, expansion plans, sustainable and social entrepreneurship, thus contributing to a sense of a community.

Phase 3 concerns the conceptual design and system architecture of ISSA 3D Virtual World (VW) platform, in which the produced learning content (learning material, the related scenarios and the self-assessment tests) from Phase 2 are “transferred” into the VW. Learners are thus able to test their gained knowledge by implementing the related scenarios of the selected competencies by playing the simulations and/or the experiential learning activities offered in the VW.

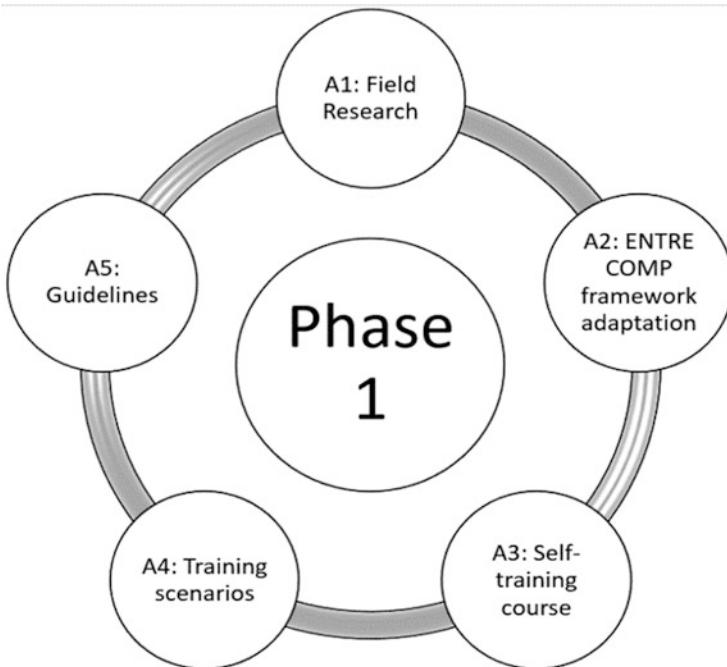
Phase 4 is the pilot study. The piloting will aim to ensure that the developed social innovation competence framework, the self-training package, the scenarios, the ISSA e-learning platform and the ISSA 3D VW environment are quality, coherent products which adequately meet their objectives, are relevant to the needs of the social entrepreneurs and have adequate potential for internationalization. The instruments employed will include semi-structured feedback questionnaires with the aim to find out: What are the main advantages and benefits of the developed products? Do they adequately meet the needs of the target audience and the objectives? What are the main learning outcomes? What difficulties the users have met and what improvements need to be made? How to increase the international value of the intellectual products?

### 3.1 Phase 1: ISSA Competence Framework, Training Package and Scenarios: Social Entrepreneurs and Start-Ups Going International

Each of the four phases, as presented in Sect. 3, consist of several activities. In this chapter, an in-depth discussion on Phase 1 activities 1 and 2 specifically is presented, which lead to the development of a social innovation competence framework to educate social entrepreneurs in going international.

Phase 1 consisted of five activities (see Fig. 5.2). Activity 1 included field research on the ENTRE-COMP competences and determining the skills and competencies for ISSA learners. Activity 2 focused on the adaptation of ENTRE COMP framework and modelling of the ISSA competences description. In Activity 3, the design and development of the self-training courses was accomplished. Activity 4 focused on the design of the training scenarios and in Activity 5 guidelines for the use of the scenarios and self-training courses were drafted.

In Activity 1, the ENTRE-COMP competences were reviewed, leading to field research on the main target group and in accordance with the country-specific interests of each of the participating countries. A questionnaire was designed and administered which was focused on the competences required to internationalise a social entrepreneurship, which is elaborated further upon next. Considering the



**Fig. 5.2** The five activities of Phase 1

results of Activity 1, it was then possible in Activity 2 to determine the final competences. These competencies were elaborated within the development of the self-training courses (i.e. Activity 3) and respective scenarios (i.e. Activity 4). The ISSA competences descriptions were therefore modelled and presented in a report and translated into the languages of the project's partners.

**Desk Research** To be able to identify the competences that are needed for social entrepreneurs' internationalization efforts, thorough desk and field research investigations were conducted. As mentioned in Sect. 2, previous studies have found differences between countries' needs, hence the desk research attempted to investigate how entrepreneurship and social entrepreneurship is viewed within the different partner countries. Results from the desk research were used to ensure that the survey instrument to be designed would be applicable to investigate important questions and issues identified in the different countries. The desk research revealed several important insights, for instance differences in terms of the general subject of social entrepreneurship and the definition of a social enterprise. Questions regarding topics that could differ between the countries were therefore included in the survey instrument.

**Survey Method** Based on the desk research, a survey was designed. The main objective of the survey was to identify the different competences to be included in the educational tools developed in the ISSA project. Apart from various control variables (country, organisational type, core team composition), questions regarding social entrepreneurship's level of contribution to the United Nations Sustainable Development Goals, preferred learning approach, difference in competences needed for social entrepreneurship versus traditional entrepreneurship, important competences for social entrepreneurship, and the respondents' organisation's most important entrepreneurial competences were included. The latter two are based on, respectively, Miller et al. (2012) and Wronka-Pośpiech (2016), and on the competences from the European Entrepreneurship Competence Framework. The competences investigated counted 50 in total, and the respondents answered on their level of importance on a scale from a low degree (1) to a very high degree (7).

The survey was distributed digitally through the different partners in the ISSA project to social entrepreneurs in each of the participating countries. Participation was voluntary and 93 full responses were returned. Of the 93 full responses of the survey, 20 respondents came from each of the countries Spain, Greece and Bulgaria (60 in total), nine came from Cyprus, and 24 from Norway. The low number of respondents from Cyprus came from the difficulty in identifying social entrepreneurs in the country. The data was then analysed with SPSS, and the most prominent competencies were identified from the results.

To ensure that all the competencies selected represented the countries' respondents' needs, Chi-Square tests revealed that the countries' respondents differed in terms of the type of organisation they represented, core team composition and their definition of social entrepreneurship. To control for this difference among the respondents, only competences with no significant difference with regards to the

**Table 5.1** Four most important competences for social entrepreneurs in an internationalization process were determined to be Spotting opportunities; Mobilising resources; Ability to identify social problems; and Cultural awareness

Focus	Competence
Mobilising resources	Ability to build community support
	Develop volunteer
	Mobilising resources
	Mobilising others
Social understanding and awareness	Ability to commit to a collective purpose
	Commitment to helping people
	Empathy or compassion
	Ability to identify social problems
	Cultural awareness
	Ethical & sustainable thinking
Opportunity development	Creativity
	Vision
	Valuing ideas
	Spotting opportunities
Business development	Motivation & perseverance
	Financial & economic literacy

respondents' country of residence, organisation, core team composition and their view of social status were included. Factor and ANOVA analysis was used to identify competences that had a significant difference between the respondents. The competences with the highest level of importance reported by the respondents were included in the course, and in the end four of these were selected by the project participants.

In Table 5.1 below, the list of the competences with the most equal level of importance in all countries is presented. The list consists of competences that do not differ in importance regardless of the respondents' type of organisations, teams and views of social entrepreneurship. The team in the ISSA project then selected the competences *spotting opportunities*, *mobilising resources*, *cultural awareness* and *ability to identify social problems*. This selection was based on the score of the competence's importance, the desk research, former research, and the insights of the partners in the ISSA project. Two former competences are based on the EntreComp framework, while the latter two are based on the competences found in the literature on social entrepreneurship. The development of the definition of the two new competences then used literature on the subject as a basis for its content, while the structure of the EntreComp framework was used to present the competences. The development of the social entrepreneurship competences are presented in Sect. 4, along with a presentation of the competences mobilising resources and spotting opportunities.

## 4 Results

In this section the competences of the ISSA social innovation competence framework are presented. First, a summary of EntreComp's descriptions of spotting opportunities and mobilising resources will be presented, before a more thorough explanation of the competences ability to identify social problems and cultural awareness are introduced. Since the ISSA project uses the EntreComp framework as a foundation for its descriptions of the competences, the ISSA competences are therefore presented in a similar manner. The complete ISSA competences table is available online.<sup>2</sup> The Table shows the levels that social entrepreneurs are able to reach and where they are expected to start. All competences are explained in detail in terms of competence level.

### 4.1 *Spotting Opportunities*

When moving internationally, social entrepreneurs need to be able to identify opportunities that could contribute to reaching their goals. These opportunities could be sources of funding, new markets, or collaborations. Hence, having the ability to spot opportunities, entrepreneurs could identify opportunities in the international markets that will enable further expansion for their activity, while at the same time maintaining the sustainable focus existing in the business. This competence has the following descriptors (Bacigalupo et al., 2016):

- Identify and seize opportunities to create value by exploring the social, cultural and economic landscape.
- Identify needs and challenges that need to be met.
- Establish new connections and bring together scattered elements of the landscape to create opportunities to create value.

The competence therefore has the following themes in which the learning outcomes are organized: Identify, create and seize opportunities; focus on challenges; uncover needs; analyse the context (Table 5.2).

### 4.2 *Mobilising Resources*

To be able to act on the opportunities identified, social entrepreneurs need to be able to mobilise resources to reach their goals. This competence therefore revolves around obtaining and marshalling the necessary resources to be able to conduct

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<sup>2</sup>ISSA competences table: [http://www.cs.ucy.ac.cy/seit/wp-content/uploads/2021/02/ISSA\\_Competences.pdf](http://www.cs.ucy.ac.cy/seit/wp-content/uploads/2021/02/ISSA_Competences.pdf)

**Table 5.2** Learning outcomes levels for the competence spotting opportunities

Theme	Level 1	Level 2	Level 3	Level 4	Level 5
Identify, create and seize opportunities	I can find opportunities to help others.	I can recognise opportunities to create value in my community and surroundings.	I can explain what makes an opportunity to create value.	I can proactively look for opportunities to create value, including out of necessity.	I can describe different analytical approaches to identify entrepreneurial opportunities.
Focus on challenges.	I can find different examples of challenges that need solutions.	I can recognise challenges in my community and surroundings that I can contribute to solving.	I can identify opportunities to solve problems in alternative ways.	I can redefine the description of a challenge, so that alternative opportunities address it may become apparent.	I can take apart established practices and challenge mainstream thought to create opportunities and look at challenges in different ways.
Uncover needs.	I can find examples of groups who have benefited from a solution to a given problem.	I can identify needs in my community and surroundings that have not been met.	I can explain that different groups may have different needs.	I can establish which user group, and which needs, I want to tackle through creating value.	I can carry out a needs analysis involving relevant stakeholders.
Analyse the context.	I can tell the difference between different areas where value can be created (for example, at home, in the community, in the environment, or in the economy or society).	I can recognise the different roles the public, private and third sectors play in my region or country.	I can tell the difference between contexts for creating value (for example, communities and informal networks, existing organisations, the market).	I can identify my personal, social and professional opportunities for creating value, both in existing organisations or by setting up new ventures.	I can identify the boundaries of the system that are relevant to my (or my team's) value-creating activity.



the activities as planned. Thus, by being able to mobilise resources, social entrepreneurs could for instance obtain financing for their efforts, onboard necessary individuals, and ensure the optimal and ethical utilisation of obtained resources. This competence has the following descriptors (Bacigalupo et al., 2016):

- Get and manage the material, non-material and digital resources needed to turn ideas into action.
- Make the most of limited resources.
- Get and manage the competences needed at any stage, including technical, legal, tax and digital competences.

As such, the learning objectives for this competence are organised under the following themes: Manage resources (material and non-material); use resources responsibly; make the most of your time; get support (Table 5.3).

### **4.3 Cultural Awareness**

Helping entrepreneurs in understanding the cultural differences that might emerge when moving into different international markets and regions, reducing problems connected to cultural differences. Knowing what is and is not permitted or expected or considered legitimate by social and cultural standards is key to developing successful social entrepreneurial strategies and operational plans (Dacin et al., 2010).

The predominant approach to explore cultural differences is the six cultural dimensions from Hofstede (1980, 2001), which has been extended to nine dimensions in the GLOBE study (House et al., 2004), and further applied in the context of social entrepreneurship (Canestrino et al., 2020). These nine dimensions are Power Distance, Uncertainty Avoidance, In-group Collectivism, Institutional Collectivism, Gender Egalitarianism, Performance Orientation, Future Orientation, Human Orientation and Assertiveness. Based on the above, this competence has the following descriptors (Table 5.4):

- Identify and analyse dimensions in another culture.
- See positive and negative aspects of cultures and tolerate differences.
- Manage differences by communicating effectively and see opportunities from having an “outsider perspective”.
- The learning objectives for cultural awareness are therefore organised under the following themes: Cultural dimensions, tolerance and cultural differences.

### **4.4 Ability to Identify Social Problems**

Social problems exist in many countries, regions and contexts, and as a social entrepreneur, it is necessary to be able to identify social problems in varying

**Table 5.3** Learning outcomes levels for the competence mobilising resources

Theme	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Make the most of your time.			I can discuss the need for investing time in different value-creating activities.	I can use my time effectively to achieve my goals.	I can manage my time effectively, using techniques and tools that help make me (or my team) productive.	I can help others manage their time effectively.
Manage resources (material and non-material).			I can experiment with different combinations of resources to turn my ideas into action.	I can get and manage the necessary resources to turn my idea into action.	I can develop a plan for dealing with limited resources when setting up my value-creating activity.	I can get together the necessary resources to develop my value-creating activity.
Use resources responsibly.			I can discuss the principles of circular economy and resource efficiency.	I use resources responsibly and efficiently (for example, energy, materials in the supply chain or manufacturing process, public spaces).	I take into account the non-material cost of using resources when taking decisions about my value-creating activities.	I can choose and put in place effective resource-management procedures (for example, life-cycle analysis, solid waste).
Get support.	I can look for help when I am having difficulty achieving what I have decided to do.	I can identify sources of help for my value-creating activity (for example, teachers, peers, mentors).	I can describe the concepts of division of labour and job specialisation.	I can find and list public and private services to support my value-creating activity (for example, incubator, social enterprise advisors, start-up angels, chamber of commerce).	I can find digital solutions (for example, free, paid for, or open-source) that can help me manage my value-creating activities efficiently.	

**Table 5.4** Learning outcomes levels for the competence cultural awareness

Theme	Level 1	Level 2	Level 3	Level 4	Level 5
Analyse culture	I can identify examples of distinct cultural dimensions in other cultures.	I can define specific cultural dimensions that are important for social entrepreneurship.	I can describe cultural dimensions that may affect social business opportunities in a given context.	I can manage cultural dimensions which may promote or inhibit social entrepreneurship in a given context.	I can find opportunities for social value-creating activities based on cultural dimensions.
Tolerate differences	I can identify different practices in solving social needs in my own and in other cultures.	I can non-judgmentally observe practices that may be relevant for social value-creating opportunities.	I can describe positive and negative aspects of how social problems are solved in my own and in other cultures.	I can explain and utilise the reasons why there are different approaches to solve social problems.	I can disagree with other cultural practices without judging and learn from their practices.
Manage differences	I can identify possible obstacles in communicating with people from another culture.	I can identify specific communication obstacles based on certain cultural dimensions.	I can describe communication techniques that facilitate cooperation despite cultural differences.	I can use my knowledge about a given culture to communicate effectively and facilitate cooperation to solve social needs.	I can identify and reflect upon opportunities and barriers from having an “outsider” perspective when working with my value-creation.

situations (Miller et al., 2012). Different problems require different approaches and solutions, and often the entrepreneur need to implement innovative solutions, both at the managerial level and in the organisation's solutions (Shaw & Carter, 2007; Zahra et al., 2008). To do this, the entrepreneur need to have insights in the problems, the system the problems are embedded in, and the contextual uniqueness and similarity to other contexts. The entrepreneur needs to utilise prior knowledge about the context and be innovative in the understanding of the system to be able to develop sufficient solutions (Zahra et al., 2008).

Moreover, as value creation is central in entrepreneurship, and especially the creation of social value for social entrepreneurs, an understanding of total wealth is needed in the task of identifying social problems (Sullivan Mort et al., 2003; Zahra et al., 2008). Having the necessary insights in the potential of total wealth in a system, that is, the sum of social and economic wealth, will help the entrepreneur understand the problems' complexity in the system in which they exist (Zahra et al., 2008). Thus, the competence ability to identify social problems has the following descriptors:

- Identify and analyse social problems in various contexts.
- Use social wealth as a measure to analyse and discuss social problems.
- Understand the system in which social problems exist, including the efforts needed to initiate processes intended to reduce the social problems.

Furthermore, the learning objectives for the competence are organised under the following themes (Table 5.5): Systems of social problems; contextual knowledge; social wealth.

In Table 5.6 below, the different competences in the ISSA project are summarised. The different competences, descriptors along with the competences' learning outcomes are also presented in ISSA competences table online<sup>2</sup>.

## 5 Conclusions

This chapter illustrates the development of new competencies to be used in an online self-training course for social entrepreneurs going internationally. The competences developed utilises the EntreComp framework as a structural basis while its content is developed from subject specific literature. The chapter therefore presents practice for further inspiration and development in the creation of competencies for different contexts and subjects, especially with an international audience in focus.

The chapter contributes in several ways. First, it presents a method for the development of competencies, where cultural and contextual differences are identified in a stepwise manner and controlled for in the development. The difference between countries in terms of the importance of social entrepreneurship competences was already identified in the literature prior to the project, and the project's research confirmed and controlled for this. While the research approach took methodological considerations to ensure its results, the study was, however, conducted in

**Table 5.5** Learning outcomes levels for the competence ability to identify social problems

Theme	Level 1	Level 2	Level 3	Level 4	Level 5
Understand social wealth.	I can identify different constituents of social wealth: Social value and social costs.	I can identify different levels of social value and social costs.	I can describe the relations and interconnections between social value and costs.	I can evaluate different constituents and combinations of social value and costs in my work to identify those that optimise a solution.	I can evaluate the social values and costs in a system including economic wealth to identify the best solutions.
Utilise contextual knowledge.	I can identify social problems in my context.	I can identify the main driving forces of my context's social problems.	I can identify the characteristics of my context and identify similar contexts with similar social problems.	I can identify measures to create value that could decrease my context's social problems, based on other contexts' measures.	I can develop measures to reduce social problems used in other contexts to fit in my own context.
Analyse the system.	I can identify social problems that exist in a system.	I can identify changes that would reduce the system's social problems.	I can think of well-known approaches that could reduce the system's social problems.	I can imagine new and novel ways of reducing a system's social problems.	I can assess the plausibility whether different solutions fit in the system.

five European countries and with a limited number of respondents. Other countries and context might identify other competences that are of higher importance for their entrepreneur. Furthermore, the method also utilises the EntreComp framework and illustrates how this framework could serve as a structural guideline in the development of descriptions of new entrepreneurship competences.

Second, the chapter also contributes to social entrepreneurship literature through the development of the descriptions of the competences *ability to identify social problems* and *cultural awareness*. These competences' content are based on central and important literature on the topic, but should in the future be tested and verified by active social entrepreneurs with experience in internationalization of their entrepreneurial efforts. Future work is targeted towards more empirical work on the Social Innovation Competence Framework. More specifically, this includes the evaluation of the self-training packages, e-learning platform, 3D VW and scenarios with social entrepreneurs to measure whether they improve upon the competences that will support them in the internationalization process of their social enterprises.

**Table 5.6** ISSA competences' hints and descriptors

Competences	Hints	Descriptors
Spotting opportunities	Use your imagination and abilities to identify opportunities for creating value	<ul style="list-style-type: none"> <li>• Identify and seize opportunities to create value by exploring the social, cultural and economic landscape</li> <li>• Identify needs and challenges that need to be met</li> <li>• Establish new connections and bring together scattered elements of the landscape to create opportunities to create value</li> </ul>
Mobilizing resources	Gather and manage the resources you need	<ul style="list-style-type: none"> <li>• Get and manage the material, non-material and digital resources needed to turn ideas into action</li> <li>• Make the most of limited resources</li> <li>• Get and manage the competences needed at any stage, including technical, legal, tax and digital competences</li> </ul>
Ability to identify social problems	Using imagination, knowledge and experience to identify social problems.	<ul style="list-style-type: none"> <li>• Identify and analyse social problems in various contexts</li> <li>• Use social wealth as a measure to analyse and discuss social problems</li> <li>• Understand the system in which social problems exist, including the efforts needed to initiate processes intended to reduce the social problems</li> </ul>
Cultural awareness	Identify and manage cultural differences.	<ul style="list-style-type: none"> <li>• Identify and analyse dimensions in another culture.</li> <li>• See positive and negative aspects of cultures and tolerate differences.</li> <li>• Manage differences by communicating effectively and see opportunities from having an 'outsider perspective'.</li> </ul>

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# Chapter 6

## Higher Education Practices for Social Innovation and Sustainable Development



Laura Dryjanska, Jana Kostalova, and Davorka Vidović

**Abstract** Social innovation and sustainable development should constitute learning objectives in higher education across disciplines, while encouraging collaboration among future professionals. The theoretical framework of the multidisciplinary theory of social representations applies the training model of scientist-practitioner-advocate to education aimed at social innovation. The contribution considers sustainable development in the light of the United Nations' Sustainable Development Goals (SDGs). This chapter discusses some higher education practices from two different countries and fields of study. In the Czech Republic, innovative ways of involving students in practical work experience consist of participation in existing community projects, creation of publicly presented content or involvement in real-life situations. These practices and examples of activities lead towards enhanced civic engagement and responsibility; and a sustainable approach of students. In Croatia, innovative interactive practices include rural pop-up hubs and action research projects. They have been applied in both public and private higher education institutions to boost students' engagement and critical thinking.

**Keywords** Scientist-practitioner-advocate · Social representations · Sustainable development goals · Multidisciplinary collaboration

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**The Key Points of the Chapter Are the Following**

- To explore how social innovation and sustainable development act as learning objectives in higher education.
- To understand the relevance of a multidisciplinary mindset for social innovation.
- To describe the role of social representations in fostering social innovation.
- To clarify the relationship between social innovation and advocacy.

**1 Introduction**

This chapter discusses social innovation and sustainable development as learning objectives in higher education, related to the skillset and experiences of learning by doing (Aji & Khan, 2019; Chang et al., 2014; Thompson, 2010). It is inspired by the most recent theoretical developments in order to propose a model of education that is replicable and based on best practices in different countries and from diverse disciplines. The most recent theoretical contributions recognize that sustainability is already dealt with on a theoretical and practical level and that the gradual incorporation of a responsible approach is occurring in many activities in society, including the delivery of education programs within universities (Rey-Garcia & Mato-Santiso, 2020). This chapter stresses the importance of transferable skills (such as advocacy, communication, and problem-solving) acquired by students in different higher education settings, including private and public universities situated in the Czech Republic and Croatia. Examples of practices from these two countries serve as an illustration of the theoretical framework that builds on the current state of the art, adding the approach of a multidisciplinary mindset. In other words, the emphasis on multiple disciplines with their different (and sometimes conflicting) learning outcomes, enables students to see the global problems in society, such as racism or climate change, in a holistic way. For example, a paleontologist may want to stop a residential construction project due to a high probability of finding some fossils. Obviously, an architect will not be glad about a delay in the project delivery, which would have financial consequences for the construction company. A social worker may worry about the lack of housing for the people that were supposed to live at this location. If each professional considers the problem exclusively through the lenses of their discipline, conflict appears inevitable. What is needed in this situation is a critical mindset in order to foment social innovation informed by a multidisciplinary approach. This example points out the importance of a neo-endogenous approach, where local development is based on a consensus between top-down and bottom-up, whereby local communities determine the implementation of ventures that aim to increase the standard of life (Shucksmith, 2010).

## 2 State of the Art

### 2.1 *Theoretical Approach*

**Social Innovation in Relation to Sustainable Development** Social innovation invites a positive way of thinking about problems that we encounter both in terms of nature and society. Social innovation recognizes the human capacity to ideate, plan and implement change meant to improve the wellbeing of the planet. It provides “new solutions to the needs of people, which have not been fulfilled by the existing market players or governmental bodies, which increase their life standards and welfare” (Paunescu, 2014, p. 106). Overall wellbeing improves as members of society work together towards specific goals, preferably driven by intrinsic motivation. The United Nations (2021) strive for sustainable development through the achievement of 17 distinct goals as outlined in the 2030 Agenda for Sustainable Development. This agenda provides a shared blueprint for people and the planet to flourish; social innovation can be seen as a pathway to reaching these goals. The linkages between the Sustainable Development Goals (SDGs) and the higher education landscape include an emphasis on quality education in the fourth goal, with specific targets to be reached by 2030. Sterling (2016) notes that education can make a critically important contribution to progress towards the SDGs, but this is by no means inevitable. The United Nations’ 17 SDGs have been used in research for the purpose of classifying the different social needs that require social innovation. For example, Eichler and Schwarz (2019) conclude that in the light of SDGs, social innovation can be seen as an event containing the following five aspects: social need, innovative element, implementation and execution, improvement, and relationships and collaborations. Furthermore, Millard (2018) notes that the UN acknowledges that social innovation approaches are needed as mainstream tools for delivering sustainable development, alongside large-scale public and private funding. In particular, bottom-up approaches towards social innovation play a crucial role in designing and delivering public goods and services in a gender sensitive manner to people from a lower socio-economic background, especially when based on local acceptance and advocacy campaigns. In other words, a neo-endogenous approach (Ray, 2006) appears as more appropriate for delivering sustainable results by promoting initiatives that are locally rooted, but oriented towards the wider environment.

**Scientist-Practitioner-Advocate as a Social Innovator** In the world of higher education, various models have been used to develop students’ ability to solve complex problems by applying acquired knowledge. Prominent examples include: contextual learning (Suryawati & Osman, 2017), game-based learning (Setyaningrum et al., 2018) and flipped classroom (Lin, 2019). The scientist-practitioner-advocate training model urges students to expand their roles as scientists and practitioners to incorporate social justice advocacy as part of a basic commitment to multicultural competence (Mallinckrodt et al., 2014). This tripartite model is based on interlocking strengths, in which rigorous research is a tool for advocacy,

and professional practice involves advocating for clients, ultimately empowering them to advocate for themselves. Hunt et al. (2020, p. 2) define this approach as a “considerable shift in understanding the etiology of distress,” recognizing how the scientist-practitioner-advocate model departs from a traditional psychological emphasis on an individual level and acknowledges the profound impact of socio-political factors. While originally developed in the field of psychology, the scientist-practitioner-advocate model lends itself well to a multidisciplinary application across different sectors that value evidence-based practice. (Turale & Kunaviktikul, 2019). Prominent examples include: counselling (Goodman et al., 2018), education (Weber et al., 2019), and public service settings (Gray et al., 2020).

What is advocacy in the context of education and sustainable development as well as social innovation? Certainly, numerous definitions exist, yet the following one by Garrison et al. (2017), p. 738) seems particularly appropriate in the context of social innovation and higher education: “Advocacy is the effort to influence public policy through education and engagement of lawmakers, as well as other concerned stakeholders, with interests in certain policy outcomes.” According to Shier and Handy (2015), social innovation in the light of advocacy refers to the adaptation or change as a result of emerging contextual factors within the external environment and internal demands. Social innovation has a broader sense and reach than advocacy; future graduates will need all their skills as scientists, practitioners, and advocates to promote it and engage in it. Yet it may be helpful to consider how specific knowledge and skills obtained during a specific academic program will interact with the key dimensions of social innovation, in order to provide efficient training for the contemporary workplace. Social innovation has been commonly defined as new solutions that meet a social need (de Wit et al., 2019), with the emphasis on the novelty of ideas and practices. As such, social innovation requires creativity, alongside critical thinking, problem-solving ability, and communication skills typically reinforced in advocacy training. This is in line with the expectation that higher education students would possess all these attributes on the successful completion of their studies.

During the Covid-19 pandemic, the adoption of a blended learning approach, a mixture of online and face-to-face learning, has become necessary in most higher education institutions. It has therefore become imperative to consider the scientist-practitioner-advocate model in the light of promoting social innovation through blended learning. Bowyer and Chambers (2017) noted that the improvement in course outcomes due to blended learning has been partially attributed to a more strategic use of classroom time and the focus on more engaging and meaningful activities. Another opportunity that online delivery offers is the fact that virtual learning environments can provide helpful data about student interaction with learning materials and offer metrics that can indicate student engagement (Homes, 2018). Blended learning is more suited to specific students, especially those who have a lot of commitments outside of their studies.

In research, social innovation among university undergraduate students has been operationalized as social innovation orientation, since students may not have yet

engaged directly in social innovation, but they are open and willing to engage. However, before considering social innovation in the light of advocacy, it may be helpful to establish a common ground by considering the meaning of the term. The theory of social representations (Moscovici, 1963) stands out as a multidisciplinary framework that enables researchers to contextualize an abstract term.

**Social Representations Theory** Almost sixty years ago, Moscovici (1963) proposed a social psychological theory of how the meaning of the novel phenomenon was unpacked by different groups. The theory specifically discusses diffusion as more than “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Valente & Rogers, 1995, p. 243). It acknowledges the process of transformation as ideas move in society. The higher education institution, as a specific institutionalized setting, seeks to promote a social innovation mindset. Moscovici has introduced the concept of social representation to emphasize the perception of an issue, which nevertheless includes its embodiment (O'Connor, 2017). The Dictionary of Psychology (APA, 2015) defines social representation as “a system, model, or code for unambiguously naming and organizing values, ideas, and conduct, which enables communication and social exchange among members of a particular group or community.” According to Wagner (2017), social representations are overarching notions in two senses: as conceptually located across minds instead of within minds, and, as they unite, mental processes as well as behaviours and the social objects emerging thereof. It has been applied to the study of therapeutic relationship (Gelo et al., 2016), concentrating on its content and structure while using the central nucleus approach. This specific approach to the theory of social representations, also known as structural or central core, has been proposed by Abric (1993). According to Pareles Quenza (2005), most of the assumptions of this approach are grounded in traditional conceptions of social cognition and mental representations, and thus can be easily operationalized when attempting to reflect the sociocultural conditions of creation and transformation of thought. The central core theory posits that regardless of content, social representations are composed of different interrelated elements. These elements differ in terms of status and function. Certain ones form a central system, generating a sense of representation; stable and consensual (shared), their associative and symbolic properties appear as unnegotiable. Other elements form a peripheral system that consists of two levels. Flexible and scalable, the periphery allows adaptation to reality, differentiation of content and protection of the central system (Zouhri & Rateau, 2015). The most instable part of a social representation, likely questioned and changing, is the contrast zone. When reflecting upon the structure of social representations, an interesting phenomenon is the mute zone, defined as a specific subset of cognitions available to a person, but not expressed in standard conditions due to social desirability, shame, stigma, or other factors. For example, when studying social representations of Gypsies in Europe, many participants were clearly aware of negative associations present in their culture but chose not to enlist them (Piermattéo et al., 2014).

Since in social innovation people are facing potential changes, the theory of social representations may be useful in understanding the educational process that takes place when instructors attempt to achieve social innovation as a learning outcome. In particular, the central core theory explains how people in society process change by allowing the new knowledge, skills and competencies to enter their peripheral system. Students should be able to embrace change, seeing it as an opportunity and not as a threat. This, of course, will be related to their personalities and previous experiences in life. The more scenarios that an instructor can provide for the students to navigate change in a safe climate, the better equipped they should become to one day propose the change themselves and advocate for it. By experiencing these new scenarios, understanding the context, and adapting to changing circumstances, students engage in experiential learning that emphasizes social innovation in a “boundary-less classroom” (Kickul et al., 2010).

Why do social representations matter for understanding social innovation in higher education? First, social representations focus on the dynamic perception of abstract concepts such as learning. In order to be active proponents of change, both students and educators need to view it as beneficial. A study of students’ perception about their active and cooperative learning showed that they valued it and felt more engaged (Cavanagh, 2011). Social representations theory is also helpful in assisting students in how their understanding of the world impacts the writing process, a necessary step in academic pursuits. Social innovation tasks should include well-written assignments that consider purpose, audience, and genre, thereby helping students to accomplish learning outcomes more effectively (Bean, 2011). When considering social representations in higher education, one should reflect upon what teaching means to educators. They may be hesitant to implement social innovation due to the fundamental paradox in research and teaching in higher education—for the most part, throughout the history, teaching-learning arrangements have been taken for granted by majority of academics and students (Bonwell & Eison, 1991).

## ***2.2 Sustainable Development Goals and Social Innovation***

The main theoretical contribution of this chapter lies in applying the theory of social representations to higher education for social change and sustainability, in line with the scientist-practitioner-advocate model of education. It stems from the Sustainable Development Goals (SDGs) and the implementation of transformations needed to achieve them (Sachs et al., 2019). In particular, higher education can be crucial in encouraging individuals to change norms and behaviours through social activism.

In 2015, the United Nations proposed 17 SDGs included in the 2030 Agenda for Sustainable Development. These goals contain 169 targets and 232 indicators, such as the reduction of poverty, gender equality, decent work within sustainable economic growth, and climate action (Lambert et al., 2020). Quality education (SDG3) is a goal, but also a precursor to and an outcome of the other goals. Higher education, depending on the discipline, can be related to all SDGs, engaging students in course

work that promotes projects in line with the goal descriptors. For example, a graduate student in a marine biology program works towards preserving, protecting, and sustainably using aquatic and marine ecosystems by ideating and implementing a project to restore a particular ecosystem during boat-based fieldwork. On the other hand, an undergraduate student who majors in law, may choose to write a literature review paper on the implementation of the international sea law, inspired by the same SDG, namely Life Below Water.

What is the relationship between the SDGs and social innovation, in the light of higher education? According to Ravazzoli and Valero (2020, p. 3), social innovation “can contribute significantly to making cities and communities more sustainable, inclusive, resilient and safer and plays a strategic role in achieving the SDGs.” Social innovation initiatives enable citizens, including educators and students, to identify and challenge some current unsustainable models of living, while proposing new sustainable solutions in line with specific SDGs. The vision for a brighter future of people and the planet, laid out in the SDGs for 2030, considers social innovation as an essential component (Ravazzoli & Valero, 2020), since sustainable development initiatives implement principles and practices of social innovations. Education is essential to achieve SDGs; in fact, higher education institutions across Europe have been making systemic changes to foster sustainability through a reorientation in education, research, operations, and community outreach activities (Aleixo et al., 2020). For example, the University of Bologna in Italy has adopted an approach consisting of a full and rooted embracement of the SDGs under a solid political will of the university governance (Paletta et al., 2020). Therefore, striving to achieve SDGs through social innovation in higher education is certainly in line with the Third Mission of universities—their role in knowledge society, including cooperation and social engagement projects, students and teachers on lifelong learning programs (SDG 4), spin off and start-ups born by academic entrepreneurship (SDG 8), and events with public engagement (SDG 11). The Third Mission of universities originated from the concept that all universities are a specific mix of these three functions: mass tertiary education, professional specialized higher education and research and academic training and research (Laredo, 2007).

The discourse on sustainable development and social innovation has largely inspired the discussion on the new education paradigm, that combine traditional knowledge and skills such as problem solving, critical thinking, collaboration, but also creativity, innovation, and ethics (Mota & Oliveira, 2014). The move towards education for sustainable development sets several principles, such as: learning rather than teaching; lifelong and continuous rather than confined to a specified period, multi-sourced and accessed rather than top down, controlled, and orchestrated; empowering rather than socializing (indoctrinating); global and yet locale specific; capacity building to build abilities for critical thinking and problem solving; multi-disciplinary approach as opposed to a single new discipline; sensitive to gender and diversity; participatory and based on learning with peers (Gorana & Kanaujia, 2016, pp. 26–27).



### 3 Practices for Social Innovation and Sustainable Development

The following sections provide examples of educational practices promoting social innovation and sustainable development from two countries—the Czech Republic and Croatia. These best practice examples were collected at the beginning of 2021. The methodological approach is inductive, exploratory, and descriptive and based on heuristics. In this sense, it is not based on a rigorous methodological framework, but uses inductive observation by which the authors identify existing practices in their professional environments. The purpose of such an approach is to illustrate theoretical assumptions with practical examples in different disciplines and in different types of higher education institutions (including both public and private) As it is based on convenience and a heuristic approach, it does not intend to draw generalized conclusions, therefore, the reader is being provided with indicative findings, but to point out the link between theory and practice and to open a discussion for future research based on more rigorous scientific methods.

#### 3.1 *Examples of Best Practices in the Czech Republic*

The Higher Education Act in the Czech Republic defines a higher education institution as the highest rank in the educational system and attributes it a key role in scientific, cultural, social, technical, and economic development of society. The Act also includes the so-called “third role” of universities, which comprises the active role of universities in public discussion about social and ethical issues, while nurturing a culture of diversity and mutual understanding and while shaping civic society and preparation of young people for life in it. The Act presents universities as institutions which contribute with their research towards development on a national and regional level, and which collaborate with various levels of state administration, regional government, with the commercial and cultural scene and with other relevant partners (The Higher Education Act of the Czech Republic, 1998). This key role defined by law, then in practice, exhibits itself in many versions and forms of fulfilling it, also intertwining with the basic role of universities—education. The Ministry of Education, Youth and Sports of the Czech Republic presents universities in its long-term plan as an irreplaceable part of modern society, which provide a significant contribution towards cultural and economic growth and accept their share of responsibility for sustainable development (Ministry of Education, Youth and Sports of the Czech Republic, 2020). Universities therefore have a great affinity for pursuing a sustainable approach to the fulfilment of its role, both on a general level and in particular, within the framework of the educational process.<sup>1</sup> Several

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<sup>1</sup>This is ensured, among other things, via unconventional approaches to education (more action-oriented, emphasizing learning by doing education; education focuses less on teaching individuals

universities in the Czech Republic are members of the Association of Social Responsibility or otherwise declare their attitude in the field of social responsibility.

Universities in the Czech Republic are active in the field of development, coming up with social innovations, as can be seen using examples from several universities in the Czech Republic as specified below.

**Linking of Theoretical and Practical Education in a Creative Manner** De Almeida et al. (2020) mentioned the importance of practical ways in higher education. It is possible to find many examples in practice, too. Tomas Bata University in Zlín links the subject of Project Management with practical experience in an original manner. Education of project management takes place in the form of a two-semester subject. Students are familiarised during education with the theory of project management in a block of lectures at the start of the semester. They subsequently apply the theoretical knowledge they have acquired in practice. Students become an actual project team, the aim of which is to ensure organization of an international conference focused on project management. This conference takes place on university premises every year. Students based on experiences with organization of the conference of students in higher years, prepare a project plan, and subsequently, over the course of two semesters, implement the necessary steps. At the end of the semester, they are responsible for the conference itself. Students rate this experience in a very positive light, highly praising the opportunity to verify their theoretical knowledge in practice and gain experience from the real environment of an actual project. This activity is also praised by experts and participants at the conference, who appreciate the opportunity to gain practical experience in project management while still studying at university, something which certainly increases the students' standing within the jobs market after the completion of their studies.

A similar approach allowing students to gain real practical experience is offered at Charles University. Other than theoretical preparation, journalism students get involved in preparation of output, which is published during their studies. Students prepare the bi-monthly newspaper "Fleš", where they take turns to try out the role of an editor, a proof-reader, and an author of various types of journalistic texts, thus gaining an accurate idea about the various work duties associated with the production of a newspaper or magazine. Similarly, during their studies students participate in the creation of a publicly available on-line news service called CAROLINA, where they work in the editorial office of an on-line news platform. Radio and video reports or the photographic works of students are also presented publicly. Involvement of students in the creation of newspaper "Fleš" and on-line news blog CAROLINA, presented publicly, increases their accountability for the quality of the output, with students not only completing course work, but also being able to

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in a classroom setting and more on learning-by-doing activities in a group setting and a network context), but also in the other activities performed by universities in partnership with other entities specified in the Triple or Quadruple Helix Models) (Rasmussen & Sørheim, 2006; Etkowitz, 2001).

compare their output with professional output created by journalists or editors. It gives them a greater insight into the actual world of work.

Another example of using this approach is provided by the University of Pardubice, which prepares a regular project day for students pursuing HR Management and as support for career consultancy. Within this framework, students try out participation in a selection procedure to fill a specific position at work using the Assessment Centre tool under the patronage of actual HR managers from the world of work. Partner enterprises prepare individual or team tasks to perform in the Assessment Centre, similar in nature to those used in real selection procedures. Under the supervision of HR managers, students perform the required tasks and gain feedback at the end of the process. This gives them an insight into the work of HR specialists, while also helping them on a personal career level, as the feedback relates to evaluation of their involvement during the project day from the point of view of HR specialists. Participating students have been asked about their evaluation of this activity. Students highly rate this opportunity to gain real contact with experts from the world of work and the possibility of trying out the role of a job applicant during a selection procedure. They recognize the greatest benefits as the provision of feedback, recommendations by HR specialists on how to behave in a similar situation, and the positive and negative impressions of the HR specialists regarding their involvement in the project. The HR specialists have been asked about the benefits from their point of view as well. HR specialists from the world of work also praise this activity. They gain an idea about the abilities of current students and in many cases, students leave the project day on the topic of the Assessment Centre with a real offer of work once they have completed their studies or even during their studies.

The linking of theoretical and practical education is influenced by the field of study, with certain fields more amenable than others. Nevertheless, an innovative approach allowing students a real insight into practical work based on this principle can be introduced into the curriculum regardless of the field of study. It also supports the fulfilment of SDGs. The ever-expanding partnerships between universities and the entities around them (enterprises, public institutions and the non-profit sector, etc.), according to the specialization of the universities and their faculties, could be of great benefit in this field. It is an expanding trend that is increasing in importance both globally and in the Czech Republic (Tetrejova & Vlckova, 2018; Tetrejova & Vlckova, 2020).

### **Education Leading towards Civic Responsibility, Engagement, and a Sustainable Approach**

Weber et al. (2021) presented a complex system approach of the involvement of sustainability in education processes within higher education. The Czech University of Life Sciences in Prague includes in its strategy a responsible approach and attempts to apply this approach within the framework of education of students. Since 2018, the university has been organizing a competition for students for submission of project proposals, which contributes towards the improvement of the sustainability of the campus or responsible behaviour by the students and employees of the university. Students who author the best proposals

receive financial support for implementation of their projects with long-term impact and help during their preparation and implementation. A condition for selection of a project is that it has a long-term impact on the operation of the university. One project that was successful in the competition and subsequently implemented was the introduction of reusable plastic cups for drinks on the university campus. Another supported project was the creation of a reuse centre called FREESHOP, whereby students could donate functional items or clothing to fellow students. Specific areas were planted on campus with edible fruits and berries for students to freely pick; a flower meadow was planted in another area, thereby increasing biodiversity. Organic waste composters were installed next to the halls of residence, where students could dispose of their biological waste they produced during preparing of their meals. Other supported projects were focused on installing solar benches and a solar shelter where students could charge their phones and notebooks, and replacing lighting on the university campus with lower energy types. Apart from the competition, the Czech University of Life Sciences in Prague holds an annual conference on the topic of Social Responsibility of Universities, to which students also have access, allowing them to gain up-to-date information from this field or draw inspiration for other proposals of new sustainable projects.

Within the framework of the subject of Management of Innovations and Investments for Sustainable Development, the University of Pardubice, Faculty of Chemical Technology introduced a new activity leading towards the strengthening of civic responsibility and engagement in the field of sustainable development. In the theoretical part of the subject, students become familiar with a sustainable approach while proposing innovations; implementation/delivery strategies, and financing in enterprises within the chemical industry sector. Their task is also to come up with and propose a way they could contribute towards sustainability on a personal level, under the understanding that their proposal will be a commitment that they should subscribe to and comply with. Student commitments are focused on the sorting of waste or limiting creation of waste, the use of more environmentally friendly products, items from reuse centers, the limitation of use of disposable items, the reduction in energy consumption by choosing to travel by bike, the limitation of use of cars for transport or use of appliances, and lighting with lower energy demands. Commitments also relate to environmental protection, such as cleaning litter from the area where students live. The commitments frequently include an effort to influence the students' families, people around them, and to convince them of the need to make similar changes in their lives. Students praise the possibility of participating specifically in a sustainable approach and to relate the subject they are studying to themselves in the scope in which they can commit and to be true to this commitment. They approach this activity with great initiative and come up with very creative proposals for commitments.

### 3.2 *Examples of Best Practices in the Croatia*

The education system in Croatia is going through a process of transformation, but despite some attempts, it has not been fully reformed to align itself with the new education paradigm for social innovation and sustainable development. However, in terms of the development of interactive and practical learning, one may witness a slow but relevant change. This mainly relates to the introduction of *service learning*, a teaching methodology that enables students to apply academic knowledge through teamwork by developing a project that solves a specific social problem (Modić Stanke & Putarek, 2016: 1106). Originating in the U.S.A. in 1970s, the service-learning model is focused on learning through experience or engagement in local communities (Ćulum & Ledić, 2010). Therefore, it is largely involved with the promotion of social justice and civic responsibility (Meyers, 2009, according to Modić Stanke & Putarek, 2016: 1107). Since 2006/2007, the first experimental model of service learning was introduced in a graduate course offered by the Department of Information and Communication Sciences at the Faculty of Humanities and Social Sciences University of Zagreb. Even though the model of service learning is not formalized in the education system, the term itself became well rooted. During the last decade and a half, several university courses across different disciplines introduced service learning, mostly by transforming their courses. There is no official data, but according to existing sources, there were 13 service-learning courses across Croatian universities (except the University of Zagreb) in 2013/2014 (McIlrath et al., 2016) and 27 service-learning courses in 2018, when they became recipients of the European Social Fund grants program.<sup>2</sup> Thus, the service-learning model is still in a nascent stage in Croatia.

In Croatia, specific academic courses that teach social innovation and sustainable development are not broadly developed. However, there are some examples, including courses in both public and private universities and colleges that have integrated various models of practical learning in these fields. The first case is related to the course “Social Entrepreneurship and Social Innovation” that is a part of a study program Entrepreneurship Economics at the Vern’ University in Zagreb, a private business university. The second one is related to the course “Sustainable Development and Social Innovation” at the Faculty of Political Science University of Zagreb, a public university.

Established in 2012/2013, the course “Social Entrepreneurship and Social Innovation” at Vern’ University has been recognized as the first course in these topics at a higher education institution in Croatia. From the beginning, the course was organized in a way that valued applied knowledge and the involvement of students in work based learning, entrepreneurial projects, and practical initiatives. The course has developed and used several innovative models and tools for active practical

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<sup>2</sup>The Office for Cooperation with NGOs allocated around 3.2 mil. Euro within ESF grant programme “Support to development of partnership between NGOs and higher education institutions for implementation of service learning courses”.

learning. For example, it uses the method of the “Guest’s Challenge”, where an invited guest, as a part of his/her lecture, presents a real challenging case or problem he/she is facing; the students are then invited to address it. The other example is students’ participation in the “Social Impact Award”, a regular competition and incubation program for students as social innovators (Social Impact Award, 2021). These models are all interesting and useful, but the one presented in detail will illustrate the high potential of innovative practical learning.

**Rural Pop-up Hubs** This model of service learning was introduced in 2018 as part of a project called “Social innovative pop-up rural hubs”. In its pilot form, the model included the collaborative work of students and local stakeholders within two rural communities—one community, Štrigova, in Međimurje County in the northern part of Croatia, and the other one on the island of Vis, in the Split-Dalmatia County. The aim of the project was to establish a pop-up collaboration (hub), thereby involving different stakeholders such as higher education institutions, civil society organizations, students, and local citizens in the process of creating a solution for a specific problem posed by local social enterprises. The model enables students to care for and learn about sustainable rural development.

In an interactive, inclusive, and participative way, students had a chance not only to apply theoretical knowledge to addressing an actual need/challenge, but also to collaborate with “real” actors coming from different sectors and backgrounds.

The intention of this model is to raise students’ awareness of the importance of activating local resources in addressing local needs and finding solutions for socio-economic development (Ćorić & Ciglar, 2020, p. 6). The model of a hub was recognized as suitable for bringing together different local stakeholders, people and organizations with different backgrounds, values, and perspectives. Minority groups, such as the Roma people, people with disabilities, or sexual and ethnical minorities are often included. Pop-up means that these gatherings are temporary, ad-hoc, impermanent in terms of structure and duration, and with a purpose clearly defined and understood by all actors. The temporality makes them easy to organize and to adopt to specific local actors’ needs. The project starts with selecting a local community based on students’ suggestions and their origins. Then, students and lecturers / professors gather information about the community and identify key actors. Specifically, they identify local social enterprises or social innovators, who will then be chosen for case studies. By communicating about the project, students and lecturers/professors try to induce interest among community members. The actual pop-up hub is organized on the spot and lasts approximately two days, during which a series of workshops takes place. Those workshops gather all stakeholders with the purpose of finding or creating an innovative solution to improve the business of selected cases (social enterprises or social innovators) towards sustainable development goals.

The course “Sustainable Development and Social Innovation” was established in 2020/2021 at the Faculty of Political Science as an elective course for students of political science and journalism. The main purpose of the course was to teach students the principles of sustainable development in both a critical and pragmatic

way and to encourage them to be actively engaged in addressing social and ecological problems. Aside from guest lecturers coming from social enterprises, civil society organizations or innovative hubs, interactive debates, world cafes, and teamwork projects, the method of action research provides an innovative approach to applying knowledge to real settings and needs.

**Action Research** the “Sustainable Development and Social Innovation” program has prioritized practical activities around the method of action research. This approach has been recognized as successful in fostering learning and change towards sustainable development (Cebrián et al., 2015: 708). The main feature of this approach is that it is highly participative, collaborative, and is oriented towards change. It is based on a presumption that the community itself “knows best” and researchers (only) facilitate the process of recognizing existing local resources and needs, as well as the creation of a solution (Škrabalo et al., 2006).

In the first step, by working in pairs or teams, students need to identify a social or ecological problem in their local environment. The problem should be related to one or more sustainable development goals. For example, it may be around housing, health, discrimination, waste, vulnerable social groups, water, food, energy, education, etc. In the next step, students need to identify and connect to local stakeholders, such as civil society organizations, social enterprises, cooperatives, informal citizens’ groups, or other social actors. By applying procedures from the action research method, they need to identify the existing needs, identify how different stakeholders understand the problem, what existing local resources exist, and the potential advantages or obstacles of possible models and solutions. According to the findings of initial research, students then facilitate the co-creation of sustainable solution (social innovation) together with other local stakeholders. In the final step, students need to reflect on how change was accepted and can be embedded in the social tissue of the local community, as well as to reflect on the entire process as a learning experience.

In its nature, the action research approach is highly participative and inclusive; students do not deal with an imagined problem to create a top-down solution for, but the opposite—they participate in gaining information and data from the field and co-creating solutions from the bottom-up with other stakeholders. The change created in this process is not only happening in local communities, but also within the students themselves. Thus, they do not only learn about the process of sustainable development but become the agents of change themselves.

## 4 Discussion and Conclusions

Aforementioned examples of higher education practices for social innovation and sustainable development show how education leading towards civic engagement, responsibility, and pointing towards a sustainable approach can be incorporated in fields of study regardless of their specialization. In most fields of study, the issue of

sustainability is already dealt with on a theoretical and practical level. The gradual incorporation of sustainable processes and patterns is occurring in the majority of societal activities and subsequently has become embedded within the curricula and research priorities within universities (Rey-Garcia & Mato-Santiso, 2020).

Innovative education practices for social innovations and sustainable development presented in this paper are closely related to the general policy framework given in UN's Sustainable development goals (SDGs). Except for the goal 17, which is more related to global partnership at the state level, most of SDGs have been addressed through these practices. All education practices are directly linked to the SDG4, focused on the quality and inclusiveness of education. Some models of education practices, such as pop-up hubs and action research may correspond to all SDGs from 1 to 16, depending on the field of activities/industry of social enterprises they work with, or depending which field of social and ecological problems/needs they identify for action. Furthermore, in action research model, students are encouraged to choose any of SDGs as a framework for their action. The Table 6.1 presents the overview of the SDGs addressed by each innovative education practice.

An important trend and effort of higher education institutions to integrate civic engagement, responsibility, pointing towards a sustainable approach in their education policy, cooperating with other similar universities, and being a member of platforms focused on such activities is expanding. For example, abovementioned Czech universities have been ranked in UI Green Metric World Universities as universities aimed towards green policies and sustainability (Czech Universities, 2020).

Presented examples of higher education practices fit to a new education paradigm (Mota & Oliveira, 2014; Gorana & Kanaujia, 2016). There are several principles that given practices incorporate, thus providing valid illustrations of education for social innovation and sustainable development, particularly in: participative approach; learning rather than teaching, inclusivity and sensitivity towards gender diversity and other diversities, multi-sourced and accessed orientation to problem solving, creativity that combines theory with practical experience, collaboration, partnership, and learning with peers, neo-endogenous approaches, local-specific, but addressing global issues, multi-disciplinary, critical thinking, ethical, and empowering.

Based on such principles, it is possible to modify education in any study programs or subjects to fit the new education paradigm. Education leading towards civic engagement, responsibility, and pointing towards a sustainable approach could use the mentioned principles to bring social innovation, creativity, and accessibility in any type of specialization.

Multidisciplinary perspectives on education for social innovation and sustainable development represent distinct social contexts and approaches to education, including diverse models and curricula. However, while acknowledging the differences, it is noteworthy to observe some common elements of educational experiences proposed in the Czech Republic and Croatia. The case studies include: linking the theoretical and practical in a creative manner, civic responsibility, engagement, a sustainable approach, rural pop-ups, and action research. Engagement in advocacy,



**Table 6.1** Innovative education practices and SDGs

<b>Innovative education practices</b>	<b>SDGs</b>
Linking of theoretical and practical education in a creative manner	Quality Education (SDG4) Decent Work and Economic Growth (SDG8) Industry, Innovation and Infrastructure (SDG9)
Education leading towards civic responsibility, engagement, and a sustainable approach.	Quality Education (SDG4) Affordable and Clean Energy (SDG7) Decent Work and Economic Growth (SDG8) Industry, Innovation and Infrastructure (SDG9) Sustainable Cities and Communities (SDG11) Responsible Consumption and Production (SDG12)
Rural pop-up hubs	No Poverty (SDG1) Zero Hunger (SDG2) Good Health and Well-being (SDG3) Quality Education (SDG4) Gender Equality (SDG5) Clean Water and Sanitation (SDG6) Affordable and Clean Energy (SDG7) Decent Work and Economic Growth (SDG8) Industry, Innovation and Infrastructure (SDG9) Reduced Inequality (SDG10) Sustainable Cities and Communities (SDG11) Responsible Consumption and Production (SDG12) Climate Action (SDG13) Life Below Water (SDG14) Life on Land (SDG15) Peace and Justice Strong Institutions (SDG16)
Action research	No Poverty (SDG1) Zero Hunger (SDG2) Good Health and Well-being (SDG3) Quality Education (SDG4) Gender Equality (SDG5) Clean Water and Sanitation (SDG6) Affordable and Clean Energy (SDG7)

(continued)

**Table 6.1** (continued)

Innovative education practices	SDGs
	Decent Work and Economic Growth (SDG8) Industry, Innovation and Infrastructure (SDG9) Reduced Inequality (SDG10) Sustainable Cities and Communities (SDG11) Responsible Consumption and Production (SDG12) Climate Action (SDG13) Life Below Water (SDG14) Life on Land (SDG15) Peace and Justice Strong Institutions (SDG16)

Source: Authors

learning by doing, problem solving, critical thinking, and the neo-endogenous approach (Ray, 2006) constitute a common denominator of the proposed vision of higher education aimed at social innovation. On a theoretical level, the construct of social representations informs the emphasis on the context and community, inspiring students to understand the way of thinking that characterizes all actors involved and not only the key stakeholders. In particular, a reflection on social representations of active learning and teaching sheds light on the paradox of change in higher education, a potential barrier to implementing social innovation. The theory of social representations (Moscovici, 1963) integrated with the scientist-practitioner-advocate training model (Mallinckrodt et al., 2014) may be a helpful tool to consider when emphasizing social innovation in higher education. This theory offers an understanding of the structure of how individuals organize knowledge (Abric, 1993), including the central system and a peripheral system. The latter allows for adaptation of an innovative idea to reality, while differentiating the content and protecting the central system (Zouhri & Rateau, 2015). Scientists-practitioners-advocates trained according to the model featured in this chapter can implement positive, innovative changes by analyzing and understanding how people think. Higher education should be aimed at teaching the students to communicate in an effective way, respecting different patterns of thinking of stakeholders involved. Thus, advocacy should be informed by science and practice.

The reflections emanating from this chapter indicate the importance of the local embeddedness of education for sustainable development and social innovation; in all cases, various models of collaboration and partnership between higher education institutions and local civil society organizations, entrepreneurs, innovators, and other stakeholders were established as polygons for teaching/learning. Thus, one of the main roles of academia--to be socially engaged within (local) communities and civil sector--is becoming more meaningful. The higher education sector has embraced a wider service to the community globally. In 1999, when the World Science

Conference adopted the Budapest Declaration, social innovation theory confronted the decreasing hegemonic idea of progress (Oki, 2019). While paying attention to local communities, the education model for social innovation and sustainable development also follows the global aspirations related to the SDGs.

The varieties of practical learning examples presented here may raise some new research interests, for example in what (sustainable) ways and with what (social) impact students apply gained knowledge and skill in their future work and life. Hopefully, that may stimulate a further research in these topics.

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## Chapter 7

# The Role of Higher Education Institutions in Development of Social Entrepreneurship: The Case of Tallinn University Social Entrepreneurship Study Program, Estonia



**Katri-Liis Lepik and Audronė Urmanavičienė**

**Abstract** The purpose of this chapter is to introduce a higher education social enterprise program and explore how it is shaping the field of social entrepreneurship. Social enterprise related university programs are an emerging trend. Entrepreneurial university theory and ecosystem framework are used to illustrate how the university social enterprise program, in turn, develops the field of social entrepreneurship. An example of an existing social enterprise program is discussed to highlight how it can be designed. Cases of social enterprises emerged as the result of the program are used to outline the different impacts that such support to social entrepreneurship might have. The research chapter reveals the multi-dimensional nature of the social enterprise program and its impact on students establishing their own social enterprises. It suggests that the incubation and other support activities should expand beyond the university program including a variety of network partners. The chapter provides empirical evidence of social enterprise development in a higher education institution and contributes to the global body of knowledge about fostering social enterprise development. As the provision of social entrepreneurship education is new in Estonia and the discussions on social enterprises are premature, the number of social entrepreneurship development partners is limited and hence the empirical data is currently scarce. The journey towards an entrepreneurial university is limited due to the lack of legal support and suitable infrastructure which would enhance project-based learning, support ‘spin-offs’ and patenting and rather engenders a more traditional academic learning environment.

**Keywords** Social enterprise · Social entrepreneurship · Higher education institutions · Social enterprise program

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### **The Key Points of the Chapter Are the Following**

- To explain the concept of an entrepreneurial university and the social entrepreneurship ecosystem.
- To gain an understanding of social entrepreneurship and its ecosystem in practice based on a country's example.
- To understand how higher education institutions can design a social entrepreneurship master's program.
- To clarify how students are involved in practical project-based learning in the social entrepreneurship program.
- To identify practical learning for higher education institutions from the social entrepreneurship program and how they can be best implemented.

## **1 Introduction**

Social entrepreneurship can contribute simultaneously to economic growth and to social and environmental sustainability (OECD, 2020). Higher education institutions (HEIs) are very relevant for the economics of their local environment and have a significant economic and social impact on their communities. The importance of HEIs to take over more societal functions besides their tasks as an academic institution (teaching and research) has increased over recent decades (Domanski et al., 2019). HEIs train employees for the public and private and third sectors and play a major role in tackling social and economic challenges. However, many universities continue to ignore social, economic, environmental and practical challenges in different regions and fail to take an active role in driving social change in the communities. Despite many projects and research, there is still an urgent need to create a better understanding of new processes, skills and tools that are required to exploit the knowledge coming out of universities more effectively and to drive the social entrepreneurship agenda. For social entrepreneurship to flourish, new methods and practices need to be adapted and created in HEIs.

In Estonia, entrepreneurship education is an essential component of the country's vision of an innovative society. It is also part of a broader objective to raise employment levels and create a more inclusive labour market, more particularly to include young people not in employment, education or training. In 2018 Tallinn University (TLU) launched its Social Entrepreneurship Master's Degree programme, which provides participating students with the opportunity to develop their own ideas and projects. The Social Entrepreneurship Master's Degree programme is very new and innovative therefore there is a shortage of data on how this program impacts on the development of the Estonian social entrepreneurship field. The University's role in social entrepreneurship development has been analysed by Păunescu et al. (2013), British Council (2016), Cinar (2019). The social entrepreneurship ecosystem in Estonia has been explored by Reimann (2019), OECD (2020). However, social entrepreneurship education in HEIs is a new phenomenon in Estonia, which is why there is a significant lack of research in this field. This chapter explores the University's and social entrepreneurship study program's roles in the development of the social entrepreneurship field in Estonia. Using a

single case study design that relies on semi-structured interviews with SE ecosystem participants and a survey of the Tallinn University Social Entrepreneurship MA study program (SEMA) students.

The rest of the chapter is organised as follows. The next paragraphs will analyse literature review on entrepreneurial universities and the social entrepreneurship field in Estonia. The second paragraph will describe methodology adopted by the researchers and design of the Social Entrepreneurship Master program. The third section will reveal the main results of the study. Additionally, the fourth paragraph will present discussion. Finally, the last section will conclude the chapter.

## **2 HEIs' Role in the Social Entrepreneurship Field Development**

### ***2.1 The Role of HEIs in Social Entrepreneurship Processes***

There is a lack of consensus on the definition of an entrepreneurial university (Pugh et al., 2018). According to Urbano and Guerrero (2013), an entrepreneurial university needs to become an entrepreneurial organization, its members need to become entrepreneurs, and its interaction with the environment needs to follow an entrepreneurial pattern. Kirby et al. (2011) state that entrepreneurial university is a natural incubator that, by adopting a coordinated strategy across critical activities (e.g., teaching, research and entrepreneurship), tries to provide an adequate atmosphere in which the university community (e.g., academics, students and staff) can explore, evaluate and exploit ideas that could be transformed into social and economic entrepreneurial initiatives. Audretsch et al. (2012) stress that the role of universities should be more than generating technology transfer (patents, spin-offs and start-ups), and rather, contribute and provide leadership for creating entrepreneurial thinking, actions, institutions and entrepreneurial capital. However, many scholars (Trippel et al., 2015; Pugh et al., 2018; Budyldina, 2018; Thomas & Pugh, 2020) highlight that the entrepreneurial university is first and foremost a regional actor. According to Sánchez-Barrioluengo and Benneworth (2019), it is increasingly common to claim that driving regional development represents a new 'third' mission for universities alongside the first (teaching) and second (research) missions.

Policymakers all over the world see universities as central actors in regional innovation and development. Universities can play direct and indirect roles in regional development. Pugh et al. (2018) states that universities can play a direct role in developing a regional strategy and working directly with government and policymakers. They are solving regional social and economic problems, promoting innovations through projects, research or work as a knowledge spill-over channel through dissemination of new knowledge and information. Olo et al. (2020) note that their active role in regional development can be in commercializing their knowledge through spin-offs, patents and licensing. Regions in this way profit through job creation, spin offs, knowledge spill-overs, attraction of new talents, and research that

may be translated into products and services. Thus, HEIs can impact economic well-being and foster innovations in the region.

Other scholars (Budyldina, 2018; Sánchez-Barrioluengo & Benneworth, 2019) emphasize HEIs' indirect role in the regions by promoting entrepreneurial culture (organizing forums, conferences and workshops, and entrepreneurship courses), taking advisory roles, offering consultancy and industry training, and being willing to collaborate with regional industry and policymakers, are required to capture the entrepreneurial potential of a university. In their research, Thomas and Pugh (2020) noted that the entrepreneurial university concept should go beyond its purely economic roles as a key deliverer of support and services to local populations. The entrepreneurial university concept should incorporate socially oriented ideas such as social innovation and social entrepreneurship thinking: "universities need to be a positive force for social good in their regions" (Thomas & Pugh, 2020).

However, it is still important to emphasize that among scientists, entrepreneurs, and politicians there are very different understandings about what social entrepreneurship means and addresses (Cagarman et al., 2020). According to Volkman et al. (2018), social entrepreneurship is still looking for its identity; its conceptual limits have not yet been reached and there is no common concept. In order to understand this phenomenon, it is appropriate to single out the features that characterize social entrepreneurship. Based on the scientific literature (Volkman et al., 2012; Defourny & Nyssens, 2012), the following main features of social entrepreneurship can be mentioned: social value creation/social mission; market orientation; innovation creation. Social mission is a highly valued aspect of social entrepreneurship, which is undoubtedly considered a prerequisite for social entrepreneurship. Social entrepreneurship is primarily about social value creation, building social well-being, solving social problems and addressing social needs. Market orientation is another integral aspect of social entrepreneurship. The market orientation of social entrepreneurship is often associated with companies' commercial activities, financial sustainability and autonomy. Social innovation is also an important aspect of social entrepreneurship. Social entrepreneurs are seen as innovators, driving important social change. Innovation can be implemented through innovative or improved products and services creation or through the formation of new thinking, new or improved social problems solutions. Thus, social entrepreneurship can be understood as one such potential mechanism where actors create new forms of social organizations, structures and institutions that help solve social and environmental challenges (Cinar, 2019).

There are discussions about what HEIs' role in social entrepreneurship processes should be. Different authors emphasize various aspects of HEIs engagement in social entrepreneurship development. García-González and Ramírez-Montoya (2021) point out that HEIs have increasingly been engaged in promoting education for social entrepreneurship. In recent years, several trends and pedagogical practices for social entrepreneurs' training have emerged. Many HEIs take importance to the development of interdisciplinary profiles in social entrepreneurship students, providing them with opportunities to develop innovative social entrepreneurship competencies. Educational experiences directed to social entrepreneurship are based on

active learning practices. Students face real-world challenges, linking theoretical reflection to a transaction experienced in the environment. Roslan et al. (2019) emphasizes that HEIs can also assist by acquiring the resources needed to create the environment that can strengthen the relationships between students and social entrepreneurs. The learning process is important so that the students can practice their experience, knowledge and skills even after their post-graduation. The role of the institution is needed in preparing the future social entrepreneur with high motivational support.

According to Benneworth and Cunha (2015), the university contributes to social entrepreneurship processes in these ways: providing knowledge which helps progression between the stages in helping move the process forward, either as piece of existing knowledge or something co-created with the affected community; making its resources available, whether providing direct financial support or providing access to university infrastructure and assets in the innovation process; supporting the social entrepreneurship, either through advising social entrepreneurs how to access external knowledge resources, or persuading others to support social entrepreneurship. Kim and Fuessel (2020) point out that HEIs need not just to support the progress of social entrepreneurship, but also to embed changemaking into their culture, operations, and educational offerings. They need to be increasingly prepared to deploy their tremendous human capital—as well as knowledge and research assets—in trans-disciplinary, collaborative, and innovative ways to address the many challenges ahead. They need to co-create world-changing knowledge and impact within their community. They have to be able to respond quickly to community and region needs. Thomas and Pugh (2020) note that HEIs are facing pressures to generate solutions to economic and social problems in order to increase their impact on the regional communities. The university contribution to social entrepreneurship can be characterized as one of the many third mission activities through which universities can reach out to civil society (Cinar, 2019) by knowledge creation and exchange within community, partnerships with civil society etc. (Păunescu et al., 2013). Thus, entrepreneurial universities should be viewed as a rebuttal against each point in a broader perspective and taking into account their contribution to social entrepreneurship development as well. However, HEIs contributions to social entrepreneurship development should be addressed holistically taking into account analysis of regional communities' problems and the environment within which they function.

## ***2.2 Social Entrepreneurship Field in Estonia***

Social entrepreneurship field in Estonia is quite small compared to other countries in the EU (European Commission, 2020). There are about 121 social enterprises (Reimann, 2019), however this data is not accurate, because many enterprises with a social and/or environmental mission do not define themselves as social enterprises. The majority of officially recognised social enterprises (93%) are non-profit

organizations operating in the human health and social sectors or in education. Most are located in the two largest cities (the capital city, Tallinn, in the north and Tartu in the south) and are typically small organisations (one to four persons). About 40% of non-profit social enterprises help people with reduced work ability, focus on their rehabilitation and support their daily well-being.

An additional, key target group is children and the elderly. About one fourth are engaged in providing self-development opportunities and hobby activities, offering new skills to parents or raising the natural environment awareness of school children. A significant number of organisations are active as community centres (including the provision of free time activities) for local people. These organisations also promote tourism, environmental protection and sustainable consumption, the provision of cultural activities or participation opportunities. Several combine the provision of diverse activities, including for instance cultural activities and tourism services.

Social enterprises have very slowly emerged over the past years. The debate about their legal status is still sluggish (Reimann, 2019). There are issues that create difficulties for social enterprises, such as the financing which is clearly dependent on the legal form the social enterprises have chosen, the lack of a broader political support, the lack of private investments into social enterprises and inadequate recognition by the wider public. The obstacles for social enterprise development in Estonia are rooted in the historical context where the term “social” is still associated by the wider public with either socialism or the planned economy of the Soviet period or social services as being of poor quality or underdeveloped (OECD, 2020).

Despite all these challenges, the Estonian start-up scene is very advanced (OECD, 2020). There are a large number of development programmes for start-ups and regular hackathons where social enterprises can participate regardless of their status. The sustainability topic is increasing within enterprises and start-ups. Also, millennials are more and more eager to make a positive impact in society, be environmentally and socially responsible. Thus, there are many opportunities for social entrepreneurship development in Estonia. The future perspectives of social entrepreneurship field development in Estonia strongly relies also on educating the newer generations about social enterprises and their social impact. Additionally, on building a strong ecosystem of social entrepreneurship. There are more and more actors who are working to promote social enterprises in Estonia. These stakeholders will be presented in the next section.

### ***2.3 Main Actors in Social Enterprises' Ecosystem***

The social enterprise ecosystem is characterized by complex interactions among a variety of stakeholders (actors) and their components, and the ecosystem aims to support social enterprise (SE) development. The ecosystem concept provides a complete framework for socio-economic development, in which actors with diverse backgrounds and perspectives collectively work to improve the environment to make it favourable to social entrepreneurs (Kumari et al., 2020). HEIs usually play

an important role in promoting the culture of trust and learning that reduces the conflict between partners. The knowledge exchange between HEIs and the community in the social entrepreneurship field brings positive change in society and promotes social enterprises.

Key players in the Estonian social entrepreneurship ecosystem include the Good Deeds Foundation, National Foundation of Civil Society (NFCS), several public bodies; the umbrella organisation) Estonian Social Enterprise Network (ESEN); and business incubators which include social enterprises. ESEN has impacted the SE ecosystem in various ways for example by reviewing corporation law and lobbying for social enterprises (Reimann, 2019). The revision includes legislation covering legal bodies and a systemic analysis of legislative harmonisation and updating. It has determined the criteria for social enterprises within an Estonian context, undertaken consultation and provided expertise regarding the inclusion of volunteers in social enterprises. ESEN has successfully introduced social entrepreneurship development ideas to Estonian policy documents.

The main support organisations promoting and supporting social enterprises in Estonia are the NFCS and the Good Deed Foundation. The NFCS is one of the main funders of Estonian social enterprises (National Foundation of Civil Society, 2021). It provides project-based support to a large variety of social enterprises, both on national and community level and in a start-up phase and in an already more mature phase. The Good Deed Foundation's Impact Fund (Good Deed Foundation Impact Fund, 2021) is a very recent development. Although the fund targets high-impact organisations that can be scaled up whether they are social enterprises or not, the foundation views its fund as a strategic initiative that in the long-term will help prepare investment-ready organisations.

The NULA incubation program (Nula incubator, 2021) for the last 3 years, supported by the NFC, has been helping highly motivated teams improve skills to develop new ideas and sustainable solutions for social problems. The incubation program is based on different business incubation models around the world, including the development and incubation programs of Impact Hub and Estonian start-up support programs. It consists of expert training sessions and lean prototyping. Ajujaht is the only competition that finances social enterprise start-ups (Ajujaht accelerator, 2021). The main Estonian business idea competition, Ajujaht, recognises social enterprise start-ups in a separate category in collaboration with the SEB bank and NFCS. Social enterprises have advanced their ideas over the years and competition has grown.

The Ministry of Social Affairs and the Ministry of the Interior are the public sector players whose development plans are closely linked to social enterprises (OECD, 2020). The Ministry of Social Affairs has a development plan addressing social challenges and goals, including reducing inequality and poverty, improving quality of life and health. The Ministry of Interior has completed the Civil Society Program 2021–2023 clearly aiming at capable civil society organisations and social enterprises.

Research and educational programmes focus on social innovation or entrepreneurship rather than social entrepreneurship. Currently, the Ministry of Education

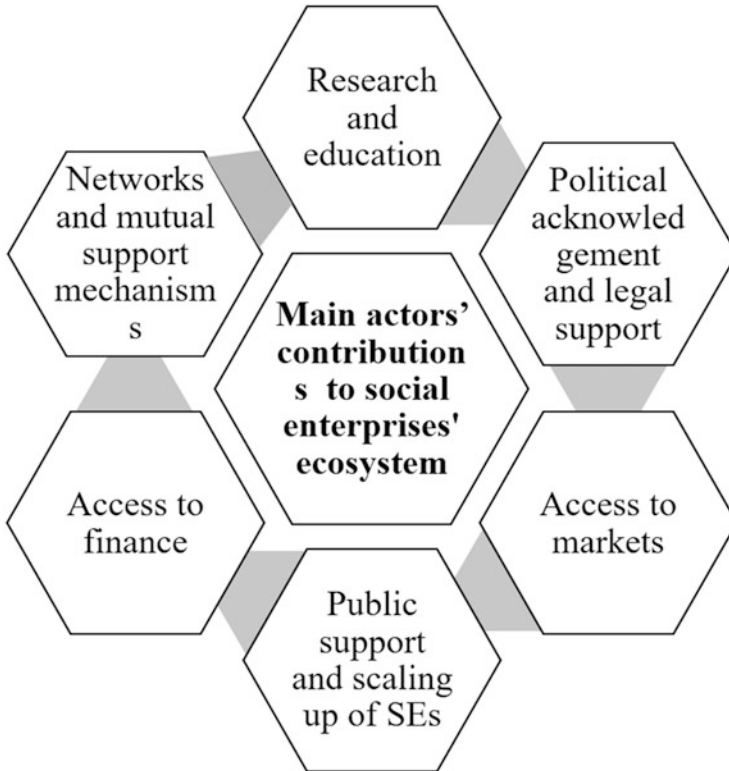
and Science leads the entrepreneurship programme Edu and Tegu (2016–2020), which aims to promote and enhance an entrepreneurial mindset and entrepreneurship in schools at all levels. It has created an entrepreneurship education programme for vocational schools and universities. One of its modules specifically addresses social entrepreneurship. The programme is being piloted in Estonian higher education institutions. The following universities have Social Entrepreneurship Development courses: Tallinn University, the Estonian Business School, Tallinn University of Technology, Tartu University. Tallinn University has a special master's degree programme in social entrepreneurship, which it launched in 2018. It focuses on project-based learning providing knowledge and support for students to establish their own social enterprises. Junior Achievement Estonia (Junior Achievement Estonia, 2021) runs entrepreneurship programmes for high school students that not only aims to equip them with entrepreneurial skills but also helps create enterprises, including social enterprises. The programme also supports teachers. Another educational programme 'Entrepreneurial School' supports the development of entrepreneurial skills in high schools. In 2018 a new Economy Study Book was published with a separate chapter on social entrepreneurship. Changemakers Academy (Changemakers Academy, 2021) launched competition for high school students encouraging them to develop their own social enterprise ideas with mentors. The social entrepreneurship competition is run in cooperation with the British Council. It supports multilingual high school students to create their first social enterprise marketing concepts.

Thus, despite a broad range of activity (see Fig. 7.1) and dynamic players, Estonia is still in the process of developing a social enterprise ecosystem. The sector, as a whole, still lacks general political and public support. There are in development numerous key policy documents where social enterprise features although there is no one cohesive social enterprise framework. Funding for social enterprises in Estonia has come mainly from public sources. Moreover, there are many educational programs which are focusing on high school students and their social project ideas. HEIs are mostly promoting social enterprise education and training, but still their main focus remains on entrepreneurship rather than social entrepreneurship. However, there is a lack of information about HEIs and other players' cooperation for social entrepreneurship development in Estonia. And what are the HEIs' role in the SE field development behind social entrepreneurship education.

### **3 The Case Study Approach**

#### ***3.1 Case Study Research Design***

A case study approach aims to understand a wider context by interpreting the actions of a single group, community or a single event, meaning a case. Gillham (2000) defines a case study as an investigation to answer specific research questions which seek a range of different evidence from the case settings. If the researcher only wants



**Fig. 7.1** Main actors' contributions to social enterprises' ecosystem. Source: Authors

to study one single thing or a single group, a single case study is the best choice (Yin, 2003). When a single case study is used, it helps the researcher to get a deeper understanding of the subject. The analysis of one case also helps to create theoretical constructs and/or propositions from the empirical evidence provided by the case (Yin, 2003). Therefore, the process of theory building through this methodological approach is inductive, i.e., the theory emerges as patterns of relationships between constructs are recognized in the case and between cases (Yin, 2009).

The case study focuses on Tallinn University Social entrepreneurship master study program. Social entrepreneurship study program was studied in order to get a more in-depth understanding about the topic under discussion through case study design. The research was conducted by interviewing SEMA's program stakeholders and SEMA students. Data for this study was collected in September–October 2020 with the aid of a semi-structured interview guide (Creswell, 2009). Semi-structured interviews were conducted with SE field participants for a deep understanding of this phenomenon. Research participants are representatives of 6 active organizations in social entrepreneurship scene and they have a good knowledge about SE field in Estonia. The researchers have the authority to determine what needs to be known and



**Table 7.1** Codes and information about institutions

Code for the Interviewee	Institution
R-1	Social enterprise network
R-2	Open academy
R-3	Võru municipality
R-4	Stories for impact organization
R-5	STARTERtallinn
R-6	Tallinn City Enterprise department

find the people who are willing to provide information according to their knowledge or experience. Thus, semi-structured and open-ended interview questions were formed to conduct interviews. Interview research questions included: (1) What do you think is the role of HEIs in social entrepreneurship development and support in Estonia? (2) How TLU (SEMA program) impacts social enterprise field development in Estonia? (3) Why do you think the project-based learning is important for Estonian social entrepreneurship field development? Table 7.1 presents the information about interviewees. The methodology of qualitative research recommends that the respondents choose whether to remain anonymous or to publish their names (Kaiser, 2009). Depending on the request of many respondents, the names of the respondents are not provided, and when quoting the respondent's statement, his/her number is indicated (Table 7.1).

Additionally, an online survey was conducted during November 2019 among SEMA students in both cohorts (first year and second year students) collect feedback from SEMA students about the SEMA program and ask them about their motivations and plans. 28 students of 31 had participated anonymously in the online survey. Descriptive statistics was used to analyse the data obtained from quantitative research. The data collected during the quantitative survey were processed with the Excel program.

### ***3.2 Design of the Social Entrepreneurship Master's Program***

The Tallinn University Development plan for 2020–2022 (Tallinn University, 2020) promotes social innovation. According to this plan, the university should render meaning to the relationship between local communities and the state in the context of sustainable society and digital era practices to support the evolution of new forms of collective activity, and to develop solutions for increasing the cohesion and responsibility of communities. Also, the university undertakes, in cooperation with enterprises and other organizations, to promote social entrepreneurship and creative entrepreneurship networks. Tallinn University is the only university that has a curriculum for Social Entrepreneurship in the Baltic region. The Social Entrepreneurship programme is a progressive educational initiative of Tallinn University with the aim to promote entrepreneurship and the innovation of the social and health sector, environmental protection, urban development, rural development and

**Table 7.2** SEMA students' social entrepreneurship projects examples

Projects names	Field	Main goal	Product/Service	Impact measurement
Koos	Local Community	Support the local community and gather people around a common idea	a local cafe, which revenues are used to support community projects	Number of members of KOOS cafe and number of projects supported
Loomro	Disabled people, fashion	Empower differently able people and unleash their creativity inspired by art	Selling hand-printed organic cotton t-shirts, which revenues are used for art education	Investments in art education
Õnnelik faces	Elderly	Goal is to keep the elderly active and feel meaningful in their daily life	Workshops for elderly people, selling products created by elderly people	Changes in elderly lives, feedback from the elderly
Superable	Disabled People	Support people with special needs and develop or maintain their skills	Training services and workshops	Job places created for disabled
Banned Books	General public		The aim of the museum is to present banned or censored books to the general public	Museum, cultural events, podcasts and discussions

community development (Social entrepreneurship study program, 2021). The curriculum gives not only an academic degree but also a supportive environment for development. The program follows the project-based learning method. Project Based Learning as a teaching method allows students to gain knowledge and skills by working for an extended period of time to investigate and respond to a complex question, problem or challenge. Experienced staff members of Tallinn University guide students through their learning process in a very practice-oriented way using the academic and creative infrastructure of Tallinn University for both academic learning and development. The program follows the interdisciplinary approach, including interdisciplinary project courses, which broaden perspectives. Students in the SEMA program are encouraged to develop their social entrepreneurship projects on regional and global problems solving and present to many stakeholders in different regional events, such as Digital Innovation Days Hackathon, Tallinn Startup Week and the STARTERTallinn program. Table 7.2 shows SEMA students' social entrepreneurship projects which were established in Estonia since 2018 and were focused more on regional problems.

The first project in Table 7.2 is KOOS Café & Foundation. The primary tool for KOOS Foundation is to support the local community and gather people around a common idea to be a local cafe. The KOOS Cafe is a source of encouragement and support to the local community. The cafe goal is to bring together members of the society around a common idea of helping their local community. The second is LOOMRO social enterprise which is based in Tallinn. Under the brand name "LOOMRO" they sell hand-printed organic cotton t-shirts. They use drawings of

differently abled artists as artworks of their products. LOOMRO uses organic cotton garments that are bought from traditional organic cotton manufacturers in Bangladesh and they use eco-friendly hand printing methods to print artworks. They strive to raise awareness about differently abled people and become a global leader in unique fashion brands. Õnnelik Faces is a project focusing on the elderly in society. There is a growing ageing population in Estonia, so their goal is to keep the elderly active and feel meaningful in their daily life. In this project, they engage the elderly from different aspects. For elders who have skills to make products, they assist them to improve and sell their products. For the elders with limited physical strength, they design light activities for them, for example making wrapping paper or caring for plants, which can then be sold through the business part of the project. They also design their own products and invite the elderly to produce them. The next project is Superable. This is a project for people with special needs, supporting them to maintain their skills and develop new ones. They pave the way for every person to show their full potential and to gain access to a better and easier life. The aim is to create a safe and professional environment where everyone feels welcomed and comfortable to speak up. They organize various workshops, webinars, events, where the focus is self-growth and self-development, professional skills. The Banned books museum is a cultural hot-spot in the old-town of Tallinn for people interested in freedom of expression. The collection holds over one-hundred books that are/were banned all over the world. At the location they host events, book clubs, and interviews. With the museum, they want to raise people's awareness of the long history of censorship and the importance of freedom of speech. Freedom of thought and expression is not a universally accepted human right to this day. They contribute to the dissemination of freedom of speech with the museum. All projects which were presented above are very unique and different in their size, aims, target groups and business models, but all of them are focusing on real social problems solving and how to create a bigger social impact in Estonian society and beyond.

Social entrepreneurship in higher education can help the students to extend their networks with many other social entrepreneurs by using the ticket of a university platform. It can as well help to provide a potential and great business sustenance by engaging in collaborations to give more practical skills, experiences, and insight of social entrepreneurship itself (Roslan et al., 2019). Recent research on social entrepreneurship education indicates that cross organizational cooperation is an important trend in the cultivation of social entrepreneurship talents. For example, Bazan et al. (2020) point out that the integration of the external environment and college initiatives play an important role in promoting students' social entrepreneurship learning. Some scholars also pointed out that the construction of college students' entrepreneurial environment will help to enhance students' social entrepreneurial willingness. In addition, García-González and Ramírez-Montoya (2019) believe that the construction of school, government, society, and enterprise—four spiral cooperation projects—will help to cultivate students' social entrepreneurial and innovation ability.

According to Roslan et al. (2019), there is also a need to create more awareness about the social entrepreneurship curriculum and combine the innovative solutions

to solve the social problems. Thus, SEMA lecturers and other experts created a remote incubation program for social entrepreneurs (Social Entrepreneurship Incubator, 2021). These services are available not just for the university students, but also for social entrepreneurs and experts from all over the world. Extending the networking opportunity and development work to a global perspective which is an important character of the Estonian entrepreneurship field and now it is also available for social entrepreneurs through this initiative. The incubation aim is to guide participants through a proper business development model designed for social enterprises and validate their social entrepreneurial ideas (Social Entrepreneurship Incubator, 2021). During the validation process they help participants to work on product-market fit, clarify intellectual property issues, and build up a support network for the implementation. The participants can use the service of mentors and experts from university program and can get direct feedback. Another important profile of the incubation program is the international networking opportunity to help social entrepreneurs in scaling up their local initiatives to an international level.

As the competition between universities increases, universities need to create better connections with the communities where they are located and operate, and constantly supply added value to all their stakeholders (Paunescu & Cantaragiu, 2013). Designing courses considering the characteristics of the regions, planning some of the academic and social events with local residents of the cities, and aligning student projects with regional needs are some examples. Initiatives should go beyond enabling only a small segment of students to undertake internships in regional organisations and should incorporate university–region interaction into teaching and research (Goddard et al., 2016). The demand for universities to have more engagement with local governments and businesses is rapidly increasing (Roslan et al., 2019).

The Social Entrepreneurship programme is active in organizing forums, conferences and workshops, involving academic staff, students and various stakeholders in entrepreneurial activities in Estonia and abroad. One of the ongoing projects is the co-creation of innovative services in Europe. SEMA has organised social hackathons and development days where people with special needs develop their own ideas. One example is the European Union (EU) project Co-creation of Social Service Innovation in Europe (CoSIE) that was carried out in one region of Estonia—Võru county (CoSIE project, 2021). The CoSIE project (2021), as an international consortium and aims to introduce innovative social service development. Võru County is a rural area situated in southern Estonia. Hackathons are one of the core methods of the start-up scene for giving a kick-start to ideas guiding them to pre-incubation, incubation and elevation (Toros et al., 2020). The hackathon as a method was developed within the start-up scene. For example, hackathons have helped to bring together support persons and people with special needs. Tallinn University's role was to support the development of such ideas and to help them come up with a business model. The social hackathon helped to mobilize community resources including less-empowered groups in a remote area in Võru County, Estonia. The hackathon was organized in cooperation with the Võru municipality. Municipalities in rural areas compared to urban areas cannot provide services equally for everyone in the sparsely

populated areas. There is a need for alternative solutions and tailor-made services for those user groups whose needs cannot be met with standardised services, such as transportation services and home care for elderly (Toros et al., 2020). According to Eurostat (2015), Estonia ranked well below the EU average in terms of social protection expenditure per capita. As a result, mobilising community resources that compensate for a state-financed welfare system is particularly important.

The inter-disciplinary projects or ELU (Enhanced Learning Unlimited) projects are a compulsory element in every student's curriculum during their studies at Tallinn University (Tallinn University Development Plan, 2020). An important element of Project Based Learning is that students make their project work public by explaining, displaying and/or presenting it to stakeholders outside the classroom (Blumenfeld & Krajcik, 2006). In order to gain feedback from the external stakeholders, the inter-disciplinary project was taken to a social hackathon in Võru where the project idea was validated together with local private sector, public sector and community sector stakeholders along with Tallinn University and international students as part of the team. The hackathon ideas contributed to social inclusion of vulnerable people in the region on the level of local communities. The format of the work was co-creation. Co-creation refers to the active involvement of end-users in various stages of the production process (Voorberg et al., 2015). In this particular hackathon the stakeholders were local government representatives, service providers, and user groups, but also entrepreneurs, community leaders and fellow citizens. The hackathon as a development event is well known from within the IT sector. In Estonia, this multi-disciplinary innovation approach is extended to the welfare system, too. By bringing together people with diverse backgrounds, experience, and expertise in a single location over short periods of time, hackathons support intensive bursts of creativity. The diverse skills of participants can facilitate innovation and learning due to participants being able to generate and assess ideas from various perspectives. Therefore, hackathon events can be useful for developing solutions within the community.

Moreover, Tallinn University together with other Universities run an extracurricular entrepreneurial business development programme called STARTER (Starter Tallinn Program, 2021). The programme enables students to develop their ideas into recognised business models. The hands-on workshops are integrated with mentoring sessions. Mentors are start-up founders or entrepreneurs from different business sectors. Students can turn their ideas into reality by participating in inspirational events, workshops, meet-ups with entrepreneurs and pitching competitions.

To sum up, the SEMA program covers a wide spectrum of activities including teaching, knowledge and skills development, dissemination of entrepreneurial spirit among students and social entrepreneurs, incubation programs and new social enterprise creation. Tallinn University, through the SEMA program, contributes directly to social entrepreneurship development by organizing social hackathons and helping less-empowered groups in a remote area in Estonia. The program's activities produce new knowledge and initiate social innovations and social enterprises which fit regional needs and expectations.

### 3.3 *Survey Results*

At the time of the survey there were 31 students in the SEMA program from which 28 answered online survey questions anonymously. In the survey they were asked about: their main motivation and personal aims in the SEMA program, their opinion and preferences about project-based learning, SEMA courses, and their suggestions about improving the program.

**Main Motivation and Personal Aims in the SEMA Program** 17 students (60,7%) agreed that they wanted to learn about social entrepreneurship. 15 students (53,6%) wanted to gain entrepreneurial skills, and 14 students (50%) came to implement their own social enterprise idea. Only 5 students (17,9%) indicated that their main motivation was to do research on social entrepreneurship. One student made the remark in the “other option” that her motivation was to work on social projects, not necessarily an entrepreneurial one.

**Opinions and Preferences about Project-Based Learning** According to 19 (67,9%) participating students, the most important elements of project-based learning in SEMA are that students can work on a live development even in the classroom. 15 students (53,6%) found it important that they can submit homework related to their real-life projects. 14 students (50%) found it important to participate in hackathons and other innovation events. In contrast, there was one student leaving a harsh remark about pitching and participation in hackathons, requiring a more academic style of teaching in the program. 15 students (53,6%) responded that they would definitely like to use mentorship opportunities out of classroom courses.

**SEMA Courses** The SEMA courses contribute directly to social enterprise project development. 22 students (78,6%) of SEMA program agree or rather agree with this statement. Only 6 students (21,4%) took a neutral position which may be considered a polite disagreement. Vast majority of SEMA students find direct relation between their courses and real-life project development.

**Suggestions about Improving the Program** There was serious feedback about the classroom burden and the coordination of the development journey beyond courses. There is a clear need for creating a healthier balance between classroom work and project development. Issues of intellectual property rights or communication of projects in social media and the University website were also raised. The SEMA program does not have the proper legal tools (contracts, schemes, insurance opportunities, legal environment for spin-offs and investments) for real entrepreneurial activities, the infrastructure (both physical and legal) of the University serves traditional academic work.

This survey proved that SEMA courses contribute directly to project development, students are actively engaged in their project creation and other activities such as hackathons, innovation events. However, it was found that the program does not have an established environment for spin-offs and investments which also serves to improve the University’s ecosystem.

### **3.4 Interviews' Findings**

In order to better understand the impact which HEIs and SEMA program can bring to the Estonian social entrepreneurship field development the interviews were conducted with SEMA's program stakeholders (Table 7.3).

Thus, it can be said that according to respondents HEIs in Estonia can be seen as the organisations who train the people who establish SEs. Furthermore, they are important partners, which can provide knowledge and evidence for the SE entrepreneurship field in Estonia. They can fulfil an advisory role through academic skills and benefit such a partnership through knowledge transfer. The interviews revealed that the SEMA program mostly contributes to the social entrepreneurship field (see Table 7.3) through educating future social entrepreneurs, building linkages between academia and SE organizations, and practitioners. Also, SEMA helps to promote social entrepreneurship in Estonian society and provides cooperation for national and international SE projects development.

## **4 Discussion and Conclusions**

The SEMA program educates future social entrepreneurs, teaches them how to solve real life problems and understand the needs of the beneficiaries. It helps to build institutional linkages between academia and other sectors and strengthens the role of Tallinn University in the social entrepreneurship field. However, it remains a question to which extent HEIs can be perceived as innovators and entrepreneurial actors themselves. The conducted interviews and analysed documents are positioning Universities to an educational and research role, and majority of Tallinn University's partners were mentioning these dimensions. Project based learning as a very specific approach of the SEMA program has been also rather perceived as an opportunity for students to gain relevant professional skills than a direct entrepreneurial action of the University contributing to the Estonian SE community with new innovations.

The authors have reflected on the development, innovation and creative thinking and in general consider the University as an innovation hub however, this is not the perception that partners have. HEIs have their own path dependency, the shift from traditional academic institutions to the concept of entrepreneurial university is a long process. A further challenge is that even within the University the entrepreneurial direction is far from mainstream despite the ambitious and progressive keywords in the strategic plan. This is still the beginning of the impact journey and there is a constant need to develop the impact measures and then assess the project-based learning accordingly. The SEMA program has a very obvious starting point moving forward in the direction of entrepreneurial university as a direct contributor to innovation and as such the program is a good initiative in that journey. More efforts are needed to demonstrate the impact of SEMA program through spin-offs and

**Table 7.3** HEIs and SEMA program contribution to social entrepreneurship field development

Category	Subcategory	Statements
Higher education institutions	HEIs provide research-based input—analyse the national/regional context and field around SE	<p><i>“It gives data, professionals and insight which are needed to run a new mindset inside a country”</i> R-1 (social enterprise network)</p> <p><i>“Providing high-quality research and forward thinking to advance the field of social entrepreneurship”</i> R-4 (stories for impact organization)</p>
	HEIs provide knowledge and education in the social entrepreneurship field in Estonia	<p><i>“The lectures and debates increase the awareness of people inside the HEI and inside the country. As a result, this can bring forth enterprises with an impact-before-revenue mindset which benefits the people inside the country”</i> R-1 (social enterprise network)</p> <p><i>“HEIs are important partners in innovation helixes. To be competitive, the field has to be based also on a scientific and knowledge-based frame in its activities”</i> R-2 (open academy)</p> <p><i>“As the field of social entrepreneurship is quite new in Estonia, HEI has a very important role in its development. HEI can spread the new concepts through students and projects”</i> R-5 (STARTERTallinn)</p> <p><i>“Teaching the combination of concepts and skills needed to entrepreneurially tackle social and environmental problems”</i> R-4 (stories for impact organization)</p> <p><i>“Very important, because it represents both theoretical views and best practices from around the world, as well as the practical side, giving students the opportunity to test our suitable solutions in various projects”</i> R-6 (Tallinn City Enterprise department)</p>
Tallinn university	The knowledge and education partner in the social enterprise field	<p><i>“TLU has a very special role to play in raising the private and public sector knowledge of future business models and to be the knowledge and education partner in the social enterprise field in Estonia to strengthen the whole field”</i> R-2 (open academy)</p> <p><i>“TLU can provide a neutral</i></p>

(continued)



**Table 7.3** (continued)

Category	Subcategory	Statements
		<i>platform (partnership) to bring together many different private and third sector organisations and build the linkages between them. Thus, to some extent it has the facilitator role in the field. As a university it has plenty of international connections with other universities, so it can bring in external knowledge and develop relationships also abroad” R-2 (open academy)</i>
SEMA program	Educates the future social entrepreneurs	<i>Raises experts in the field. SEMA program transfer the knowledge from international level to Estonia and vice versa” R-3 (Võru municipality) “SEMA also educates the future social entrepreneurs and through that it strengthens and expands the social entrepreneurship field in Estonia” R-2 (open academy) “It is a practical approach to learning and the Estonian social entrepreneurship field will only benefit from those kinds of people (graduates of SEMA program) who have strong connections with the actual problems and possibilities”. R-2 (open academy)</i>
	Provides cooperation for international and national projects	<i>“Acts as a role model for the people driving social entrepreneurship inside the country, especially regarding the creation and scalability of innovation, provides invaluable cooperation on both on an international and on national basis for projects” R-1 (social enterprise network)</i>
	Builds linkages between academia and SE field organizations	<i>“Project based learning presumes to connect with the people in the field and via networking, the students become active agents in the network themselves. Furthermore, this again helps to build institutional linkages between academia and real life and strengthens the role of TLU in the social entrepreneurship field” R-2 (open academy) “Project based learning is important</i>

(continued)

**Table 7.3** (continued)

Category	Subcategory	Statements
		<i>in every entrepreneurship education field as there are so many changing items in the enterprise ecosystem which can't be handled theoretically, but only by doing. Social entrepreneurship development is about linking people and organisations, it is a step-by-step process and can't be implemented theoretically". R-5 (STARTERTallinn)</i>
	Promotes social entrepreneurship in Estonian society	<i>"Legitimizing the approach of social entrepreneurship in the society" R-4 (stories for impact organization) "Helps to promote social entrepreneurship in Estonian society" R-3 (Võru municipality)</i>

innovative development projects in the field to make the entrepreneurial contribution to the SE field obvious beside the traditional educational and research profile.

The SEMA program's project-based learning model can offer lessons for other universities. For example, the number of traditional classroom hours has to be significantly smaller as in a traditional academic setting as there needs to be more space for the development of the project in practice. There should be a clear framework for the intellectual property rights between the university, the students and the third parties with contracts in place. Communication rules especially for social and mainstream media should be agreed in advance between all parties. In terms of the physical infrastructure, the traditional classroom setting does not support any project work and there is a need for more dynamic infrastructure allowing teamwork and supportive digital media tools. The administrative personnel should be well informed about the needs and requirements of the project-based learning to be able to accommodate it in administrative support such as making course schedules and calculating workload and hours of lecturers/mentors. A lot of the project work will happen outside the university premises and therefore this requires coordination in planning course schedules for students and allocating more time for teamwork and discussions. Although, project-based learning requires a structured framework, it would also enable giving freedom to students to decide how to implement the project, take risks and mitigate them and adjust to the changes. This will then teach them critical thinking, independence, and key entrepreneurial attributes. However, Estonia is in the process of establishing a social enterprise ecosystem which could flourish with sufficient political support, start-up incubation and support structures. This development could provide credible and sustainable solutions to societal problems, increasing public confidence in social enterprises and relieving pressure on stretched public services.

It can be said that HEIs play an important role in the development of social entrepreneurship. They educate people who are expected to establish their social enterprises. HEIs can also transfer knowledge across the partnership networks with their academic skills. The Tallinn University SEMA program contributes to SE field development by organizing social hackathons and helping less-empowered groups in remote areas in Estonia. By drawing examples and learning from international networks, the SEMA program's activities produce new knowledge and initiate social enterprises which fit regional needs and expectations. Additionally, SEMA promotes cooperation and establishes linkages between organizations from different sectors. The SEMA program is helping Tallinn University move forward as an entrepreneurial university and as a direct contributor to social entrepreneurship. However, it is still questionable to what extent HEIs could be viewed as innovators and entrepreneurial actors themselves. Due to the path dependency of HEIs, it takes a long time to move from a traditional academic institution into an entrepreneurial university. In case the HEIs want to make the entrepreneurial contribution to the SE field beside traditional teaching and research, they need to focus more on spin-offs, patents and innovative development projects. HEIs need to be increasingly prepared to deploy their resources in trans-disciplinary, collaborative, and innovative ways to address social problems in communities.

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# Chapter 8

## Fostering Research with Societal Impact in Higher Education Institutions: A Review and Conceptualization



Carmen Păunescu, Anna Nikina-Ruohonen, and Yulia Stukalina

**Abstract** There is an increasing pressure on Higher Education Institutions (HEIs) to produce societally relevant and impactful research, and to actively engage with non-academic stakeholders who are looking for answers to their challenges. This is a special challenge for social sciences, such as business, management, entrepreneurship, as opposed to natural sciences that rely largely on quantifiable data and statistics. The present chapter addresses this challenge and introduces the dimensions of societal impact of research produced by HEIs and describes the mechanism through which HEIs can provide impactful research needed for economic competitiveness and societal well-being. Illustrations are offered on how HEIs can boost their ability to transform the results of academic and applied research into beneficial knowledge and management practice for stakeholders, including business, industry, economy and civil society at large. The chapter sheds light on how to reinforce collaboration with non-academic stakeholders and partners within research and innovation ecosystems. To support the HEI's work, a framework for managing research with societal impact in HEIs is proposed.

**Keywords** Societal impact of research · Higher education institutions · Academic research · Applied research · Research impact framework · Social change and innovation

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### **The Key Points of the Chapter Are the Following**

- To discuss societal impact of research produced by modern HEIs.
- To describe the mechanism through which HEIs can provide impactful research needed for economic competitiveness and societal well-being.
- To explain how HEIs can boost their ability to translate research results into the economy and civil society.
- To understand how to reinforce collaboration with non-academic stakeholders and partners in the research and innovation ecosystems.
- To propose a framework for managing research with societal impact in HEIs.

## **1 Introduction**

The research system plays an important role for the economic competitiveness of a nation as well as the individual and community well-being. Multidisciplinary and transnational cooperation is the key for a more extensive success and impact of research tackling “wicked problems” (Kolko, 2012), “grand challenges” (George et al., 2016; Nowell et al., 2020), or sustainability issues (Clark et al., 2016; Griffiths, 2020); and research that integrates perspectives of several co-creators (Janinovic et al., 2020). Nowadays societies expect scientific research to be oriented not only towards the interests of the academic community, but also to the ways people in society work and live, and the pathways that governments draw for the future of the planet and the humanity (Spaapen & Sivertsen, 2020).

There is an increasing pressure on higher education institutions (HEIs) to produce societally relevant and ‘usable’ knowledge (Rau et al., 2018) and to actively engage with non-academic stakeholders who are looking for answers to their challenges (Clark et al., 2016). HEIs operate within the environments of rising costs of education combined with reduced government funding, which invites academics and HEIs to convince society of the benefits of their research. This is a special challenge for social sciences as opposed to natural sciences that rely primarily on quantifiable data and statistics (Powell & Walsh, 2018). One of the greatest challenges faced by universities is the effective management of their research portfolio that is relevant to business and society, to ensure sustainability in a steadily more complex and competitive global environment. It is increasingly essential for HEIs to translate the results and outcomes of research to practical implications and management practice across disciplines. Ability to use research findings in innovation opportunities and policy making varies, and there is a lack of systemic approach to involving non-academic stakeholders in research, development and innovation.

The chapter argues on the societal mission of academic research. It enters a broader line of discussion that takes place in Europe on investigating societal impact of research. The current call around the topic focuses on three main dimensions: understanding the nature of societal impact, addressing the measurement of societal impact, and developing the policy implications of societal impact (European University Association, 2019). The chapter stresses the importance of generating research results and outcomes, which are multi- and interdisciplinary, valued by a broad range of



stakeholders, and are closer aligned with social, economic, environmental, and other society goals (D'Este et al., 2018). Societal impact of research produced by HEIs is discussed, with the special emphasis on and consideration of the fields of business and management. A perspective is offered on assessing the societal impact of research. A framework for managing research with societal impact in HEIs is developed and introduced, encompassing a range of managerial considerations—from an individual researcher's perspective to HEI's community and ecosystem that it is a part of. The framework is inspired by the most recent theoretical developments in managing impactful research, as well as best practices in assessing societal impact of research in different countries and from various disciplines. The methodological approach employed is exploratory and inductive. It is exploratory as the chapter aims to investigate and explain the nature of societal impact of research, its different spheres of influence, and the measures used to assess it. And it is inductive as it involves development of a provisional step-by-step guide for replication of best practices in managing research with societal impact in HEIs.

## **2 Defining and Understanding Research with Societal Impact**

### ***2.1 Defining Societal Impact of Research***

Nowadays, when the world is undergoing constant change, higher education institutions worldwide are looking for the opportunities to make a greater impact with their research, development and innovation activities that tackle current and emerging societal challenges, be those of social, environmental, or ethical. Particularly in crisis situations, scientific community is called to generate concrete and effective solutions to emerging problems and to convey how their research can help to address them. HEIs are asked to demonstrate the impact of their academic research on societies and explain how it can help understand and influence the ways people, organizations and communities think, behave, or perform (Wickert et al., 2020). As a result, academics and researchers worldwide struggle to broaden their understanding of what constitutes impactful societal research (Wickert et al., 2020). They strive to learn how their research can better serve the public interest by addressing key societal challenges, such as, for example, gender equality, implementation of circular economy across sectors, digitalization, and the related transformation of work globally. To support this, HEIs need to partner with other institutions, companies, and entities in their ecosystem and demonstrate research impact, efficiency, and innovation throughout. Talented researchers and skilled research managers and administrators are key players in this process that are enabling HEIs to achieve maximum research impact (Muhonen et al., 2020; Wickert et al., 2020).

Any present value or future benefits brought by research to intended stakeholders is recognized as research impact. According to Donovan (2007), the research impact was initially related to social, economic, and environmental effects. The cultural impact

**Table 8.1** Defining societal impact of research

<b>Definition</b>	<b>Source</b>
Intermediate (novel/amended products, partnership-based collaboration), or ultimate (enhanced industry competitiveness) returns (outcomes)	Lähteenmäki-Smith et al. (2006)
Societal products, use and benefits of research expressed as: “Outputs”, “societal references” and “changes in society”	Bornmann (2013)
Contributions that address current and/or future social, economic, environmental, and other society demands outside academia	D’Este et al. (2018)
Social and economic benefits, productive partnerships, academic credibility	Phillips et al. (2018)
University innovation that generates sustained impact on (regional) economic performance	Yeo (2018)
Response and contribution to current societal needs and anticipation of future societal demands	D’Este et al. (2018)
„socially desirable outcomes that will benefit the public” Multi-dimensional results which measure economic, socio-territorial, health, political, capacity building, and environmental impacts	Holbrook (2019, p. 85) Chams et al. (2020)
Benefits to society resulting from productive interactions between academics and stakeholders, in which knowledge is exchanged and used, in national, organizational and disciplinary contexts	Muhonen et al. (2020); Muhonen et al. (2020); Spaapen and van Drooge (2011)
Research contribution to social challenges by engaging in public debates and inspiring social activism or civil society interventions	Reale et al. (2018)
New knowledge resulting from science-society interactions, created, exchanged, and used to further achieve organizations’ goals	Sivertsen and Meijer (2020)
Results broadly measured in all areas in a society, such as environment, culture, politics, economics, and health	Tahamtan and Bornmann (2020)

aspect and the ethical perspective were added later (Donovan, 2008). Improving quality of life, increasing the knowledge of the nation, stimulating better policy making, improving equity, inspiring new attitudes to social challenges and changes in community attitudes, encouraging improvements in health, security and safety are some general examples of expected societal impacts of the research produced by HEIs (Donovan, 2008). In Table 8.1, a few definitions of the term societal impact are briefly presented, which are relevant for business and management research.

In literature, the terms “social impact” and “societal impact” are used interchangeably (Bornmann, 2013). The term societal (social) impact has different interpretations, since both “narrower” and “broader” definitions of the term are used, which either focus on the nature of societal impact (for example, planned vs. accidental, positive vs. negative, short-term vs. long-term), or are

verbalized so that quite overlapping definitions arise, such as social impact and economic impact (Ateca-Amestoy et al., 2019).

There are multiple interpretations offered of the term “societal impact” adopted by research organizations, some of examples of which are offered hereafter. In Sweden, research bill 2021–2024 on ‘Research, freedom, future knowledge and innovation for Sweden’ was recently presented with the great focus on the requirement for research to benefit society and promote sustainability. Under the proposed law, “universities and university colleges in their work shall promote sustainable development that will lead to present and coming generations being secured a healthy, equal and good environment, economic and social welfare and justice” (Myklebust, 2021). Spain in its evaluation of the research activities has emphasized the need to transform practices at HEIs on the level of researchers and research institutions towards them being more sensitive and acting more responsibly towards society (Parellada & Menéndez, 2017). It has been further highlighted that advancing the research practices and increasing their impact on the economy and on Spanish society is a task for all the actors and stakeholders involved (Menendez & Castro, 2017), indicating a call for greater cooperation, networking and consideration of societal interests. The Netherlands employ Standard Evaluation Protocol system for evaluation of university research, and societal relevance is one of the essential considerations, with such criterion as social, economic and cultural impact of research. In practice, the assessment includes evaluations of societal quality of work (how the institute/research group interacts productively with users of research), societal impact of the work (how the research has affected specific users or specific processes in society) and/or valorisation of work (how the HEI is working actively to make research results available and adapted for use in products, processes and services). (Monaco et al., 2015).

Furthermore, in recent years greater emphasis is placed on such impact areas as assessing the quality, scope and relevance with which research is directed at specific economic, societal and cultural user groups, how research is used as evidence to back policy, and how it contributes to the general societal debate (Grant et al., 2010). This involves enabling the knowledge exchange from science to society, providing professional users with the knowledge needed for developing new products and services, and providing benefits to the public in general and individual target groups (Spaapen et al., 2007). For the Russell Group universities, including 24 world-class, research-intensive universities in UK, production of research with social impact contributes to supporting a nation to meet its social needs and enhanced quality of life, inspiring informed public and policy debate, increased understanding of ethical and social values that lead to a democratic, enlightened, and secure society. The UK Research and Innovation Economic and Social Research Council regards social impact as a noticeable contribution to the society, as well as research benefits to individuals, community, organisations or nations. It has an instrumental influence, inducing the creation of policy, practice or service provision, determining legislation, and changing behaviour. Impactful research has also a conceptual influence, enabling the understanding of policy issues and re-evaluating debates, and a building capacity influence via skill development. The UK Research Excellence

Framework—the system for assessing the quality of research in UK HEIs, aimed to enhance research impact outside academia and to provide accountability for public investment in research—defines social impact as any influence, change or benefit to community, organization or individuals in terms of the “activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding”. This occurs either locally, regionally, nationally, or internationally and is often associated with the avoidance of harm, risk, cost or other negative consequences. Interestingly, recent research found that the existing citation-based metrics for impact measurement, which are widely employed at HEIs, do not correlate well with research excellence framework impact results (Ravenscroft et al., 2017). This leads to an interpretation that scientific excellence may be a necessary but not a sufficient condition for societal impact. This further calls for complementary and dedicated impact assessment methodologies and data sources (Reale et al., 2018), especially highlighted in multidisciplinary, social sciences and humanities research.

Academic research targets broad-ranging audiences, from individuals, private companies, public organizations, to communities, regions, nations, or other entities. A variety of beneficiaries with whom researchers interact is likely to enhance awareness and understanding of their distinct, wide range of unmet social needs (D’Este et al., 2018), which in turn leads to increased societal impact. The extent to which these actors benefit from scholarly research is highly dependent on interaction between academia, businesses and society, as well as value and skills of academic community or university open philosophy in research, open innovation practices and dissemination (Phillips et al., 2018). As per Morton (2015), societal benefits of scientific research occur over time and are assessed in close connection with the interests of different constituencies who might benefit from the research.

Ozanne et al. (2017) claimed that academic researchers should work more with invested stakeholders to define problems that address their interests and include insights of the end users, and thus create and use knowledge that can benefit society. For researchers to create societal impact, “they may need to seek out communities and engage with consumers and groups [...] to co-create and pursue transformative goals.” (Ozanne et al., 2017, p. 10). Thus, engagement of researchers in activities such as co-production of knowledge with end users, community outreach, policy advice, and action research involving communities facing sustainability challenges (Rau et al., 2018) should be a key element of the HEIs’ research and innovation strategy. Wickert et al. (2020) stress the importance of building researchers’ ability to better valorise the results of their research for the benefits of society, as it becomes “an important assessment indicator, not only in requests for funding and in achieving accreditation but also in merit evaluations, promotion decisions, and other assessments” (p. 2). Benefits created for society extend from new products or services, improved processes, systems, behaviours, up to changed policies and new practices, and are measured at individual, institutional, community or societal level.

According to Phillips et al. (2018), societal relevance of academic research, resting in improving the quality of life and the ultimate wellbeing of society, can clearly influence academic credibility. It does not only lead to social and economic benefits but contributes to increasing public understanding of scientific research and

influences development of management practices as well as public policies. Lakiza and Deschamps (2019) suggest that impactful research can be attained by applying the four guiding principles that help to bridge the gap between the two worlds, academia and industry, that seem to live in different paradigms. These principles are reflecting the university capacity to build trust, encourage teamwork, prove understanding of the system (context) and continuously iterate (Lakiza & Deschamps, 2019). By applying these four principles, researchers help develop new theoretical knowledge useful for research and transfer relevant management knowledge to support the organizations and communities in developing their innovation capabilities.

A recent research of Sivertsen and Meijer (2020) discusses two types of societal impact: a normal societal impact resulting from the “active, productive, and responsible interactions” (p. 67) between individual researcher, research group or research organization and society, developed to fulfil their purposes in this collaboration, and an extraordinary societal impact, where interactions between research organizations and society have unexpected widespread positive or negative implications for society. In both situations the focus should be on improving the relations between the two sides that work together to better align the outcomes of the research and innovation process with the values, needs, and demands of society (Sivertsen & Meijer, 2020).

The social impact of research is, therefore, valorised across disciplines, for different groups of audiences, in both short and longer term and by taking into consideration multiple levels of analysis and methods and complex interdependencies between academia, businesses, government, and society (Wickert et al., 2020). The Quadruple Helix Model of innovation recognizes the distinctive roles that these major actors have in the innovation system, highlighting the importance of actively integrating the public into research, development and innovation projects (Kristel et al., 2016). The next section presents several approaches discussed in the literature for assessing societal impacts of research.

## ***2.2 Assessing the Societal Impact of Research***

Governments and research funding agencies acknowledge that there is an increasing need for assessing the societal benefits of scientific research, in addition to measuring scientific quality. National science policies and guidelines that incorporate social impact assessment are needed to settle requirements for granting funds and a better allocation of resources. To demonstrate the value of the research and to justify the investments made, HEIs need to evaluate their research impact. Tahamtan and Bornmann (2020) stress that the measurements of the research impact should be intended to show whether pressing “societal needs have or have not been (successfully) targeted by research efforts” (p. 9).

The assessment of research impact is conducted by means of generally accepted standard methodologies, tools, metrics, and (data collection) processes (Bornmann,

2013). Instead, the use of case studies is the favoured approach for evaluating the societal impact of research (Noyons, 2019; Tahamtan & Bornmann, 2020), as the research can be evaluated by the direct beneficiaries for whom the research was intended. Acknowledging the challenging and critical aspect of measuring the societal benefits of science, de Silva and Vance (2017) stressed the importance of use of the alternative metrics or altmetrics in assessing societal impact of scientific research, given the advances of information and communication technology and development of social networking environment. Altmetrics—a range of web-based metrics that are complementary to traditional (citation-based) metrics—are non-traditional metrics proposed as ways to assess non-academic research awareness. For example, Rau et al. (2018) found that “extensive dissemination through project publications, creative online resources and social media activities has ensured that the research findings have attained an international profile and audience beyond academia” (p. 271). This in turn may lead to enhanced research impact outside the academic world where various audiences use the research results but not cite it. Stakeholders’ engagement metrics are frequently used to assess societal impact regardless engagements of stakeholders were beneficial or not (Mårtensson et al., 2016). To assess the connection of research areas with society and measure societal impact, Noyons (2019) used metrics such as co-authorship of industry in publications, mentions of publications in policy documents or social media metrics, which indicate technological application, commercial use and/or political interest of research. According to Muhonen et al. (2020) societal impact of research can be achieved through popular academic publishing but also through extensive media and public engagement, commercialization, stakeholders’ collaboration and discipline interactions or by building epistemic communities.

Nevertheless, assessing societal impact of research is challenging and varied. As per Belcher et al. (2020) societal impacts are achieved when engagement and productive interactions between researchers and non-academic stakeholders influence and contribute to the creation and use of knowledge and lead to changes in behaviours and actions of stakeholders, even if they are gradual. Therefore, societal impact can be easily achieved by enhancing productive discussions between researchers, business professionals and policy makers (Janinovic et al., 2020). The more complex the social change generated through research becomes, the more diverse impact assessments and metrics are needed. Table 8.2 illustrates briefly the different societal dimensions of research impact relevant for the fields of business and management.

As a practical example, one of the tools used to assess the research impacts is ImpactFinder, a tool which helps universities evaluate the impact of their research portfolios across a broad range of social, cultural and economic aspects (Hirunsalee & Punyakumpol, 2019). Also, the Social Impact Open Repository, launched by the European Commission in 2015, acts as a tool for evaluating the social benefits of research and communicating different impact pathways (Janinovic et al., 2020).

For addressing the most pressing societal challenges, European HEIs are expected to develop advanced solutions through research and innovation, which are in the centre of the EU’s economic strategy (European Commission, 2017).

**Table 8.2** Societal dimensions of research impact

<b>Spheres of impact</b>	<b>What it is</b>	<b>How it is being assessed</b>
Scientific impact	Knowledge products, thinking tools, business models	Articles, books, case studies, textbooks, theories, decision-making tools, guidelines, government reports, webinars (Ozanne et al., 2017) Public awareness of important real-world problems relevant to a broader community (Wickert et al., 2020) Changes in institutional practices, new data and resources to cope with for professionals (Muhonen et al., 2020) Alternative pathways and specific solutions for real-world problems (Janinovic et al., 2020)
Economic impact	New products/ processes/ practices, changed behaviours	New products/services (Muhonen et al., 2020), new technologies, service change, business performance measures, jobs created/protected, knowledge transfer partnerships
Social impact	Impacts on societal welfare	Social activism or civil society interventions (Reale et al., 2018) Social equality, welfare or inclusion, public behaviour Changes to social policy (Noyons, 2019)
Education impact	Impacts on learning	Work-integrated learning model providing various co-creation opportunities for university-society research collaboration (Olsson et al., 2020) Case studies, participation of the case's actors in class discussion, elective courses (Wickert et al., 2020)
Cultural impact	Impacts on behaviours, creative practices	Evaluative reviews in the media, citations in reviews outside academic literature, testimonials (Tahamtan & Bornmann, 2020)
Practical impact	Impacts on practitioners and professional services	Enhanced understanding and development of communities of practice with shared values (Ozanne et al., 2017) Change to professional standards, codes of practices, protocols, and performance appraisal systems Change to working guidelines and practices
Public policy impact	Impacts on public policy and law	Specific solutions to matters of public concerns, change to existing policies, policy briefings (Wickert et al., 2020) Citation in policy, regulatory, practice or other documents, partnership agreements, consultancy (Noyons, 2019)
Environmental impact	Avoidance of harm or the waste of resources	Case-specific improvements to environment-related issues (Chams et al., 2020) Changes to environmental policy

(continued)

**Table 8.2** (continued)

<b>Spheres of impact</b>	<b>What it is</b>	<b>How it is being assessed</b>
Quality of life impact	Impacts on the individual, collective and community welfare	Actionable and responsible knowledge and practices that consider individual and collective welfare and social interests (Wickert et al., 2020) Opportunities for self-development and self-management

Higher education institutions participate in various EU funding programmes and initiatives aimed at making a significant, meaningful impact on society. For example, the following EU-level actions are included in the updated “EU agenda for higher education”: EU STE(A)M coalition, Strategic Erasmus+ support for higher education teachers, post-graduate and post-doctoral graduates, Erasmus+ business consortia + / Erasmus+ work placements with digital focus, Higher Education for Smart Specialisation (HESS), Marie Skłodowska-Curie actions, etc. (European Commission, 2017). In the frame of Horizon Europe programme, the European Research Council offers long-term grants for supporting revolutionary research (ERC Work Programme, 2021). In light of this, enabling research with a societal value is now being pursued rather than solely being of a commercial value, which call for applying special research evaluation criteria.

The role of HEIs in production of research with societal impact is reflected in the research assessment principles used worldwide. University research, as well as associated innovation and related social benefits, are evaluated based on a set of internationally accepted principles using a wide assortment of qualitative and quantitative criteria. One of the most essential evaluation principles presupposes that all cultural, social and environmental effects of research have to be considered with due account for specific local, regional and national contexts (AUBR, 2010). Therefore, multi-dimensional and multi-factorial assessments are common (European University Association, 2019), and various criteria are employed in different settings (Abramo & D’Angelo, 2015). The criteria are categorized according to the aspect (effect) they should evaluate (AUBR, 2010). Cultural, social and environmental effects of research include its academic, economic and societal impact, quality and productivity, accompanying innovation, sustainability, etc. The evaluation dimensions embrace the output of individual researchers, project groups, university departments and university itself (Moed & Plume, 2011).

To support the HEI’s work, the following section of the chapter proposes a framework for managing research with societal impact in HEIs.



### 3 A Framework for Managing Research with Societal Impact in Higher Education Institutions

#### 3.1 *HEIs' Ecosystemic Role in Producing Research with Societal Impact*

Societal impact implies making a difference for a society, and for HEIs this translates primarily into teaching, supported by research and community engagement activities. However, from the perspective of a HEI, the focus in research activities is often limited to and guided by the number of produced publications in the right journals, “research, especially quantifiable outputs and publications in the right journals, has emerged as the key to enhanced individual and institutional status and reputations” (Alvesson et al., 2017, p. 13). However, research, development and innovation (RDI) activities of HEIs call for a broader view, cooperation and ecosystemic thinking.

It is proposed here that the future is shaped by megatrends that inevitably translate to the need to be accounted for in HEI's RDI activities for the field of business and management. These are, for example, the second wave of digitalization, sustainable development from the perspective of green and socially responsible solutions, the changes in the worklife structures, continued learning as the norm and entrepreneurial and innovation knowledge as basic skills. As these megatrends impact across contexts, the societal impact of HEI's RDI work calls for the widening of co-operation between HEIs and their communities, extending beyond a single area of research, considering knowledge in terms of its social impact, creating a space for debate and the exchange of views. This line of thinking is supported with the increasingly ecosystemic role assigned to HEIs in recent years, where they are required to take on a more entrepreneurial role as core actors within regional innovation ecosystems (e.g., Etkowitz & Leydesdorff, 2000), resulting in new and varied opportunities for producing research with societal impact. Universities have been observed to evolve towards areas of innovation, expanding their role as dynamic integrators with their surrounding city or environment and, therefore, progressing towards increased visibility and impact within their community at large (Nikina-Ruohonen, 2021).

HEIs are central hubs for talent accumulation and growth. As such, they form the backbone of an ecosystem by bringing together the actors within the community, including students (talent), startups, diversified faculty, professors and researchers with a private sector background, companies as corporate partners, RDI infrastructure, such as Sales & Interaction Labs (Nikina & Pique, 2016). Producing research with societal impact implies bypassing the focus on the number of produced publications and moving towards the ecosystem consideration and engagement in RDI work.

Identifying the spheres of impact expected through the research process should be central to achieving the HEIs' research objectives. Research findings are impactful when they influence business and management practice and behaviours. De Jong and

Muhonen et al. (2020) stress the importance of creating motivation for researchers to commit to a specific societal impact endeavour. Such motivations include either a personal desire to show the societal value of the research or are driven by external pressures: requests from government and stakeholders, expectations of academic communities, requirements resulting from societal impact policies (De Jong & Muhonen, 2020). In line with the need for creating motivation and supporting continuous professional development, Holbrook (2019) pointed out the importance of empowering researchers, through training and learning exchange, “to recognize and pursue ways in which their research can have impact” (p. 88). In their search to understand the effects on scientists of increasing demands of policy makers for research with societal impact, de Jong et al. (2016) found that HEIs’ funding procedures and research assessments should include impact criteria, and university job profiles should consider including impact responsibilities. By improving interactions between academia, scientists, research councils and government, universities are stimulated to transfer their knowledge to society.

Various factors in the HEIs ecosystem, such as the institutional and organizational setting in which the research is conducted, the research networks and interactions with non-academic stakeholders, might act both as enablers or inhibitors in the researchers’ pursuit of distinct societal goals (D’Este et al., 2018). Therefore, researchers should be given bilateral learning opportunities to enhance their capacity to contribute to creation of knowledge that is both scientifically robust and socially relevant, through productive interactions with stakeholders and partners from outside academia (Spaapen & van Drooge, 2011). The presence of societal impact of research should be interpreted in close consideration of the contexts within which the impact emerged and the conditions that support the impact process (Muhonen et al., 2020). D’Este et al. (2018) stressed the importance of setting a working environment for scientists that is supportive of socially-oriented research activities (to enable social engagement, peer community practices, knowledge and technology transfer), includes interdisciplinary research teams and accommodates diverse cultures, and holds a supportive infrastructure. The RDI infrastructure may be employed to identify suitable non-academic stakeholders and partners, assist in the management of research networks and enable dissemination of results.

Research networks act as vital mechanisms for sharing best practice amongst researchers across institutions, managing knowledge exchange and dissemination activities for the public and/or private sectors, and evidencing societal impacts as research practical outcomes (Hewlett, 2018). Societal stakeholders, such as civil society groups, NGOs, educators, governmental agencies, environmental guardians or social workers have different characteristics, expectations, and understandings of what is impactful and, therefore, impact for one group might not have the same meaning as for another. Research networks that are complex and multidirectional allow for productive interactions between researchers and end users because contextual demands and features were included (Ozanne et al., 2017). As per Rau et al. (2018) “dedicated outreach roles and well-resourced support systems for tailored communication and dissemination of research to policy-makers and wider communities are urgently needed” (p. 274).

### ***3.2 Illustrations of HEIs' Strategic Objectives in Impactful Research***

Nowadays, international rankings of worldwide universities are focused on increasing social recognition of academic research. University rankings would enhance HEIs' commitment to improving outcomes associated with the social dimension (Nyssen, 2018). In this context, it is also significant to provide students, academic community and society with accurate and comprehensive information on these outcomes (Nyssen, 2018). To achieve this goal, modern universities develop research strategies aimed at improving their rankings through generating significant societal impact and promoting social innovation at local, national and global levels.

A few examples of strategic objectives with relevance for societal impact of research are given in Table 8.3. They are based on the research strategies of several selected European universities: University of Amsterdam (the Netherlands), Universidad Carlos III de Madrid (Spain), Warwick University and University of Surrey (UK), University of Oslo (Norway), Transport and Telecommunication Institute (Latvia), Masaryk University (Czech Republic). The following criteria were used in the selection of the universities. The universities represent different geographic regions of Europe. Their strategies are publicly available; this approach allows them to effectively leverage publicly available data to increase their "visibility" and better target stakeholders. As emphasised in their research strategies, economic and social benefits of research are very important and extensive; the first-class research conducted in these universities is a vital element for their competitiveness in the context of the country's international competitiveness. As a result, they develop and regularly update their research strategies.

### ***3.3 Societal Impact through the Lens of Researcher***

Ultimately the societal impact of research manifests in the work produced by HEI researchers. Therefore, the adoption of the mindset of the societal impact by researchers takes the central stage as an individual researcher or a research team progress in their planning, execution and follow-up of the research. D'Este et al. (2018) discussed four factors that create a favourable disposition for researchers to achieve societal goals in research activities: motivations for conducting research that exhibits bilateral learning opportunities, a positive attitude toward setting the scientific research agenda in cooperation with non-academic actors, holding diverse skills and intellectual capital, and appropriate professional trajectories within disciplinary domains. In this chapter societal impact considerations are projected against the main phases of the research process.

**Identifying Research Problems** In selecting the research angle, the impact of it for business and society at large may be considered through tackling a real-world

**Table 8.3** Increasing societal impact of university research

<b>Strategic objectives set with relevance for societal impact (examples)</b>	<b>Supporting initiatives</b>
Creating an “innovation ecosystem”: Sustaining the research environment that encourages innovation and addresses social challenges	<ul style="list-style-type: none"> <li>- Creating a pool of internationally recognized researchers conducting pragmatic research driven by strong relations with industry (e.g., research parks)</li> <li>- Improving the research infrastructure with emphasis on improving data sharing</li> <li>- Attracting external funding schemes designed to meet social challenges</li> <li>- Developing the capacity to influence public policy and practice through strategic partnerships with industry around multi-disciplines and multi-sectors</li> <li>- Awarding internal grants for innovative ideas with high potential for future societal impact</li> </ul>
Aligning degree programmes with research priorities and values, as well as with the requirements of the society	<ul style="list-style-type: none"> <li>- Developing inclusive interdisciplinary programmes with industry, introducing new learning modules on sustainability, cross-cultural perspectives, social justice, etc.</li> <li>- Integrating technology and social sciences, arts and humanities in the campus culture of cooperation</li> <li>- Creating new doctoral programmes through collaboration with industry with international exposure</li> </ul>
Communicating forefront research with relevance for societal impact and innovation through active dialogue and cooperation with the society-at-large	<ul style="list-style-type: none"> <li>- Establishing a closer dialogue with the authorities and with the business sector in the region</li> <li>- Distributing research results communicated through top publications, academic and professional forums to the community and industry</li> <li>- Delivering impact across multiple sectors through various innovation activities: Industry-university sponsorships, shared research projects with practitioners, university museums, etc.</li> <li>- Pragmatically commercialising research through establishing ventures, licenses, etc.</li> <li>- Using social media to publicize the results of research</li> </ul>

Source: Based on the analysis of the selected universities' research strategies: University of Warwick Research Strategy 2018–2023 ([https://warwick.ac.uk/research/edit-contents/uow\\_research\\_strategy.pdf](https://warwick.ac.uk/research/edit-contents/uow_research_strategy.pdf)); University of Oslo Research Strategy 2020 (<https://www.uio.no/english/about/strategy/Strategy2020-English.pdf>); Transport and Telecommunication Institute Research Programme 2015–2022 ([https://tsi.lv/wp-content/uploads/2020/02/tti\\_research\\_programme\\_2015-2020.pdf](https://tsi.lv/wp-content/uploads/2020/02/tti_research_programme_2015-2020.pdf)); Masaryk University Research Framework for 2021–2025 ([https://www.muni.cz/media/3177483/annex\\_mu\\_research-framework-for\\_2021\\_2025.pdf](https://www.muni.cz/media/3177483/annex_mu_research-framework-for_2021_2025.pdf)); University of Amsterdam Strategic Plan 2021–2026 (<https://www.uva.nl/en/about-the-uva/policy-and-regulations/policy/strategic-plan/strategic-plan.html?cb>); Universidad Carlos III de Madrid Strategic Plan 2016–2022 (<https://www.uc3m.es/about-uc3m/plan-programme-2016-2022>); University of Surrey Research and Innovation Strategy 2019–2022 (<https://www.surrey.ac.uk/sites/default/files/2020-03/research-and-innovation-strategy.pdf>)

phenomenon, identifying an ongoing debate and participating in it—for instance, through engaged scholarship, collaboration, consulting and mobility (Muhonen et al., 2020). Societal research impact may be reached by addressing specific solutions to matters of public concerns. Adopting a perspective of interdisciplinarity supports thinking across boundaries when observing socially important phenomena. Involving a combination of two or more academic disciplines into one research activity allows for the knowledge to be drawn from several fields, such as sociology, anthropology, psychology, and economics. Identifying the research problem of a meaningful and far-reaching impact is an act of cross-examining the real-world issues against the research priorities set by the HEI. Ozanne et al. (2017) stressed that, from a researcher’s perspective, societal benefits are only indirect outcomes of research that occur later, over which they have far less control.

**Reviewing Literature and Best Practices** Dedicating time to thorough understanding of the existing body of knowledge and pinpointing the unique research gaps is critical for any impactful research. However, when the reference is made to research with societal impact specifically, there are additional considerations. First, the classical aim of the review of literature remains the same—to make a meaningful, novel, original theoretical contribution that leads to deeper understanding of important real-world problems (Belcher et al., 2020). Second, in distinguishing the relevant research gaps, a good grasp of the practical, confirmed experiences is needed—which refers to the mix of scientific and other professional literature and best practices. In the end, for every real-life problem, a conceptual framework or a theoretical reference can be established. And, third, hearing and taking into consideration the multitude of voices and perspectives is imperative for a genuinely impactful research—the aspect that needs to be reflected in the dialogue of literature and sources (Olsson et al., 2020).

**Setting Research Questions, Objectives, Hypotheses** Setting the objectives and research questions is aligned with what type of impact is expected from the research, be that leading to the purely theoretical implications or aiming at shaping management practices and behaviours. Certainly, both have value. However, it is to be considered that it is the applied research that is more development-oriented rather than academic knowledge intensive. Applied research seeks to solve specific problems or provide innovative solutions to issues affecting an individual, group or society. In applied research, the practical application of scientific methods to everyday problems is prevalent, and this is an essential contribution to formulating research questions and setting research objectives.

In this phase of a research process, engaging the network of HEI’s university and corporate partners is of value (Hewlett, 2018). Corporate partners, trade unions and business support organizations bring to the table real-life tangible cases and problems in need of solutions. Local and international university partners help to attract the best minds and reach impact through partnering. Integrating the networks throughout the phases of the research process enhances the potential for creating research with societal impact.

**Selecting Research Design** In choosing the study design, research that is not purely academic but rather applied in nature calls for the respective methodologies. Characteristic approaches to applied research are action research, phenomenon based, research and development, evaluation research, case studies. In addition to the established, vastly used and published methodologies, both qualitative and quantitative (and respective data gathering tools, such as interviews, surveys), other approaches may be employed, including research and development workshops, collaborative development techniques, experiments, and hackathons.

The critical point of evaluation is the approach to sample in aiming to produce research with societal impact. There are several angles to digest. For example, can a widely researched societal concern be revisited with a novel sample? Is there sufficient dialog between stakeholder perspectives within sampling? Are minority and niche perspectives considered? Has a wide scope of contexts been addressed?

**Reporting Research Results** Effective communication of results often makes or breaks the research in terms of its factual impact. Academically tailored peer-reviewed publications are certainly about quality and impact factors of the journals where they are published, rather than the number of publications. Simultaneously an impact is created through the use of a wide range of dissemination channels, such as public presentations to non-academic stakeholders, public media, exhibitions, networks outside academia (Davison & Bjorn-Andersen, 2019). Journals connecting managerial and academic audiences are popular and well-referenced, including such examples as Harvard Business Review, MIT Sloan, and California Management Review. Professional blogs, podcasts, social media (Twitter, LinkedIn), management books—are all examples of how to scale up and report on research results broadly. Discussing or offering specific solutions for business or matters of public concerns is highlighted in this context. Davison and Bjorn-Andersen (2019) stressed that a confirmation of the societal impact obtained by researcher is when their research results were picked up by relevant non-academic stakeholders and the researcher receives funds from industry and government and works in partnership (engaged scholarship, innovation projects, consulting, action research) with non-academic stakeholders in order to solve societal challenges.

Integration with teaching is an important avenue for HEIs to ensure societal impact of research. It is essential to consider student engagement upfront, when the research project ideas are brainstormed. These may include, for instance, engaging students in the research activities either through coursework or thesis writing benefits, inviting students for internships within research projects. It is equally important to consider the integration of the research results in teaching, course modules, open-access lecture materials and other pedagogical outlets.

## 4 HEI Management Framework for Producing Research with Societal Impact

The production of research with societal impact by HEIs is a multidimensional task that calls for the vision of the global trends combined with designing the research strategy and activities at the nexus of academia, businesses, government, and society. Identifying research and innovation networks as well as key partnerships for RDI, not only understanding the role of key societal stakeholders in research networks, but actively interacting and engaging them is essential (De Jong & Muhonen, 2020). Table 8.4 brings together the key elements that HEI management needs to incorporate in order to reach notable societal impact in its RDI pursuits. The managerial considerations are shaped around HEI internal and external environment.

**Context and Strategy** In pursuing research work with high societal impact, the overall HEI context is influenced by the size, the guiding mission of the organization, organizational and ownership structure (Lakiza & Deschamps, 2019). These are projected against the opportunities and threats of the external environment, the global trends, the observations of the HEI surrounding community and ecosystem within which it operates. The HEI RDI strategy and vision are shaped with the examination of the above (Holbrook, 2019). Furthermore, RDI focus areas and range of impacts are defined by HEI's strengths and main spheres of expertise (D'Este et al., 2018). For example, among the leading universities of applied sciences in Helsinki, Finland, Haaga-Helia University of Applied Sciences holds the position of the principal business and management HEI, while another partner-HEI in the same region Laurea University of Applied Sciences specializes in social services, nursing and wellbeing industry focus. The spheres of HEI expertise form across the years and are rooted in organizational history. RDI efforts aiming at societal impact need to be designed with these specializations in mind. This will enable the integration of RDI processes and results in teaching, which is one of the key direct ways of how the results of RDI benefit future young talents and are thereafter translated to societal impact together with students' future employment.

In social, management and business sciences less attention has been typically given to the design of infrastructure and facilities for supporting research and facilitating its impact. However, in the recent years more HEIs seek to develop forward-looking RDI infrastructure with the use of new technologies and experimentation facilities, allowing higher societal impact of research by the employment of contemporary digital solutions. One example is LAB8 Service Experience laboratory by Haaga-Helia University of Applied Sciences in Helsinki, Finland. The laboratory's focus is on service and experience design. LAB8 conducts trend research, provides event production services and applies the latest technologies to construct a customer journey and experience. Another example is GEM Labs in Grenoble, France—a campus created by the principle of an immersive business lab, where researchers, students, decision-makers and their teams come to experiment with new ways of seeing and doing business, developing their activities and creating value. This and other strategic approaches strengthen the impact of HEI within

**Table 8.4** Framework for managing research with societal impact in HEIs: Main elements

<b>Element</b>	<b>Internal managerial concerns</b>	<b>External managerial concerns</b>
Context and mission	Size, structure, mission, ownership	External settings and forces, emerging opportunities and threats, business ecosystems, global trends, RDI priorities
Strategy	RDI vision and strategy, focus areas and spheres of expertise Forward-thinking RDI infrastructure and experimentation facilities for enabling research impact Shifting to science-based applied research with high societal impact Integrating RDI in teaching Funding schemes based on RDI priorities Internal societal impact reporting	Facilitating external research impact in community Spheres of impact within HEI's ecosystem Funding schemes to facilitate societal impact of research External societal impact reporting
People	Cross-sectorial managerial capacities which are RDI and industry versed Internal RDI personnel strategy Advanced training and development to support RDI work with societal impact Internal research grants and other incentives RDI merit evaluations, promotion opportunities	External staffing strategy at the crossroad of RDI—industry—teaching Internationally connected research groups and clusters External research grants within HEI's priority areas Distributing research impact across multi-sectors and multi-stakeholders
Partnerships	Multi-stakeholders involvement in RDI processes Cross-discipline cooperation in RDI projects	Involving external multi-stakeholders and networks in RDI Government, local authorities, industry-commissioned RDI projects University partnerships locally and internationally aiming for international scalability of RDI results and its societal impact
Communication	Communication tailored at non-RDI personnel to take part in RDI activities Operating HEI internal research accelerators Visibly positioning RDI news and engagement opportunities in internal communication channels	Strategic and phased approach to RDI project communication Communicating the tools for project results' implementation to relevant stakeholders Balanced publication strategy, consideration of all academic, professional and wide-audience outlets

Source: Adapted based on (D'Este et al., 2018, Holbrook, 2019, Janinovic et al., 2020, Olsson et al., 2020, Spaapen & Sivertsen, 2020, Wickert et al., 2020)

the ecosystem where it operates and advance the correlation between HEI's RDI strategy with the external impact within its community, internal and external stakeholders. The parallel implication is the shifting of the focus from purely scientific, fundamental research to science-based applied research with high societal impact.



**People and Partnerships** Human resources considerations are the heart of managerial decisions in the process of increasing societal impact of research projects. At the management-level recruitment and personnel development within HEIs, the capacities and capabilities need to be (a) cross-sectorial, (b) RDI and industry versed, (c) with managers having a grasp on both RDI and teaching as well as their integration. Other notable personnel decisions include the processes and tools for involving teaching faculty in RDI activities, as opposed to limiting the research projects only to the dedicated personnel. The personnel recruitment, involvement and incentive support to advance research with societal impact will benefit greatly from addressing it at the level of HR strategy and policy development of HEI overall. Other considerations include integrating HEI's researchers and faculty within internationally connected research groups and clusters, pursuing external research grants within HEI's priority areas, rewarding the distribution of research impact across multiple sectors through various innovation activities, top publications, forums.

Partnerships and the network that HEIs develop holds notable implications for HEI's success in producing research with societal impact (Hewlett, 2018). From the perspective of internal organizational considerations, this implies fostering the internal innovation ecosystem by including all relevant stakeholders—not only research personnel, but students, student startups, teaching faculty, in RDI processes.

Furthermore, there are several RDI disciplines that HEI typically pursues, and the essential notion is not to limit the RDI project creation within single disciplines, but rather to advance cross-discipline cooperation in research projects' ideation, creation and implementation. Just like in business and outside world, there is a great call for the interdisciplinary approach.

Every HEI has its own network of corporate and organizational partnerships, which takes years and notable effort to build (Olsson et al., 2020). Some of the typical formats of cooperation with such partners include student recruitment and co-branding and positioning efforts. However, inviting and incorporating HEI's corporate partners' network in RDI projects offers great potential both to extend the cooperation to a new sphere and increases the chances of making the research relevant, valuable and applicable for the real-life business and management context. On an additional note, this could open the doors for government, local authorities or industry-commissioned RDI projects (Janinovic et al., 2020), providing HEI with a revenue stream for its research activities. Forming university partnerships locally helps to seek complementarity of skills and research competencies in order to jointly pursuit of RDI projects and respective research financing. International-level university partnerships often aim at scalability of RDI projects, their results and extended geographical societal impact.

**Communication** is critical in translating research activities and results into meaningful outcomes and development suggestions for industry, business and society at large. The communication efforts start with the well-coordinated efforts aimed at internal stakeholders. It starts with communication tailored at inviting non-RDI personnel (such as teaching faculty) to be aware of and take part in RDI activities and projects. HEIs may operate an internal research accelerator, where

current RDI opportunities are addressed with everybody who is interested. Giving visibly and positioning RDI news, current projects and engagement opportunities in internal communication channels generates discussion and attention.

From the perspective of external communication, a strategic and phased approach to RDI project communication is required, integrated and implemented within every RDI project (upon project launch, implementation and conclusion). More often than not this remains an un-noted and under-resourced aspect of a new research project in the planning. Organization-level procedures and guidelines help to anticipate the external communication needs related to individual research initiatives.

Integrating the tools for project results' implementation is an essential part of an RDI project and communicating the availability of such tools to relevant non-academic stakeholders. Be that a process chart, a model, a guidebook—or another key research output—packaging it for the relevant audience and supporting its spread via appropriate channels (partner channels, conferences, workshops, etc.) and accessible means (newspapers, podcasts, blogs, MOOC, etc.) creates exponentially more value (Janinovic et al., 2020). Research projects often call for academic publications in high quality peer-reviewed journals. However, a balanced publication strategy is something to be considered and advanced at HEI level. Muhonen et al. (2020), *for instance, stress the importance of interactive dissemination of research results via various channels* including scientific publications, social media, websites, databases, and broadcasts, by involving stakeholders and users of the research. This way they become aware of the research results and can offer a societal response. Dissemination of research results through a broad range of publications and in their various formats, publication in vernacular languages with the consideration of both academic, professional and wide-audience outlets, will aim to generate constructive discussion, facilitate development efforts and, ultimately, achieve meaningful impact (Wickert et al., 2020).

## 5 Conclusion and Implications for HEI Management

HEIs are under the pressure for renewal and re-imagining of their work, processes and transition to the new digital realities—further expedited by the Covid-19 realities. A notable call exists for HEIs to advance their societal impact policies, strategies and capacities through research at the level of competencies, abilities, attitudes—with the creation of respective support structures to sustain a broad range of research impacts.

To the date, the societal impact of research is something that HEIs have been pursuing independently with a varying degree of purposefulness. At the same time, the uniform design of evaluation criteria for research with societal impact along with respective policies and strategies is still work-in-progress on a wider institutional level. There is extensive work still to be done to design formal societal impact evaluation criteria at national level for reporting research results and to encourage formal societal research impact reporting at the national and/or institutional level.

Certainly, the discussion of the impact of research carried out by HEIs in the spheres of business and management has a significant connotation for industry, economy and society at large. Yeo (2018) found that university innovation enabled by RDI is a significant predictor of regional economic performance, among other innovation drivers from the private sector. As a result, innovation management policies and initiatives pertaining to university deserve special attention and should be tailored to university's specific social contexts. There is also a necessity to explore the societal value of the research produced by HEIs to the community and voluntary sector as the contemporary higher education landscape places a significant emphasis on brokering linkages with it in order to promote applied research with positive societal impacts.

The present work has taken steps towards flashing out the key aspects of what is considered societal impact of research in HEI context and in business and management sphere in particular. The proposed framework for managing societal impact of research is to serve as a point of reference to generate the practical discussion and review within a HEI.

The proposed framework for fostering research with societal impact holds the fields of business and management within the primary focus, but may benefit also other disciplines. Advancing research with societal impact is advocated across disciplines and may be in part viewed as a cross-disciplinary challenge. With the business, management and entrepreneurship settings, future investigation may advance the discussion to the exploration of social enterprises, social entrepreneurship and social impact measuring. Furthermore, each HEI's operating environment is different, and the elements of the framework are adaptable to reflect that. The chapter provides a broader conceptualization of societal impact of research that allows HEIs to prioritize areas where they can create research impact, either academia, policy or practice.

As HEIs are operating in the environment of increasing expectations for practical implications of their RDI activities, the resources need to be adjusted accordingly. We see the trend for multi-stream financing of RDI work implying the strong applied research results for the engaged stakeholders. The human resource considerations include the intrinsically built demand for the RDI projects and their results to be integrated within HEI's teaching and student engagement. In addition to resource considerations, the quest for greater societal impact of research reflects the need for the larger HEI cultural change, cross-scientific approach, development of research infrastructure and its operation by the open innovation principle. Facilitating and enabling research with societal impact is a powerful tool for HEI reinvention.

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## Chapter 9

# The Role of Higher Education in Creating Socially Responsible Innovations: A Case Study of the EIT Food RIS Consumer Engagement Labs Project



Krzysztof Klincewicz, Magdalena Zatorska, and Anna Wielicka-Regulska

**Abstract** The chapter discusses the concept of socially responsible innovations and links it to the third mission of universities, understood in terms of social engagement of the higher education institutions. It presents the case study of the EIT Food RIS Consumer Engagement Labs project (funded by the European Institute of Innovation and Technology, EIT, in the framework of Regional Innovation Scheme, RIS). The project has been rolled out to 14 European countries. It serves as a successful example of universities orchestrating the process of co-creation of new products, which involves consumers and producers. The process aimed to address societal challenges and serve the needs of a vulnerable group of senior citizens by developing new food products, proposed by the elderly consumers and matching their specific needs and requirements. It looks at the project experiences through the lenses of inclusion and responsiveness, which allow the universities to combine social responsibility with commercially attractive innovations. Universities involved in the project were playing the role of “interpreters”, linking companies and consumers, facilitating the creative activities and ensuring the methodological and ethical soundness of the co-creation processes.

**Keywords** Responsible research and innovation · Socially responsible innovations · Co-creation · University · Third mission

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### **The Key Points of the Chapter Are the Following**

- Universities can actively stimulate the development of socially responsible innovations in the private sector by orchestrating co-creation processes.
- Co-creation of new products, involving consumers and producers, may address the needs of vulnerable or previously overlooked citizens.
- Universities facilitating co-creation strengthen the inclusion and responsiveness dimensions of this process, intermediating between companies and citizens.
- Through co-creation, socially responsible approaches can strengthen both the commercial and ethical aspects of product development.
- The chapter documents experiences of the EIT Food RIS Consumer Engagement Labs project, focused on development of new food products with the involvement of elderly consumers.

## **1 Introduction**

The modern role of universities goes beyond teaching and research and is determined by the changing needs and expectations of the society, with scientists and university administrators reacting to various external conditions and identified societal challenges. The recognition of the economic potential of academic research has led to an increase in research commercialization activities but has also made the universities more capable of solving important social problems by leveraging the accumulated scientific knowledge. This social engagement of universities is often referred to as “the third mission”. In fulfilling this mission, universities develop and implement social innovations and socially responsible innovations.

The chapter presents the possible role of universities in promoting socially responsible innovations. It discusses the third mission of universities, outlining differences between their commercial and societal orientation. It further introduces the notion of socially responsible innovations, differentiates it from social innovations and puts in a broader context of literature on responsible research and innovation.

The discussion is illustrated by a case study of the EIT Food RIS Consumer Engagement Labs project ([www.timo.wz.uw.edu.pl/cel](http://www.timo.wz.uw.edu.pl/cel)), as an example of good practices in implementing responsible research and innovations, or socially responsible innovations. The project involved a specific category of societal interactions, namely the co-creation of new products by consumers and producers. In 14 European countries, universities participating in the project were working together with seniors and food sector companies, uncovering the needs of elderly consumers, designing new food products that satisfy their specific requirements, and supporting companies in launching them on the market. In the analysed case study, universities were acting in a new role of intermediators of a dialogue between consumers and producers. The project targeted a vulnerable group of citizens (seniors), ensuring their recognition by food producers regardless of the limited profitability of this consumer segment.

As the chapter will demonstrate, universities have the potential to catalyse innovations in the private sector. This could happen by support for the co-creation processes and for the development of products and services, proposed as outcomes of the co-creation, based on scientific knowledge, good practices and specialist methodologies. The example of the EIT Food RIS Consumer Engagement Labs project highlights the unique position of universities as supporters of the private sector endeavours, adding credibility and pro-social impact, ensuring their methodological and ethical soundness and encouraging companies to pursue socially responsible strategies.

The chapter is empirically founded, going beyond the present understanding of the third mission and social impacts that could be spurred by universities. It will discuss the opportunities for deeper involvement of universities with external stakeholders, presenting a specific scenario of new product co-creation as an example of a desirable intervention aimed at addressing important societal challenges by higher education.

## 2 The Third Mission of Universities

The role of higher education institutions (HEIs) evolved from “ivory towers”, purely interested in the pursuit of knowledge and free from external influences (Ocean et al., 2020) towards becoming active players in regional innovation ecosystems. Universities are nowadays regarded as key contributors to the economic prosperity of the region through knowledge creation and dissemination (Fukugawa, 2017), and many of them also try to address societal and environmental problems, performing important social functions (Secundo et al., 2017). In the second half of the twentieth century, the latter role was described as the “third mission” (Etzkowitz, 1983; Etzkowitz, 2013), which complements academic research and teaching, placing the university at the service of society (Gimenez & Bonacelli, 2019, p. 12).

Historically, the emergence of the HEIs’ third mission could be traced back to the reliance of the leading US universities such as MIT, Stanford or Harvard on the private sources of funding, making them naturally more attentive to the needs of external non-academic stakeholders. This has increased the importance of knowledge transfer by patenting, licensing, creation of spin-off companies and investments in start-ups (Etzkowitz et al., 1998), and strengthened interactions between universities, industry and other societal stakeholders (Leydesdorff & Etzkowitz, 1998). European universities followed a similar path, extending the Humboldtian paradigm of a research university and acknowledging the societal importance of academic endeavours (Trencher et al., 2014). The concept of the third mission goes beyond the mere commercialization of research and could be understood as a process of public engagement intended to solve problems relevant to a society or a community and thereby, contribute to the increased innovativeness and social changes (Sánchez-Barrioluengo & Benneworth, 2019; for other definitions of the third mission, see e.g., Papadimitriou, 2020; Rubens et al., 2017). Of particular importance is the cooperation between universities and their stakeholders (Aversano et al., 2020), aimed at “the social, cultural and economic development of communities”

(Compagnucci & Spigarelli, 2020, p. 6), capable of addressing specific societal challenges (Kattel & Mazzucato, 2018). Owing to their third missions, HEIs can actively participate in the public debate and actions tackling issues of transnational importance such as climate change, ageing, digital transformation, health or economic crises (Wanzenböck et al., 2020). The civic engagement of universities (Buffel et al., 2017) drives their embeddedness in the local environment and the provision of services to the local communities.

Implementing the third mission comes at a cost. Universities establish living laboratories, science shops, policy labs, maker spaces, fab labs and open online courses. Scientists devote their time to public participation, knowledge dissemination and various communal duties. Stakeholder collaboration to jointly tackle societal problems usually requires the involvement of interdisciplinary teams over some time (Flores et al., 2007). Furthermore, the pursuit of the third mission poses the risk of diverting financial and human resources from the generation of new scientific knowledge and teaching responsibilities of the university and might not be adequately captured by the indicators typically used to evaluate academic performance (Lund, 2020).

The third mission is linked to the social responsibility of universities, frequently discussed as the responsible research and innovation (Inigo & Blok, 2019; Carrier & Gartzlaff, 2020), where science works for the benefits of society (Owen et al., 2012). This societal alignment of universities is not unquestionable (Ribeiro et al., 2018) and might actually clash with the neoliberal tendencies in higher education (Taylor, 2017; Torres & Schugurensky, 2002). The challenges of the social responsibility of the higher education sector will be discussed in the following sub-chapter.

### 3 Socially Responsible Innovations

The concept of responsible innovations is interpreted as “taking care of the future through collective stewardship of science and innovation in the present” (Stilgoe et al., 2013, p. 1570), which translates into developing and diffusing innovative solutions to important societal challenges. The typical dimensions of responsible innovation encompass the anticipation of innovation consequences, reflexivity, the inclusion of stakeholders in decision-making processes and responsiveness (Stilgoe et al., 2013, pp. 1570–1573). For an extensive review of literature on responsible innovations, see Schuijff and Dijkstra (2019).

Socially responsible innovations differ from social innovations—manifestations of changes that address identified societal problems (Cajaiba-Santana, 2014), aimed at improving the welfare of individuals or communities (OECD/Eurostat, 2018, p. 252), not necessarily embodied in technologies but rather enacted through institutions, practices and social processes (Jessop et al., 2013), without material form or technological dimensions. Stakeholder collaboration is at the core of responsible research and innovation (Jarmai & Vogel-Pöschl, 2020), driven by the responsiveness towards the society and the needs of its members (Nielsen, 2016).

Interestingly, the voices of potential users and societal stakeholders are not always listened to by companies while developing and commercializing innovations. Corporate approaches to new products and services are often criticized for “innovation gone mad” (Laloux, 2014, p. 29), i.e., disregarding expectations of customers and instead, trying to stimulate demand for otherwise unwanted products. Sophisticated technologies gradually lose connection to the needs of actual users, as the “high tech intoxication” of companies progresses (Naisbitt, 2001, p. 12). This disconnection between users and suppliers is further exacerbated by investors, who tend to finance fashionable technological fields, not necessarily desired by average citizens (Perez, 2002). Empirical studies indicate that lack of understanding of customer needs belongs to the most common sources of innovation failures (Freeman & Soete, 1997, p. 381). Pro-innovation bias is the erroneous assumption that all innovations are beneficial (Rogers, 1995, p. 100), even though they are not always useful. The differentiated usefulness of innovations might encompass being good for an individual user, for people surrounding the user, for the industry or for the broader society (Berkun, 2007, pp. 138–140). Innovations tend to contribute towards the rise in inequality and in socioeconomic gaps between members of societies or countries (Rogers, 1995, p. 125) that can benefit from the novelties or are barred from using them.

The increased importance of users or customers in innovation processes has an important ethical angle, strengthening the socially responsible conduct of companies. Customers are nowadays well informed and active, owing to the ubiquitous information access and frequency of communication with peers including domain experts (Prahalad & Ramaswamy, 2006, pp. 2–6). They are capable of offering direct inputs into the design and development of new products and services, in a process described as the co-creation of value between customers and producers (Prahalad & Ramaswamy, 2006, p. 22). The role of users in refining the functionality and usage patterns of technological artefacts was observed in the history of technologies (Bijker et al., 1989), but it could now be elevated to a new level with the explicit involvement of users in the generation of new product concepts through co-creation initiatives. Innovations may be generated by amateur users and hobbyists, including through DIY (do-it-yourself) communities formed around products, “customer hacking” (Tapscott & Williams, 2006, pp. 128–135), or collective development efforts responding to specific needs of users, which circumvent companies or intellectual property rights (Potts, 2019, p. 156).

More structured co-creation initiatives foresee also specific roles for companies, which interact with users and jointly create innovative concepts. Co-creating users reveal product characteristics perceived by them as valuable and as Miller and Swaddling (2002) argue, such insights might even be superior to findings of traditional research techniques aimed at eliciting requirements such as individual or group interviews. Typical co-creation sessions involve “average” customers, with the composition of the panel striving for representativeness and diversity, and this differs from the lead users’ workshops, focused on the most active users of a given product category (Meadows, 2002), capable of recommending specific

improvements based on their prior experiences and regarded by companies as externally contracted experts.

The involvement of customers could address one of the key challenges of the innovation process, related to its initial step, described as the “fuzzy front end”, which precedes the actual new product development and entails a relatively chaotic quest for new ideas and concepts (Koen et al., 2002, pp. 5–6). Throughout the fuzzy front end efforts, a company would aim to identify an opportunity, understood as an existing gap between the current status and the potential future, with a view to solve a problem or address a difficulty by the subsequent development of a new product (Koen et al., 2002, p. 7). Early involvement of customers in the generation of ideas for new products as part of the fuzzy frontend stage could reduce uncertainty and contribute to the future commercial success of innovations (Zhang & Doll, 2001, p. 104). Such involvement of consumers—co-creators remains relatively rare in the industry, as companies tend to generate new product concepts internally by trial and error or anticipation of possible user requirements (Phillips et al., 1999, pp. 292–294; Kurkkio, 2011, pp. 262–263). Not surprisingly, the early involvement of external stakeholders allows organizations to understand the available options and expected outcomes (Schuijff & Dijkstra, 2019, p. 535). The co-creation reflects the principles of socially responsible design, which take into account the needs of potential users while ensuring cultural appropriateness, affordability, usability and avoidance of user dependence (Melles et al., 2011, p. 149). The collective dynamics of the co-creation processes resemble the concept of social labs, which involve social experiments carried out in a practical context with a group of stakeholders (Timmermans et al., 2020, p. 412).

Co-production can be interpreted as an essential form of social innovations (Evers & Ewert, 2021, p. 133). Despite the obvious economic and ethical benefits of involving users in the co-design of innovations, the actual involvement of users in genuine co-creation efforts remains limited. Instead of joint development of product concepts and project proposals, companies are more open to inviting stakeholders to evaluate expected outcomes of the already developed innovations and thus facilitate their sales (Schuijff & Dijkstra, 2019, p. 563). Scientific publications tend to document the involvement of stakeholders other than the end users of innovations (Rowe & Frewer, 2005, p. 257; Gemen et al., 2015; Khan et al., 2016). Examples of public engagement related to the evaluation of consequences of innovations, as well as to the identification and alleviation of possible societal concerns appear more frequent than participation in the development of new product concepts (Te Kulve & Rip, 2011; Irwin et al., 2013; Pepo & Matschoss, 2019, p. 123).

While considering limitations of the co-creation practices, it must be mentioned that the mere involvement of citizens is not a guarantee for their concerns being addressed by the innovators, especially as the participation could be used to argue for the legitimacy of end user consultations while disregarding the actual inputs (Pepo & Matschoss, 2019, p. 121). There are different modalities of citizen engagement, including: communication (being informed), consultation (providing feedback and suggestions) and participation (bi-lateral exchanges) (Rowe & Frewer, 2005, pp. 254–255). Genuine public participation calls for the stakeholders’

representativeness, independence, becoming involved as early as possible and having actual influence over the outcomes (Rowe & Frewer, 2000). At the same time, in the case of the involvement of stakeholders in the development of new product concepts, full transparency of the process would actually become problematic because the outcome innovations are important sources of competitive advantage for the interested company (Blok & Lemmens, 2015, pp. 23–24), so tensions could arise between the transparency and the secrecy needed to successfully introduce new solutions.

## 4 Universities and Socially Responsible Innovations

The social responsibility of innovators gains increasing importance in government policies, targeting industry and science. Traditionally, the technology policies were primarily focused on stimulating the growth of innovative industry sectors (Mowery & Rosenberg, 1989) and did not respond to the specific needs of potential end users. The Schumpeterian tradition of entrepreneurship and innovation research was oriented towards benefits derived by private companies from the development of technologies and market rivalry (Nelson, 1992, p. 57), but the reliance of the private sector on public sources of funding for Research & Development enabled the governments to reshuffle the policy priorities as companies were no longer “the only actors in the innovation game” (Nelson, 1992, p. 60). In the 1990s, societal benefits became increasingly important with “mission-oriented policies” addressing specific challenges such as environmental sustainability (Freeman & Soete, 1997, pp. 414–415). Nowadays, the state is not only expected to reduce private risks in innovation processes but also to actively shape the innovation agendas in response to the identified societal needs (Mazzucato, 2013). Companies adjust to these imperatives by strengthening their responsiveness to the needs of specific groups of the society, including niche users and their value systems (Stilgoe et al., 2013, p. 1573).

The development and implementation of inclusive innovations or “pro-poor innovations” address the requirements of many citizens of the developing countries described as “the bottom of the pyramid” and ideally, is enacted with their involvement (World Bank, 2010, p. 335). A similarly proactive approach, relevant also for wealthier countries, entails the pursuit of needs expressed by vulnerable groups of the society. These vulnerabilities could include among others: health or age-related deficiencies, minority status, the limited size of customer niches or low purchasing power that discourage corporate investments in product development. The latter scenario could be successfully addressed by frugal innovations—products with restricted functionalities, but still being “good-enough” and affordable (Zeschky et al., 2011). Customer vulnerabilities could actually translate into strong selling points for new products, as in the case of drugs targeting rare diseases or assistive technologies that improve the quality of life of the disabled or seniors (Bechtold et al., 2017). The promotion of socially responsible innovations could be considered “the democratic governance of intent”: collective debates about purposes of

generating and diffusing innovations (Owen et al., 2013), in an effort to address the externalities of innovations.

The principles of responsible research and innovation became embedded into the policies and funding modalities of the European Union (De Saille, 2015). They are becoming gradually imprinted upon actors of innovation systems by the national funding agencies, accreditation bodies and governmental policymakers carrying out an institutional assessment of universities and research institutes (Owen et al., 2021). In this context, the consideration for socially relevant innovations has the potential to transform the role of universities in society and helps higher education institutions change the ways of teaching and doing research, aiming to generate societally relevant outcomes of innovation processes of academia. This means a paradigm shift on multiple levels, including: individual scientists (who become more embedded into the societal context in their teaching and research), research teams (addressing specific, externally defined challenges, such as e.g. climate change, health, nutrition, ageing society, equal access to information or empowerment of citizens) and the entire institutions. This approach partly overlaps with the third mission of universities. The third mission goes beyond education and research, focusing on impacts, economic and social consequences of academic endeavours, and could include: the creation of intellectual property and spin-offs, contracts with industry and government, participation in policy-making, social and cultural life as well as public dissemination of scientific results (Laredo, 2007, pp. 447–448). Importantly, the third mission covers both revenue-generating activities (including patenting, technology transfer and spinning off companies) and non-commercial actions that offer valuable contributions to society (Montesinos et al., 2008, p. 262).

As the chapter will demonstrate, universities could become important catalysts of innovation in the private sector, developed with the involvement of customers through co-creation initiatives. Academia can leverage the specialist knowledge of scientists, good practices and participative methodologies to stimulate the dialogue between customers and companies, aiming to develop innovative, marketable products that would meet the specific demands of users and thus serve society. The academic role in stimulating co-creation initiatives is an important element of the third mission (Compagnucci & Spigarelli, 2020, pp. 18–19). The example of the EIT Food RIS Consumer Engagement Labs project points to the unique role that higher education institutions could play in orchestrating the encounters of consumers with producers and catalyse their joint creative efforts. The co-creation process involved elderly consumers, a group usually overlooked by food and beverage companies due to the alleged, limited commercial attractiveness of the silver market. The involvement of universities made food companies more sensitive to the societal relevance of the rapidly increasing population of seniors and opened up creative opportunities, spurring a wave of food product innovations.



## 5 Experiences of EIT Food RIS Consumer Engagement Labs Project

The EIT Food RIS Consumer Engagement Labs (further referred to as: “CEL” or “the Labs”) is a project funded by the European Institute of Innovation and Technology based on the Horizon 2020 framework program of the European Union. The project consists of cooperation with consumers, who participate in creative activities involving also food companies as part of a “laboratory” dedicated to the development of new food products. The co-creation process is based on a standardized methodology, developed by the University of Warsaw and replicated throughout multiple Labs in various European countries, each focused on another food product category and involving different sets of local stakeholders.

In 2019 and 2020, the Labs were implemented in 14 countries of Central-Eastern and Southern Europe (Bulgaria, Czechia, Estonia, Greece, Hungary, Italy, Lithuania, Latvia, Poland, Portugal, Romania, Slovakia, Slovenia and Spain). Each Lab was delivered by a local consortium, including a scientific institution (a university or a research institute), companies (a food producer, a retailer and a start-up) and a non-governmental organization (altogether 46 organizations in 14 consortia). In each local consortium, the role of consortium leader was assigned to the university or research institute, tasked with the organization of local Lab, delivery of co-creation workshops, recruitment and continuous contacts with the participating consumers.

A distinctive feature of the CEL project was its focus on a selected group of participants: elderly consumers, aged 65 or more. The needs of seniors are usually overlooked by food companies, despite their specific dietary and sensory requirements. In previous studies, the involvement of seniors in the co-design of new solutions induced numerous social innovations (see e.g., Pan & Sarantou, 2019), but the food sectors did not have comparable experiences in working with older adults. Each Lab led to the development of a long list of new product ideas in a given food product category, proposed by senior consumers and discussed with the local food companies. Following the evaluation of commercialisation feasibility and sales potential, companies were selecting the most promising ideas and initiated product development projects with a view to launching the products on the market. In 2020, 4 products resulting from CEL processes were successfully introduced to the shops in Lithuania, Poland and Spain, and 11 product concepts were selected for subsequent product development and launches planned for 2021.

The first of the Labs was organized in Poland and implemented by the Poznań University of Life Sciences in October 2019. The Lab was the pilot implementation of the CEL methodology, and it involved a local food producer Folwark Wąsowo, a retailer Gminne Składy and a startup company COFACTOR. The Poznań University of Life Sciences co-operated with authors of the methodology from the University of Warsaw in its first implementation. It ensured that the participant recruitment process followed the rules of an open call, and at the same time, that the composition of the selected consumer group met the specific requirements of socio-demographic

diversity, including gender, age groups, education levels and urban versus rural places of residence.

In the first Lab, 20 participating seniors were divided into three teams. They were assisted and guided by facilitators from the university, who were responsible for managing the group dynamics, stimulating the participants' creativity and time management. Through a series of creative team exercises, the seniors were able to develop profiles of an idealised elderly consumer (*persona*), discussing her or his food practices and purchasing choices, social and family circumstances, dietary requirements, specific limitations and unmet food-related needs. These exercises made participants more attentive to the specific requirements of elderly consumers and pain points, which need to be taken into consideration while proposing new products, but are often left unnoticed or might not even be obvious to the consumers themselves (latent needs).

Armed with the awareness of food-related consumer behaviours, participants embarked on a series of creative exercises, leveraging gamification techniques and offering them opportunities to come up with ideas for new products. Owing to the sequence of multiple creative steps, each team was able to amass a long list of proposed new food product ideas. The previously developed consumer profiles served as important points of reference, helping teams identify the most suitable ideas and further develop them and then presenting them as specific product concepts to the food companies. The companies were able to listen to the outcomes of creative processes run in parallel by each of the three teams, comparing the lists of new product concepts and engaging in the subsequent dialogue with each team. The Labs process culminated with the companies selecting their preferred new product concept and refining it, taking into account specialist knowledge of food technologies and feasible technical options to achieve the product characteristics and benefits proposed by consumers. Participants of the Labs (both consumers and companies) also had opportunities to gain insights into the shopping, consumption and food preparation practices of senior consumers. The Labs methodology enticed engagement of the participating consumers and their psychological attachment. Apart from the creativity-enhancing tasks, it also ensured down-to-earth aspects such as ergonomic and safe working conditions, considerations for attention spans and dietary requirements of workshop participants.

The Labs organizers put a special emphasis on ensuring that consumers participating in the Labs could inspire food companies by their unorthodox thinking about food product portfolio development. Importantly, the consumers were also experiencing psychological and social benefits, feeling needed and useful, empowered, self-confident and successfully working with a team of new acquaintances. The creative processes involved feedback and interactions between consumers and food producers, in the form of a constructive and informative dialogue.

The proposals for new food products, put forward by consumers, were inspired by culinary traditions and desires to recreate favourite flavours with new ingredients, rendering the known and liked products more suitable for the diets of senior citizens. The dialogue with consumers made food companies more attentive to the specific needs of silver market participants. The consumers provided suggestions regarding

flavours, ingredients and the packaging. They also managed to discover unexpected combinations and product formulas, which were subsequently refined by product development specialists for the food companies.

The product resulting from the co-creation processes carried out in Poland was a healthy beetroot salad enriched with collagen, fresh turmeric and ginger. The product leveraged beetroot as a popular ingredient of vegetable side-dishes in Poland, embedded in the local culinary tradition. Owing to the creative dynamics and inputs from consumers and companies, the product formulation included bio-active ingredients (turmeric and ginger), as well as collagen, known for health-enhancing properties, in particular: the potential to strengthen the connective tissues. In a parallel co-creation process in Lithuania, which yielded 9 proposals for new products, the local food company introduced to the market a senior-focused variation of granola, made from buckwheat. Its ingredients were processed in a way that made them crunchy but at the same time safe for the teeth, unlike the standard granola, based on baked cereals. Other interesting creative results were generated altogether in 14 countries where the CEL co-creation processes were implemented, yielding over 120 new product proposals and allowing the local companies to better understand the needs of elderly consumers, gain deeper insights into specific preferences and develop new products that meet the expectations of this important target group.

The role of co-creators became an important source of empowerment for consumers. The Labs participants were able to prove their leadership and teamwork skills, gaining respect from their peers and acknowledgement of companies, which provided extensive comments on the product proposals elaborated by consumer teams. The welcoming work environment was established by the local Labs organizers—universities, which facilitated the process, acting as intermediators between consumers and companies, and highlighting the important dimension of socially responsible innovations.

## **6 University-Led Co-Creation Project and Socially Responsible Innovations**

The CEL methodology leveraged the model of co-creation involving consumers and producers, and the principles of responsible innovation. As Stilgoe et al. (2013) indicate, responsible innovation includes four dimensions: anticipation, reflexivity, inclusion and responsiveness. “Anticipation prompts researchers and organizations to ask ‘what if. . .?’ questions [. . .], to consider contingency, what is known, what is likely, what is plausible and what is possible” (Stilgoe et al., 2013, p. 1570). Reflexivity operates on both individual (personal) and institutional (systemic) levels. As authors point out, “reflexivity, at the level of institutional practice, means holding a mirror up to one’s own activities, commitments and assumptions, being aware of the limits of knowledge and being mindful that a particular framing of an issue may not be universally held” (Stilgoe et al., 2013, p. 1571). On the systemic level, it

creates “the reflexive capacity within the practice of science and innovation” by the variety of actors of science governance (Stilgoe et al., 2013, p. 1571). Inclusion materialises itself in participatory practices widening the public dialogue by involving “new voices in the governance of science and innovation as part of a search for legitimacy”, including wide public, small groups considered to be “mini-publics” (Goodin & Dryzek, 2006), as well as processes built on the multi-stakeholder partnership and other “hybrid mechanisms that attempt to diversify the inputs to and delivery of governance” (Stilgoe et al., 2013, p. 1571). While discussing the responsiveness, Stilgoe et al. (2013) refer to the double meaning of the word “respond”, which could stand for “reacting” or “answering”, addressing the emergence of knowledge, perspectives, norms and opinions (Stilgoe et al., 2013, p. 1572). Responsiveness also comprises “adjusting courses of action while recognising the insufficiency of knowledge and control” (Stilgoe et al., 2013, p. 1572).

Co-creation sessions enabled **the inclusion of elderly consumers** in the processes of proposing concepts of new food products that would address their distinctive needs and preferences. The Labs were based on the assumption that consumer engagement in the co-creation process results from direct and personal contacts with representatives of companies, and it could become crucial for developing innovative solutions for this consumer segment. Elderly consumers tend to be overlooked by marketing, sales and research and development departments of food sector companies, and their needs are marginalised. Universities implementing the Labs were able to bring together consumers and producers, creating a space for dialogue, exchange of views and joint creative efforts, overcoming the traditional commercial barriers that were discouraging corporate representatives from direct cooperation with seniors. For elderly consumers, the opportunity to unleash their creative potential and interact with food producers and scientists became also an important source of personal empowerment and self-esteem improvement. This aspect could further be interpreted through the lenses of intensity, openness and quality (Stilgoe et al., 2013, p. 1572), taking into account the depth of consumer interactions, the diversity of participants and the insightfulness of results.

Another important aspect of CEL was **the inclusion of new voices in product development efforts**, in this case: the voices of seniors. Product concepts developed in the Labs were targeting the food-related needs expressed by senior consumers participating in the process. The specific requirements and demands of seniors proved difficult to anticipate by scientists or corporate marketers and encompassed numerous surprises, related e.g. to childhood remembrances, nostalgia-inspired food, craving for ancient legumes that are no longer popular, or preferences for foods that do not meet a senior’s dietary restrictions but which could potentially be re-engineered in a healthier and more suitable manner by replacing selected ingredients while preserving their core sensory aspects. The creative processes yielded impressive, novel results and offered various sources of inspiration for the participant companies. These insights were enabled by the facilitative role of universities, promoting the dialogue and implementing the Labs methodology, which was

intended to broaden the creative horizons of consumers and open up the spectrum of product development opportunities.

The Labs enabled companies to **respond to important societal challenges of the ageing society**. This **responsiveness** to the growing importance of the silver consumers and their previously unmet needs could be interpreted as an example of the socially responsible strategy of food sector participants, triggered by the facilitative actions of the local university. Corporate specialists did not possess the relevant knowledge or sensitivity to consider the specific circumstances of elderly consumers, and derived tangible benefits from working with the universities as “interpreters”. Consumer behaviours of seniors differ from those of younger age groups, with more conservative approaches, tendencies to avoid previously unknown foods, health-related dietary restrictions (e.g. need to eliminate certain ingredients), challenges of oral comfort (resulting i.a. in avoidance of hard or sticky foods), the chemosensory decline (resulting in less intensive experiences of flavours and smells), or lower household budgets, particularly in one-person households. Seniors are a particularly vulnerable consumer group so they could significantly benefit from food product innovations.

## 7 Conclusions

The chapter discussed how universities may facilitate co-creation processes and contribute towards the socially responsible innovations with consumers and producers. The case study of an international food co-creation project demonstrated novel dimensions of the universities’ third mission, which goes beyond the mere commercialization of knowledge but rather paves way for using it for the benefits of the community and the society. This approach is encapsulated in the concept of responsible research and innovation, which combines knowledge creation with economic and social developments. Table 9.1 outlines key outcomes of the project, demonstrating specific benefits achieved by the participating companies and consumers. It clearly outlines the extent of societal contributions of universities that orchestrated this co-creation process.

HEIs have the potential to focus the attention of private and public sector stakeholders on important societal challenges. Furthermore, they also may transfer knowledge and know-how on responsible new product development processes, stimulating the social responsibility of their partner companies. HEIs act here as “interpreters” transferring their sensitivity towards societal issues onto innovation processes. The EIT Food RIS Consumer Engagement Labs project offered a comprehensive example of how the HEIs’ third mission could be implemented. It was carried out in 14 European countries and established a platform for discussing the food-related needs of senior consumers, generating new product ideas and facilitating their commercialization. The co-creation methodology employed in the Labs process and follow-up activities related to new product development leveraged the model of responsible research and innovation, with respect to the dimensions of

**Table 9.1** Summary of the outcomes of the university-driven co-creation process, coordinated by universities in the EIT Food RIS Consumer Engagement Labs project

Step of the co-creation process	Benefits for companies	Benefits for consumers
1. Exercises aimed at understanding consumer needs (development of consumer personas)	Identification of specific food-related requirements, pain points and latent needs of older adults	Developing the awareness of older consumer food-related behaviours
	Gathering consumers' insights into older adults' food-related behaviours	Self-reflection over personal food-related behaviours
2. Creative tasks (generation of new food product ideas)	Identification of non-obvious product concepts opening companies to unorthodox solutions	Discovering unexpected combinations and product formulas
	Access to the broad set of consistent product concepts proposed by consumers	Consideration of particular features of products available in shops and their importance for the consumers
3. Discussion of the most promising product ideas between consumers and companies	Provision of product concepts based on well-justified consumer needs	Recognition from companies
	Opportunity to discuss the assumptions, limitations of concepts and receive feedback from consumers on the recommended refinements of the product concepts	Engaging in a dialogue with companies, in which consumers share their insights, knowledge and experiences
4. Commercialisation planning by companies	Enhancing the product portfolio by introducing products responding to the needs of older consumers	New products that meet the expectations of older consumers available in shops
5. Follow-up activities (incl. Interviews with consumers)	Gathering feedback from the participants of the process regarding the resulting products and consequences of the process	Receiving information about the tangible results of the co-creation (products available in shops)
Summing up the co-creation process	Engagement in a face-to-face dialogue with consumers	Empowerment through the successful completion of tasks and integration with other team members
	Better understanding of the needs of older consumers	Enhancement of leadership and social skills
	Reinforcing the companies position in the silver market	Recognition by peers and opportunities for peer-to-peer learning

Source: Own elaboration

anticipation, reflexivity, inclusion and responsiveness. It was achieved by responding to the societal challenges of the ageing society (responsiveness) and taking into account the demographic changes in the near future (anticipation), as well as by implementing the co-creation methodology based on a careful analysis of the positionality of stakeholders engaged in the activity (reflexivity) and aimed at the involvement of elderly consumers in the core activities of the project (inclusion).

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# Chapter 10

## Defining ‘Responsible’ in Responsible Research and Innovation: The Case of Quadruple Helix Innovation in the Energy Sector in the Tampere Region



Yohannes Mehari, Elias Pekkola, Jonna Hjelt, Yuzhuo Cai, Jari Stenvall, and Francisco Javier Ortega-Colomer

**Abstract** This paper aims to investigate the social innovation process in the innovation ecosystem of the Tampere region, taking the energy sector as an example. It focuses on analysing how responsible research and innovation (RRI) activities are understood by regional stakeholders, particularly regarding how the roles of different actors (universities, public agencies, industry, and citizens) are constituted, and how different actors facilitate social innovation. The research questions are approached by the conceptual framework of Quadruple Helix which is useful for understanding the roles of citizens and interwoven fabric in innovation ecosystems, including social innovation. Empirically, the paper is based on analysing qualitative interviews with 12 stakeholders in the energy sector in Tampere. It is supplemented by analysing national and regional documents related to energy policies and the role of research and universities as well as citizens in sustainable (economic) development. Based on our findings the responsibility in research and innovation activities is not defined by utilising existing conceptual approaches or EU policies, such as RRI.

**Keywords** Responsible research and innovation (RRI) · Quadruple helix · Citizenship · Energy sector

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### **The Key Points of the Chapter Are the Following**

- Research and innovation systems are being challenged by global forces in terms of knowledge, social networks, technology, and innovation.
- From a quadruple helix perspective, citizenship's voice is key to RRI policies, but it entails a big challenge.
- The paper provides empirical evidence on how different stakeholders understand RRI activities in achieving social innovations.
- We conclude that democratic solutions are enabling social participation to solve collective problems, like on energy.

## **1 Introduction**

Finland has been regarded as a model case of the knowledge economy, characterised by its greater dependence on specific key assets, such as knowledge, information, and high quality of education to which business and public bodies increasingly require access (Dahlman et al., 2006). Since the 2000s, Finland, among other Nordic countries, has been ranked at the top of the lists in conditions of the quality of the life of the citizens (Miettinen, 2013). The existence of a 'virtuous cycle' between strong education, the welfare society and economic development has been pointed out as its main source of national competitiveness (Castells & Himanen, 2002). However, this relative success of the Finnish national research and innovation system is being affected by changes at the global scale in terms of key driving forces: knowledge, social networks, technology, and innovation (Schienstock & Hämäläinen, 2001). This calls for a deep reflection not only on how universities can cope with such global challenges from within and from outside, but also on how civil society can participate in such a debate. Mostly due to the digital transformation, the technological environment is changing rapidly (Appio et al., 2021). Changes are not only technological but increasingly social and institutional (Boschma, 2005), which explains why such new economic possibilities—for instance, through digitalisation and business model innovations, that in turn have radically changed the economic field—are expected to be also socially innovative (Dahlman et al., 2006; Karhunmaa, 2019; Şener & Saridoğan, 2011; Schienstock & Hämäläinen, 2001).

Hence, the ability to understand technological possibilities and to figure out how to ease the means by which to collaborate and to create value are essential (Ritala & Hurmelinna-Laukkanen, 2009); likewise, so is the need for better co-operation between the actors at regional levels (OECD, 2017: 21). The changing dynamic in innovation processes can be captured by the concepts, such as Responsible Research and Innovation (RRI) and the Quadruple Helix, both of which are aimed to bridge the gap between society and research actors in order to achieve sustainable development. The RRI concept has become popular across Europe and the world, over the past few decades (Owen et al., 2012). The term RRI has been brought to the fore by policy makers and funding agencies, as a cross-cutting issue of the European Commission (EC) Horizon 2020 programme that aims at bridging the gap between

society, research, and innovation (de Saille, 2015). Indeed, the term RRI was introduced to avoid the reductionist view of purely technological innovation (Burget et al., 2017). RRI has also attracted the attention of academic scholars over the past decade. As such, various attempts have been made to establish a comprehensive conceptual framework that guides its core dimensions (Stilgoe et al., 2013; Yaghmaei, 2018). In the last two decades, there has been a growing role of citizens in contributing their points of view on ethical problems, such as risk management and legal aspects and socioeconomic issues related to new technologies, which give way to a change in paradigm for ‘public understanding of science’ (Hennen, 2013). From a policy perspective, one key milestone is found in the call for dialogue of the European citizen in 2001 (EC, 2001), where the promotion of participatory processes of technology assessment was key to underpin “public debate, knowledge-sharing and scrutiny of policy makers and experts”, in areas like genetically modified food (Zhao et al., 2015).

Nevertheless, numerous studies show that RRI lacks clarity and definition, both in concept and practice (Owen et al., 2013). It appears that our understanding of RRI is largely guided more by project-based administration definitions than by widely accepted academic definitions, a finding that is supported by rigorous empirical evidence (Burget et al., 2017). This in turn has led to multiple and yet divergent perceptions and interpretations of the core concept of RRI and the role of practitioners in its implementation (Owen & Pansera, 2019). In addition, studies show that “less effort has been given to the empirical investigation of how RRI is perceived and practised” (Christensen et al., 2020, p. 361).

Therefore, the research question of this paper is how responsible research and innovation activities are understood by regional stakeholders? The answer to this question is key to understand the roles of different actors (universities, public agencies, industry, and citizens) in RRI activities in achieving social innovations. The chapter explores the case of the Tampere region’s social innovation process in the energy sector. Specifically, the focus is on *how different stakeholders understand the concepts of ‘innovation’ and ‘responsible’ in the context of the quadruple helix*.

The chapter is organised as follows. The next section summarises the perspective of the Helices on RRI and stakeholders. The third section describes the perceptions of different actors on RRI. The fourth section presents the methodology used, followed by a description of the data. The results are shown in the fifth section. Finally, we discuss and conclude the main results obtained in the sixth section.

## 2 RRI and Stakeholders: The Perspective of the Helices

The concept of RRI was originally introduced by René von Schomberg (2001), working for the Governance and Ethics Unit of the European Commission. Thus, RRI was originally proposed as a policy concept around which academic discussions have been initiated. Probably because of the use of the concept in the Commission’s funding instruments RRI was defined mainly from an administrative perspective

(von Schomberg, 2001). Next, the concept has been embedded to EU-Horizons 2020 funding instrument and thus the vocabulary of it has been widely (and sometimes forcedly) used. Yet, the basic questions responsible for what? and to whom? are questions which are still difficult to operationalise at the EU level as well as in local contexts.

However, such an administrative approach to define the term RRI has been criticised for lacking depth and not being effective in guiding scholarly research on the theme (Burget et al., 2017). Based on a comprehensive review of the literature dealing with RRI, Burget et al. (2017) provide a more academic definition of RRI.

RRI is an attempt to govern the process of research and innovation with the aim of democratically including, early on, all parties concerned in anticipating and discerning how research and innovation can or may benefit society. ‘Anticipating’ means that there should be an imaginative effort in trying to see how a piece of research or a product could evolve in the future. ‘Discerning’ means that one should always apply judgment to see if the future ‘imagined’ is something desirable and act accordingly.

Consequently, RRI, both from an administrative and from an academic viewpoint, contains the idea of involvement of societal stakeholders in the process. Hence, RRI is more than a standard or a procedure by which to reach desired goals. Based on these approaches, the citizens and other societal actors play a key role in research and innovation activities, not only as legitimisers (participants and users), but also as co-producers.

To deeply understand RRI, one has to take into account that it does not emerge from out of the blue. It has a strong family resemblance with many other innovation-related concepts and descriptions of changes in society, e.g. in the transition from innovation systems (Lundvall, 1992) to innovation ecosystems (Carayannis et al., 2018). Compared to innovation systems, the concept of an innovation ecosystem accentuates the ecologic aspect, sustainable dimension, co-creation processes and co-innovation networking in cross-geographical contexts (Cai et al., 2019; Cai & Etzkowitz, 2020). As such, recent theoretical elaborations on innovation ecosystems may provide the most relevant analytical tools for empirical studies on issues related to RRI.

In such context, Carayannis and Campbell (2009) proposed the Quadruple Helix model of innovation as a conceptual tool to analyse actors and their interactions in an innovation ecosystem. The Quadruple Helix model was developed by incorporating the public or civil society as the fourth helix into the Triple Helix model of university-industry-government for innovation and entrepreneurship, originated by Etzkowitz and Leydesdorff (1995).

While the Triple Helix represents a basic core model of innovation for the knowledge economy, the Quadruple Helix describes the knowledge society and knowledge democracy. This corroborates other scholars’ observation that the Quadruple Helix model has been considered more suitable for addressing new features in the knowledge production and innovation processes that are characterised by RRI and the participation of citizens (De Oliveira Monteiro & Carayannis, 2017; Miller et al., 2018).

In this paper, we use the Quadruple Helix approach to direct our focus from individual projects and RRI activities towards the more ‘systemic’ understanding of

RRI and especially the role of different stakeholders in the definitions of ‘responsible’ and ‘innovation’ in the regional innovation environment. In the next section, a discussion of the role of different actors, forming the quadruple helix, in RRI is presented.

### **3 An Analytical Framework: Perceptions and the Role of Stakeholders in RRI**

This section informs the analytical framework of the study. It briefly touches upon previous analyses of different actors’ perspectives on RRI. It specifically focuses on how actors, as explained in the Quadruple Helix, perceive their roles in promoting RRI, define the concept of ‘responsible’, and understand the social innovation processes. The focus on investigating the perception and practices of stakeholders in RRI is mainly because there is dearth of empirical evidence on how RRI is perceived and practised by the main actors (e.g., see Blok, et al., 2015; Christensen et al., 2020). The analytical framework of the study is guided by the Quadruple Helix framework that postulates the dynamic participation and interaction of university, industry, government, and the public in innovation processes.

#### ***3.1 RRI in Higher Education Institutions and Research Institutes***

Studies show that RRI is gaining central ground in core missions of Higher Education Institutions (HEIs, hereafter). The increasing impact of scientific innovation in society necessitates the need for greater public accountability, participation, and responsibility (Bozeman & Sarewitz, 2011; Stilgoe et al., 2013). HEIs are now under constant pressure to align research with societal needs and to create systems in which public agents participate in research processes, which are guaranteed by the increased public influence on setting research agendas and evaluating the social impact of research results. However, the process of including RRI in HEIs’ strategic plans have shown mixed results, both in perceptions and practical dimensions.

The perception of the academic community towards the concept and implementation of RRI in HEIs and its role could be seen from two conceptual perspectives: ‘science for society’, also known as ‘product-oriented RRI’, in which the product of research is determined by its practical urgency and social desirability, and ‘science with society’, which is ‘process oriented’ and whereby public participation is emphasised in the process of research (Macnaghten, 2016; Stilgoe et al., 2013; & von Schomberg, 2011). A study conducted by Carrier and Gartzlaff (2020) elucidated that the scientific community have shown a positive attitude towards the emergence of RRI as strategic actions of universities. They tend to view their interactions and roles with society as responses that emerge from commitments to public duty and accountability (Burchell, 2015; Carrier & Gartzlaff, 2020).



Under the perspective of ‘science for society’ and despite having a positive perception, the academic community has raised important concerns about the involvement of public agents in research and innovation processes. For example, there are fears that the efforts to provide unfettered access to the ‘uninformed’ public agents would result in ‘bias of societal agents’ in the research and innovation processes that could jeopardise the integrity and acceptability of the research results and innovation products. In other words, the academic community ‘tend to perceive the general public as lacking the knowledge necessary for understanding research findings’ (Carrier & Gartzlaff, 2020, p. 151). Therefore, for the academic community, the role of HEIs in public commitment should largely focus on science education and the dissemination of information (Carrier & Gartzlaff, 2020). Similarly, the perspective of ‘science with society’ is associated with the belief that increasing public accountability may endanger academic freedom and the institutional autonomy that academia and universities have enjoyed for years. In addition, researchers hold the view that the mere focus on public accountability and social desirability would only excel at the expense of basic research by RRI procedures.

### **3.2 RRI in Industry or Business**

The emergence of RRI as a new concept has brought opportunities and challenges to industries and businesses in their roles in society and the environment in which they function. On the one hand, there is the rapid pace of innovation and the pressures industries face to remain competitive in the market; on the other hand, there are the pressures to ‘maintain public trust through innovation that generates both social value and economic returns’ (Martinuzzi et al., 2018) and has created extra pressures to main the equilibrium between keeping efficiency and social values. In the context of industry, research and innovation can be responsible if they meet the standards set for environment, ethics, social value and politics.

Although there is now a large body of academic research on RRI, it is struggling to have an effect on the industrial community, since many of the principles, taxonomy, methods, and methodologies are not compatible with current industrial practices (Dreyer et al., 2017). This appears to create misunderstandings and disagreements between the parties as to where and how industry fits into the central tenants of RRI (Dreyer et al., 2017). For example, the engagement of industries in sustainable and positive societal impact activities are to be recognised by RRI researchers, nor is the research on RRI fully adopted by industry. In other words, the industry community perceive that RRI researchers follow a reductionist approach that disregards ongoing work in related fields and therefore fails to have an impact on innovation governance (Dreyer et al., 2017). Accordingly, from the perspective of the industry or business community, the current RRI framework does not properly reflect established business practices on innovation and fails to observe parallel development such as the debates of CSV and CSR (Dreyer et al., 2017).

Even though the relationship between RRI and industries or businesses is not guided by a clearly and comprehensively established framework, some of the central

themes—such as industry or business motivations for adopting RRI, the state of implementation of concrete RRI practices, the role of stakeholders in responsible innovation processes, as well as drivers and barriers to the further diffusion of RRI in industry—have attracted the attention of researchers and practitioners (e.g., see Martinuzzi et al., 2018), and these highlight the relevance of RRI for industries (Chatfield et al., 2017).

### **3.3 RRI and Public Policy Actors**

Under the umbrella of the policy structures of the European Union (EU), the concept of RRI focuses on a ‘new social contract’ establishing a ‘shared responsibility between science, policy and society’, to pave the way for science to contribute to societal development (de Saille, 2015; EC, 2009). Within the principle of RRI, the emphasis on relating science and society is considered a paradigm shift from the ‘republic of science’ (Polanyi, 1962) model that advocates for the separation of science and political, social and ethical values, to the rather systematically interrelated approach in which science and society are seen as complementary and supportive of each other for the betterment of society (Sturgis & Nick, 2004; de Saille, 2015). In general, studies show that, even though most organisations are unfamiliar with RRI, they ‘employ diverse perceptions of responsibility and mechanisms to promote it’ (Christensen et al., 2020, p. 360).

### **3.4 RRI in Citizens and Civil Societies**

The participation of citizens and civil societies in RRI, also commonly known as public engagement, involves cocreating the future with the public and civil society organisations that deliberate on issues of science and technology (EC, 2009). The focus is mainly on creating the platform for ethical value-laden issues to be explored and targets for inclusiveness, transparency, diversity, and creativity to be incorporated into the RRI process (EC, 2009). Societal engagement is a key pillar of RRI that focuses on making science, technology, and innovation relevant, transparent, interactive, and responsive (Bauer et al., 2021). Proponents of RRI argue that, not only does RRI balance the economic imperative of innovation with societal needs and expectations (Owen et al., 2013; Von Schomberg & Blok, 2019), but it also advocates for societal engagement in research and innovation processes (Burget et al., 2017).

Even though societal or public engagement is the central dimension of RRI, studies show that the concept lacks clarity in terms of use, requirements, and application (Bauer et al., 2021). Underlining this gap, Bauer et al. (2021) identified five key dimensions that frame the requirements and challenges for societal engagement in RRI processes. These distinct dimensions are comprised of the purpose of

societal engagement (de Saille, 2015), who to engage (Strand et al., 2015) when the engagement occurs (Asante et al., 2014), how to engage (Asante et al., 2014), and the framing of STI in engagement processes (de Saille, 2015). As a result, Bauer et al. (2021) concluded that the main purpose of societal engagement in RRI is to target the improvement of citizens' participation in STI decision-making processes. To do this, they call for inclusiveness or a balanced view of all actors who are affected by the process. In addition, they underlined continuous engagement and a two-way communication between experts, stakeholders, and citizens. Finally, they underscore the importance of preserving ethics, societal needs, values, and concerns in the overall engagement processes in RRI. Bauer et al. (2021) identified two key challenges in advancing societal engagement in RRI: politicisation of S&T, and new interpretation of the often-lamented ineffectiveness of participation.

As shown in Table 10.1, the four major actors show subtle differences in their perception of responsibility in the context of RRI (Christensen et al., 2020). The major differences appear to rest on their implementation approach of RRI. For example, academics define 'responsible' from their internal perspective that is 'quite formalised and internally focussed in their effort to promote responsible research, but a large proportion of them also host or support open science events' (Christensen et al., 2020, p. 368). Academics view responsibility from the prism of 'duty that arises from taking public money' (Carrier & Gartzlaff, 2020, p. 151), however, they see the general public as 'ill informed, irrational and biased', and thus public participation in research and innovation processes should be limited to specific tasks, such as science education and dissemination events (Carrier & Gartzlaff, 2020, p. 151).

The perception and role of businesses and industries in RRI are guided by two important challenges the sector has faced: the rapid global race to innovate to maintain competitive advantage (Herrera, 2015), and the efforts to win public trust in business (Bies, 2014; Martinuzzi et al., 2018). Like universities, businesses and industries tend to be internally focussed and more likely to formalise their efforts in organisational strategies. In other words, they synchronise principles of responsibility in their strategies and policies. Therefore, business and industries define RRI as an effort to find sustainable solutions that are environmentally friendly, ethically acceptable, socially valuable processes of research and innovation (Chatfield et al., 2017; Christensen et al., 2020; Dreyer et al., 2017; Martinuzzi et al., 2018).

Even though the importance of public engagement in RRI receives support from policy makers and researchers, there seem to be differences on the ethical and societal aspects of the goal of innovation practices that should be achieved responsibly (Blok et al., 2015). Unlike industries and universities, citizens or civic organisations tend to be outward oriented in their approach to RRI. Citizens or civic organisations focus on collaborating with others, hosting science events, engaging in campaigns and advocacy to influence policies (Christensen et al., 2020). Therefore, citizens view their role in RRI as continuous engagement and a two-way communication between experts, stakeholders, and citizens (e.g., Owen et al., 2013; Von Schomberg & Blok, 2019); they define the concept of 'responsible' in relation to cocreating the future with the public and civil society organisations with

**Table 10.1** Stakeholders' perceptions and practices in RRI through the lens of Quadruple Helix

Actors in Quadruple helix	Research into role of Actor in RRI	Actor defined as in RRI literature	Roles of actor in RRI	Definition of 'Responsible' from this perspective	Social innovations are from this perspective
Universities and research institutions	e.g., Stilgoe, Owen, & Macnaghten, (2013); Carrier and Gartzlaff (2020); Christensen et al. (2020); Nicholls et al. (2015)	<b>Academy</b> University Research centres VET	Aligning research with societal needs, More emphasis on internal affairs and focus on formalising this effort in strategies and internal guidelines	Fulfilling societal needs through research and innovation or responsiveness to societal needs	Innovations are not linear processes but complex processes with several loops
Industries and business	e.g., Martinuzzi et al. (2018); Dreyer et al. (2017); Chatfield et al. (2017); Christensen et al. (2020); Nicholls et al. (2015)	<b>Private sector</b> Supply chain Capital Business Support Private sector	Competitiveness in the market, maintain public trust through innovation – more internally focussed and more likely to formalise this effort in strategies And internal guidelines	Finding sustainable solutions that are environmentally friendly, ethically acceptable, socially valuable, processes of research and innovation	As offering a model for new roles of business in society
People	e.g., Owen et al. (2013); von Schomberg and Blok (2019); Burget et al. (2017); de Saille (2015); Chatfield et al. (2017); Christensen et al. (2020); Nicholls et al. (2015)	<b>Civil society/</b> Citizens/user participation NGOs, social media, citizens' initiatives, crowd funding	– continuous engagement and a two-way communication between experts, stakeholders, and citizens. – primarily outward oriented; collaborating with others and hosting science events	Cocreating the future with the public and civil society organisations and deliberate on issues of science and technology	Citizen engagement is widely recognised as a key component to many social innovations, especially within the public sector.

(continued)

Table 10.1 (continued)

Actors in Quadruple helix	Research into role of Actor in RRI	Actor defined as in RRI literature	Roles of actor in RRI	Definition of 'Responsible' from this perspective	Social innovations are from this perspective
Public policy or agents	e.g., de Saille (2015); EC (2009); Sturgis and Nick (2004); Christensen et al. (2020); Nicholls et al. (2015)	<b>Public authorities</b> Policies, funding, regulation, norms, permissions	Creating new social contract' establishing a 'shared responsibility between science, policy and society', Use funding-specific tools to incentivise responsible practices	Stakeholders should be involved to incorporate relevant ethical and societal aspects into innovation practices and to achieve desirable goals	Social innovation is associated with traditions of welfare reform based on increased efficiency and effectiveness,

Source: Own elaboration

which they deliberate on issues of science and technology (Burget et al., 2017; Chatfield et al., 2017; Christensen et al., 2020; de Saille, 2015).

Empirical studies show that public policy agents or governments have been concerned about research practices and its results. Specifically, they focus on aspects of ethics as well as transparency and Open Access. (e.g., see Christensen et al., 2020). Their role in promoting RRI practices is mainly guided by the position they hold as funders. For example, they are keen to set standards of responsibility-related requirements for applicants in funding application processes. They encourage applicants that focus on research integrity, RRI, gender equality, ethics, Open Access publishing or public engagement events (Christensen et al., 2020). In other words, they use funding-specific tools to incentivise responsible practices. Therefore, for public policy makers, the concept of 'responsible' is ensured when stakeholders are involved in incorporating relevant ethical and societal aspects into innovation practices and achieving desirable goals (e.g., see Christensen et al., 2020; de Saille, 2015; EC, 2009; Sturgis & Nick, 2004).

## 4 Method and Data

The empirical data is collected in part as an EU-funded project in Responsible Research and Innovation Learning (RRIL), of one-year duration, comprising a consortium of universities from Finland, Poland and Spain: Universitat Rovira i Virgili, Spain; Tampere University, Finland; Kozminsk University, Poland. RRIL focuses on the development of three learning modules: public engagement, gender equality and ethics (in the knowledge fields, energy and economy), and testing the learning modules in innovative environments based on interactive real-problem approaches.

The method used in this report follows qualitative evaluation research; research material has been analysed for content. Qualitative content analysis is theory-bounded, based on data collected through interviews. Interviewees were from higher education, public research institutes, business, city and region. The interviewees were not part of project but were considered as possible beneficiaries of the project outcomes. These interviewees offer helix perspective to the RRI in energy sector and evaluate the possible roles and impacts of citizens involvement. Theory follows the RRI definition and has been used as a framework for thematic and semi-structured questionnaires. The aim was to evaluate how the RRI concept is known and used in R&I practice or what kind of other concepts or policies are used.

The data is collected from 12 interviewees in a cross-sectional study. Interviews were made during October to December 2019 and analysed during the same period. Interviewees were from the city and region (3), companies (3), universities (4) and public research institutions (2). The time for one interview was approximately one hour. Interviewees were from the Tampere region and were selected based on different professional knowledge areas and understanding of research and innovation in practice. More detailed information on the interviewees can be found in

Appendix 1. The questions were semi-structured, using thematic analysis. The questions were the same for all interviewees and followed the same order. The study was conducted mainly in the context of energy-related business, using RRI as a framework.

In addition to the semi-structured interviews, a document analysis related to the national and regional innovation systems is conducted. Moreover, a discussion on the national innovation system is presented since Finland is a small nation and regional actors are closely connected to the national system, and the distinction between the national and regional innovation systems is difficult to make. The documents analysed for this paper are listed in Appendix 1.

## **5 RRI in the Quadruple Helix of Innovation in the Tampere Region**

### ***5.1 The Roles of Stakeholders in Finnish National Innovation***

Typical for Finland is that it has one of the largest numbers of researchers (OECD, 2017) and the funding for instance for universities and overall, to the R&I comes predominantly from the government. (OECD, 2017). The Finnish government has declared its strategic goal of promoting Finland as the most competent environment for innovation and experimentation by 2030. The intention is to enhance the knowledge base, to develop knowledge platforms and growth ecosystems and to encourage companies towards internationality (Valtioneuvosto, 2019). Strategic implementation is required in the regions where innovation actors interact and create close networks between universities, research centres and companies (Pirkanmaan liitto, 2017). The main actors in the Finnish innovation systems are large companies and public sector municipalities, although there have been efforts to promote involvement of small and medium-sized enterprises (SMEs, hereafter) around growth and internationality (Tilastokeskus, 2017a, b, 2018).

Public sector is involved in development of research and innovation activities in all levels of governance from the cabinet of ministers to local government. The Research and Innovation Council is the Finnish government's advisory body, which is responsible for the strategic development and coordination of the Finnish national innovation system as a whole. The Council promotes the R&I policy that supports the Finnish wellbeing, growth and sustainable competitiveness in global competition (OECD, 2017; Dahlman et al., 2006; Valtioneuvosto, 2019). The Ministry of Education and Culture is responsible for higher education and for policy targets in science together with Academy of Finland (that is a semi-independent state agency under the Ministry) as well as development higher education policies together with the universities and polytechnics. Nationally, Finnish cities and municipalities are expected to promote a business-friendly environment, and the Ministry of Economic

Affairs and Employment and its regional branches encourages companies to embrace sustainable growth and productivity (Työ- ja elinkeinoministeriö (TEM) 2019; 2019/1; 2019/2). Business Finland functions as the Ministry of Employment and Economy and accelerates the global growth of companies and their ability to foster international growth and ecosystems (Dahlman et al., 2006; Business Finland, 2017). In Tampere region the most important actor is the city council of Tampere.

As important part of innovation system Finland has 12 research universities, 22 universities of applied sciences all funded publicly. Prior 2019 there were three HEIs in Tampere region. Currently all institutions are operating under one foundation as a university of applied sciences and as a merger university formed from former technical university and comprehensive university. In addition, there are several governmental research institutions that promote research and innovation. These include the Technical Research Centre (VTT), the Natural Resources Institute (LUKE), the National Institute for Health and Welfare (THL) and the Government Institute for Economic Research (VATT). In the Tampere region, VTT is an influential actor in R&I efforts among multidimensional universities.

Business is mentioned as one of the main platforms for R&D activities and one of the main beneficiaries of the national innovation system, as a knowledge and competence user as well as the main dynamo keeping innovation activity and production alive. In Finnish industry structure, large companies are very influential even though there have been efforts to enhance the influence and number of SME. The work is still ongoing, as there have not yet been sufficient changes. Moreover, in Finland there are only a few large companies and they operate in quite narrow industry sectors. The need to widen industry sectors and the number of companies is very essential to Finland (TEM, 2014, 2018, 2020; Tilastokeskus, 2005, 2017a, b, 2018; Valtioneuvosto 2019). Companies are often seen as beneficiaries of different funding instruments and as a representative of ‘society’ as well as ‘economy’.

## ***5.2 The Aim of Tampere Innovation Activities and the Role of Stakeholders in Regional Innovation Strategy***

The primary goals of the city of Tampere’s R&I strategy are to promote a closely defined green, international and low-carbon community structure through sustainable development, digitalisation and an innovation ecosystem, in which both citizens and businesses can grow and achieve well-being and an improved lifestyle. This is a fertile area in which to cultivate social innovations and move forward from technological possibilities to producing service content based on new technologies and technology architectures. The vision for the city of Tampere by 2025 is that Tampere will be ‘superior in regeneration—sustainably growing’.

The strategic goals are to diversify and renew business activities and to increase R&I investments. It is also important to ensure that the economy has the necessary knowledge and capabilities to increase its ability in creating world-class companies



and an innovation ecosystem. Business Tampere, the region's economic development agency, is promoting goals with the aim of working as a platform for different networks. For instance, the Business Tampere programme, 'Smart Tampere', promotes energy renewal and has the primary goals of impacting climate change positively and developing energy efficiency.

In order to meet sustainable solutions, the R&I system requires better co-operation between actors at regional levels (OECD, 2017). For instance, in the Tampere region there is a type of living lab method called Hiedanranta, which involves an innovation platform in the Tampere area. Different actors are involved in this project platform, including companies, citizens, civil servants and researchers, who, together, aim to create sustainable living conditions. There are also platforms on which companies can create businesses and promote growth through special networks, such as Demola, which connects companies, researchers and students from the universities and polytechnics, in creating new solutions to various problems in which the regional authorities are interested. However, it seems to be quite difficult to get citizens involved in a reliable and valid way. Social innovations—new ways to get together and for people to connect—may be needed to achieve this interaction (Pirkanmaan liitto, 2014).

### ***5.3 Responsible Research and Innovation in a Helix: a Stakeholder View***

From analysing the interviews, an emphasis is put on how the different actors of the regional innovation system perceived their own role and the role of other actors in RRI, how they define 'responsible' and what their overall understanding is of the social innovations.

Interviewees from the business (industry) perspective defined responsibility as the ability to ensure energy delivery for customers and keep up functioning systems. Customers represent civil society at large, because energy companies' infrastructure is not competitive, although energy sales are; additionally, there are different kinds of customers, such as households, industries, the public sector, and, moreover, the city of Tampere is a company owner. Therefore, directly and indirectly, customers are also taxpayers. The energy company is an interesting example of an actor in a helix that does not easily fit into its own column. It could be analysed as a helix unto itself. It is publicly owned and thus steered by the political dimension in the form of an owner. It is operating as a limited company but producing both public good via monopoly (energy transmission) and private good via the competitive market (energy production). It has an historical and cultural heritage by which to consider its customers as more than customers—namely, as citizens and residents of the region.

From these multiple linking connections, energy impacts all our lives and comes to surface if something goes wrong. Among customer perspectives, and because of

how energy industries intertwine with the public sector, the interviewee underlined that responsibility is not only the ability to diminish costs and use taxpayers' money in responsible ways, but also to choose responsible partners for research and innovation projects.

Our business is long-term service business, [...] partners must be responsible then [...] we [...] partner and our customers [...] will three times win, win-win-win, and it is responsible action. (H5 business)

Therefore, the innovation process should be transparent, from goals to conclusions.

From an ethical point of view, it is essential to foster transparency about who manages and leads the research and innovation and what are the estimated impacts to society at large. (H6 business)

We solve companies' problems [...] If public money is involved, [...] then it is essential to justify how it will impact, what is the social point [...] that there is no impact, also justify. (H8 academy)

The company's responsibility is also declared in its strategy, where the mission is to impact climate change through diminishing carbon emissions. This allows the company to promote innovation projects that develop solutions to tackle these kinds of wicked problems. This has had an impact on the company's evaluation of possible stakeholders and the clear focus on goals in innovation processes.

As mentioned, in the energy sector the real wicked problem is to respond to climate change; therefore, there is the increasing need for multidimensional approaches to define and create, e.g., green or renewable energy solutions. In Finland, it is typical that research institutions hold good reputations for responsibility in research and innovations among companies. This is a good starting point for the quadruple helix of research and innovation.

If we want to add responsibility, then in practice we should make more collaborative research. Co-operation in research. And the most effective way is that private money lead and public money support. In this kind of model, the resource base is comprehensive. In my opinion, in the public-private-partnership model, the responsibility is at its height. (H6 business)

However, problems occur when there is a conflict of interests between the needs of companies to innovate and those of researchers to promote basic or applied research. Sometimes, defining the problem from different perspectives or interests seems irrelevant.

We already have almost all solutions. [...] but what we need is changes in human behaviour and in political processes. (H12 academy)

Interviewees from the public agency (city council) perspective defined responsibility through social diversity in regional areas. Moreover, responsibility constituted sustainable solutions to environmental questions such as carbon emissions and circular economy. The typical, reductionistic approach to the responsibility issue was the United Nations (UN) Sustainable Development Goals (SDGs, hereafter), which is such a large concept, with 17 approaches, that it cannot be used as a practical tool. There should be useful strategic choices allowing for concentration in

one area, e.g., environmental, economic or social questions, even though in the background other ethical dimension are also relevant. It is noteworthy that city officials do not mention RRI or commission policies but rather refer to more global UN-driven policies. I.e., in a city council, such as that of Tampere, a forerunner in knowledge-based development and university collaboration, RRI as a policy concept is not well known and thus does not have even reductionistic usage.

It is surprisingly difficult to promote sustainable road maps. It needs hard work. (H11 public agency)

Moreover, there are no indicators to support responsibility in daily work, hence such questions are on the public agencies' own duty. In some projects, reporting on participants' gender is expected, and, in every project, it is expected that stakeholders have decent records of salary and tax payments; most of the time, however, ethical issues are the public agencies own interests. In other words, public actors consider the responsible attitude as part of their daily work and value base; thus, if they are involved in RRI activities, the responsible approach is taken into account, at least for their own part. Also, public agencies thought that the quadruple perspective can provide added value for innovation activities, if research, public agencies and companies work together to produce solutions to different issues. However, they have also noticed that research interests and the practical needs of business partners or civil servants can sometimes be quite faraway from each other. The time horizon and timetables or priorities may differ over time.

For instance, in some issues it is efficient to solve practical questions between public agencies and companies, but the living lab area provided by the city of Tampere has been useful for university projects and the ability to achieve funding for research. Even though the benefits of the living lab area are obvious to the co-operators, there are civil servants in the city of Tampere who do not always see those benefits in the short-term needs and might question the willingness to maintain the area. In these kinds of problems, it is essential that large companies make positive statements about co-operation, as this is highly relevant to civil servants keeping up the living lab conditions.

In many times from the beginning the aim is that research, companies, and cities co-operate. Because if you leave some of these out, the problems may occur. Between cities and companies, the process is more straight forward and sometimes needed, but if the city leaves companies out, then the ambition may be quite high level. (H3 public agency)

From a public agency point of view, it is easier to work with companies than with universities, the ambitions of which do not always resonate with practical needs. In daily work, public agencies are expected to reveal understandable results, a point made difficult by the different time horizons between research and development. Interviewees from research (academia) defined responsibility as a way to work, beginning from selection of partners and transparency in work practices.

Transparency to the partner selection, to the interaction, how to work together, [...] that things are transparent, processes are transparent. (H2 academy)

There are no institutional or regulative sanctions for lack of responsibility, but we have a community system where these practices of responsibility are adopted. Responsibility is realised in a good way when co-operation in wicked problems is multidimensional.

Our challenges, problems, issues [...] major societal issues [...] are that kind of that anybody cannot solve themselves. So, the only way is that we have to work together. (H10 public agency)

Many interviewees pointed out that in Finland the typical approach to renewing society is quite often technologically oriented. Now, in the midst of digital transformation, technological approaches are highly relevant and therefore many interviewees underlined the need for a multidimensional approach. For instance, in Finland, in technological research there should be also social and humanistic perspectives, to keep in mind that solutions are made for the people and with the people. In this respect, a multidimensional approach is justified. Ethical acceptance, desirability and sustainability should be featured more than they currently are, with the social impact of technological solutions as the goal. The ex-ante evaluation in this respect is valuable.

It is important that desirability is included (in innovation processes), because in traditional user-centric research there has been acceptability dominance-perspective. (H4 academy)

As quadruple perspective researchers point out, it is important that research questions answer practical needs, and that knowledge is created in co-operation. New knowledge can be used in planning processes in the city of Tampere and in business developing processes, although researchers recognise that time horizons and tables differ among actors. In this respect, researchers can support actors and organisations in change processes and bring ambitious visions, knowledge and competence to the co-operation. To foster co-operation and to ground it in practical ways, the interviewees mentioned that a living lab type of social innovation is a good example of fostering the quadruple helix approach in research and innovations.

Also, in Finland there are different kinds of innovation platforms like Hiedanranta and Satama in energy field. (H1 business)

The important starting point is to create an ambitious vision for the desired goals, define problems in multidisciplinary ways and allow pilots, experiments and collective learning in living lab areas. The government's role is to provide this kind of area and facilitate actions based on, e.g., new green solutions in energy, or circular economy solutions in business, or social diversity in society.

There have been wishes from the public sector that they need tools and researched information with which they can justify and argue their decisions. For instance, how to move towards a circular economy or what it means in general in Finland ja what is the way to go. (H7 academy)

Hiedanranta, a living lab, is a new district area in the city of Tampere and can be understood as a platform for different actors to interact and solve problems via a multidimensional approach. The role for public agencies in research and innovation

processes in multi-level co-operation was frequently as a moderator between research practices and business needs. For academics, the living lab is a good way to create knowledge; for businesses, the living lab conditions make possible the exploitation of knowledge and the development of profitable solutions. From the quadruple helix point of view, where the perspective is on people, the Hiedanranta living lab is a good example of how government, academics and business can co-operate in making an effort to solve the most challenging social problems and gather knowledge from experimentation along with citizenship.

Hiedanranta. [...] there is lot of research, there is city involved. [...] we have a strategy 'Human Potential Unlimited' [...] health, society, technology are our cornerstones. (H9 academy)

All interviewees recognised that citizens and the society at large constitute a perspective that is quite hard to take as a part to the interaction. Interests, values and competence differ in many ways, and these are the main problems in the quadruple helix. Also, when creating forums for interaction with citizens, the main question is: who will come and with what kinds of ideas and knowledge base?

In Table 10.2 the views of the interviewees are presented on the base of their roles in the quadruple helix, their understanding of 'responsible', their overall idea about social innovations and their understanding of the 'fourth factor' of the quadruple helix, namely, 'people'. Since RRI as a concept was not recognised by the interviewees (except those from a research institute), a summary of the definition of responsible from three different perspectives is shown: reductionist, i.e., are they using some standards to define or measure responsible innovations; operative, i.e., for whom are they responsible; and substantive, i.e., what are the main contents of responsibility (sustainability).

In a Nordic context, the roles of different actors are mixed. Universities and research institutes are required by law to participate to the development of society and industry "In carrying out their mission, the universities shall promote continuous learning, interact with the surrounding society and promote the social impact of university research findings and artistic activities" (University Act 2009), the municipalities and cities have a legal mission to "advance the well-being of their residents and the vitality of their respective areas, and shall arrange services for their residents in a way that is financially, socially and environmentally sustainable" (Local Government Act 2015). The responsibility in innovation and research activities is defined in a reductionist manner mostly in the context of SDGs. The UN development goals are commonly known and widely accepted as a standard for responsibility. Only in research institute the vocabulary of RRI was familiar.

In more operational term responsibility is defined as in universities other "legal aspects of responsibility" such as a mandate to promote public ethos and bridge other actors in public sector, as integrity of science and critical approach in universities and research institutes. In our case, energy sector in Tampere, the operational definition of energy company was value for money approach since the company is publicly own. On substantial front the responsibility is mostly defined mostly in terms of environmental sustainability, but the social aspects are mentioned as well. Summing up the findings this paper concludes that in Tampere region there is quite

**Table 10.2** The main findings

Perspective	ROLE in Quadruple Helix	Definition of ‘Responsible’	social innovations are	Role of ‘people’
Industry	In energy sector in Nordic society such as Finland the roles are mixed. Part of the companies are owned by public bodies and they are thus accountable also for citizens as ‘taxpayers’. In addition, energy sector is represented by an interest group that is mostly representing public companies.	Reductionist: SDGs Operative: Taxpayers’ money Substantial: Green solutions for wicked problems related to environmental change	Customer orientation: Provide a green option for customer with customer	Customer and taxpayer (legitimation trough customer decision)
Universities and research institutions	In a long-term university has a responsibility to work with (regional) stakeholders and this is also mentioned in legislation. The research institutes have by law a mission to collaborate with industry.	Reductionist: SDGs’, RRI in research institute Operative: Integrity of science and critical approach (e.g. towards financial maxims) Substantial: (environmental) sustainability	Living lab type co-operation is a practical way to enhance new knowledge base and create new solutions	Co-producer of knowledge (legitimations by participation)
Public agency	To coordinate policy initiatives including multiple stakeholders. To build and maintain infrastructures for citizen participation.	Reductionist: SDGs, gender issues, reliable partners (taxes and salaries paid) Operative: Public ethos Bridging role Substantial: Citizen’s participation in sustainable city development, green innovations	Living labs Co-creation Diversity of participants	Citizen (legitimation as a constituting member and through equality)

Source: Own elaboration

strong consensus on the importance of SDGs and the emphasis of the environmental aspect of the responsibility discourse. The role of citizen is mostly framed from the perspective of legitimization. This is regardless of the use of co-vocabulary. Legitimizing role given for a participating citizen is different depending on the institutional perspective used for definition. In business the legitimization comes from customer-oriented approach, in science the main discourse is ‘science with society’ and for the public sectors the role of citizen is more profound namely citizens are constituting the public actors and thus fundamental for the activities. In public sector the citizen involvement to innovation processes is seen as legitimizing activity as a practice providing an equal access to participate.

## 6 Discussion and Conclusion

By utilising the Tampere region social innovation process in the energy sector within its regional innovation system as a case example, the objective of this paper has been to discuss how the different actors of the regional innovation system perceived their own role and that of other actors in RRI, how they define ‘responsible’ in the context of RRI, and what is their overall understanding of the social innovations. Accordingly, the study draws three important conclusions. First, it is not only the state funded research institute was aware of RRI as a policy concept. However, as in previous studies, in general, this study shows that, even though most organisations are unfamiliar with RRI, they can discuss themes related to responsible research and innovation. RRI is not applied even in a reductionistic manner, as a concept used for describing current activities, since it not generally known.

This paper argues that, from a Quadruple Helix perspective, what new of RRI lies in the following three aspects: democracy, change in knowledge production, and the central focus of the innovation ecosystem. All these aspects were evident in the empirical analyses this chapter. Firstly, democracy was considered important for knowledge production and innovation (Carayannis & Campbell, 2017; Campbell, 2019). However, the idea of democracy was mostly related to inherited (Nordic) ideology of participation than to overall discussion on innovations. It was considered that involvement of citizens, taxpayers, and customers is an end in itself, and is not only a way of producing something new.

Secondly, changes of the innovation ecosystem towards mode 3, knowledge production (Carayannis & Campbell, 2012), were evident in the case of Tampere, as the Quadruple Helix model centres on such Mode 3, illustrated in the case of the joint development platform ‘Hiedanranta’.

Thirdly, the Tampere innovation ecosystem is indeed a “fractal, multi-level, multi-modal, multi-nodal, and multi-lateral configurations of dynamic tangible and intangible assets” (Carayannis et al., 2018, p. 148). It is difficult to distinguish the actors from each other, and ‘helices’ are formed in different levels of the system. For instance, the case of the local energy company shows that it operates in the interfaces of public and private spheres. It is also difficult to distinguish regional and national

innovations systems since they are overlapping and interconnected. However, it seems that, in sustainable innovation discourse, the European level is almost missing, regardless of multiple funding instruments. Policies are directly connected to SDGs and discussion around environmental change, green innovation, and green economy.

What can be learned about the role of research and social innovations in the case of Tampere? All stakeholder citizens are seen as important actors and are considered co-producers ('with' society, public engagement). However, the dominant discourse still provides a place for citizens as legitimisers rather than active participants. The role of legitimiser can be seen from the perspective of local democracy (political legitimisation), customer-centred services (consumer legitimisation), and public services (taxpayer, value for money).

Finally, as a policy implication it is learned that pragmatic inquiry is useful in coping with social innovations. There are many ways to approach global problems such as climate change, and there can be many solutions to energy sector challenges. As pragmatists, Mead and Dewey taught that democratic solutions are opening arrangements enabling social participation in reflection on the chances to solve collective problems (Dewey, 1988). Thus, by including citizens' voices in the collective problem dilemma, decision-making processes entail a deeper commitment of actors' governance and social action becomes a creative process to be legitimised. Here, the importance given to having a shared understanding on policy concepts, such as responsible research and innovation, is key to the final social solutions in democratic societies.

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## Appendix 1 Interviewees

### *Higher Education (Academia)*

Aalto Pami, Professor, International Relations, Energy Politics, Tampere University, Faculty of Management and Business.

Kujala Johanna, Professor and Vice-Dean of Research, Tampere University, Faculty of Management and Business.

Pilvi Taru, Innovation Leader, Tampere University.

Raatikainen Saana, Tampere University, Environmental Co-ordinator and Chairman of the Board of Energy of Lempäälä.



### ***Public Research Institutes (Academy)***

Nieminen Mika, Leading Researcher, VTT Technical Research Centre of Finland Ltd.

Vainio Terttu, Special Researcher, VTT Technical Research Centre of Finland Ltd.

### ***City and Region (Government or Public Agency)***

Myllykangas Päivi, Innovation Leader, Council of Tampere Region.

Vanhanen Tuomas, City of Tampere, Smart Tampere, Sustainable Tampere 2030, Project manager.

Vehviläinen Maarit, City of Tampere, Smart Tampere, Sustainable Tampere 2030, Project manager.

### ***Business (Industry)***

Muurinen Pasi, Vice President, Customer Relations, Tampereen sähkölaitos Oy.

Kulmala Harri, Chief Executive Officer, Dimecc Oy.

Boström Anna-Stiina, Executive director, FinDHC,

[FinDHC is the Finnish Heating and Cooling Association, which is a non-profit organization, the mission of which is to improve awareness and recognition of district energy.]

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# Chapter 11

## A Human-Centric Co-creation Platform for Solving Wicked Social Challenges



Sofi Perikangas, Harri Kostilainen, Reija Paananen, Anne Määttä, and Sakari Kainulainen

**Abstract** This article introduces DiakHub, a co-creation platform developed on a quadruple helix framework. DiakHub's innovation activities aim at leading to more functional human-centred service systems and service processes. Human-centric solutions are sought to address problems across governance and administrative silos and boundaries, particularly targeted at the most vulnerable joint service users with complex needs and multiple service agency use. As a University of Applied Sciences, Diak has a unique profile in the Finnish education sector. Its RDI activities focus on improving the wellbeing of those in the most vulnerable positions through co-creating societal innovations, services, and capacity building. DiakHub activity can be verified through co-creation RDI activities and public service innovations. The role of students is central; while engaged in DiakHub activities, they become co-designers and experts, participating in the teaching and RDI activities they are exposed to during their studies.

**Keywords** Co-creation · Ecosystem · Complex wicked social challenges · Public sector innovation · Quadruple helix

### Key Points of the Chapter Are the Following

- It is possible to reform HEI's RDI with a design-led approach.
- It is possible to respond to complex social problems with RDI work.
- Quadruple-helix framework enforces the social innovations' development of HEI's.

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- High-level applied research supplements social innovations in QH process.
- Combining traditional academic work and business-like way of working may be a fruitful type of developing social innovations.
- Longitudinal data is needed to evaluate the effects of QH type of working processes.

## 1 Introduction

Over the recent years, there has been a rising demand from society towards higher education institutions (HEIs) to contribute to the development of society through various innovation activities (e.g., Dobers & Stier, 2018). Additionally, the more and more complex societal problems ask for these institutions to come up with new ways of knowledge production. In this article the research introduces DiakHub, a co-creation platform that was developed based on a quadruple helix framework. DiakHub's innovation activities aim at leading to more functional human-centred service systems and service processes. As one of the Diaconia University of Applied Sciences (Diak) key strategic operations, DiakHub is based on the broad and long-term expertise in research, development, and innovations (RDI) resulting evidence-based metrics, methodologies, and concepts. Human-centric solutions are sought to address problems across governance and administrative silos and boundaries, particularly targeted at the most vulnerable joint service users with complex needs and multiple service agency use.

Following aims of the Cost Action 18236 Multi-Disciplinary Innovation for Social Change (n.d.) our article illustrates how HEI's:

1. can respond to complex social problems with a design-led approach and support positive social change, and
2. can actively develop social innovations within a quadruple-helix framework (academia, private and public sector institutions, and end-users).

In Finland universities of applied sciences are mainly multidisciplinary and regional higher education institutions whose activities highlight their connection to working life and regional development. According to the Universities of Applied Sciences Act (932/ 2014) they offer pragmatic education that responds to working life needs. The main emphasis of research, development, and innovation at universities of applied sciences is on applied research and development that serve education in universities of applied sciences, promote industry, business and regional development, and regenerate the industrial structure of the region and promote life-long learning. In carrying out its mission, each university of applied sciences shall cooperate with business and industry and other sectors of the labour market, within its own region.

Despite being a University of Applied Sciences, Diak has a unique profile in the Finnish education sector in three respects. First, its national, not merely regional, work to educate future professionals; secondly, its particular combination of study



fields and programmes; and thirdly, its strategic aim to focus its RDI activities on improving the wellbeing of those in the most vulnerable positions through co-creating societal innovations, services, and capacity building. There exists a number of literature (e.g. Arnkil et al., 2010; Heikkanen & Österberg, 2012), concerning various quadruple helix innovation platforms, but due to the unique profile that Diak has in Finnish higher education sector, the paper claims that a particular attention needs to be put on the following aspects when designing a social innovation platform in this respect:

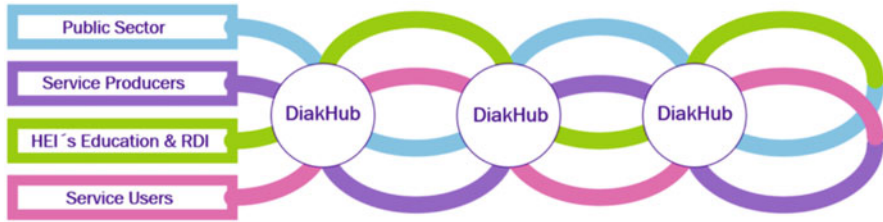
- Potential to scale nationally
- Understanding of the diverse regions and environments
- Understanding of the diverse nature of the most vulnerable people
- Networks with social enterprises and civil society

In this article the research argues that quadruple helix framework, having co-creation in the core of the shared events of actors, may benefit the capacity to produce innovations of higher education institutions. The structure of this article is as follows: first, the research discuss why it is important to establish a social innovation platform with a co-creative approach and how it is related to the wicked social problems and quadruple helix framework; second, the paper introduce a case, Zekki, as a result of the utilisation of the platform; third, there is a discussion of the problematic nature of measuring social innovation and the potential of DiakHub as a partially commercial platform. Finally, the article concludes by stating that there is still a need for further studies of the use of quadruple-helix framework in HEI's innovation ecosystems.

## **2 Quadruple Helix Framework for Co-solving Complex Social Problems**

Complex social and health policy problems are commonly known as wicked social problems in public welfare, health, and employment services. Wicked social problems are unable to be successfully tackled with traditional linear, analytical approaches, where individual initiatives focus on one or a few root causes, or by replicating initiatives that have been developed in other contexts. To address wicked social problems and accelerate public sector innovations, social and health care organizations need co-creative and co-design tools that focus on the following: enabling public sector organizations to take coherent action; building the adaptive capacity of public sector organizations; and assisting public sector organizations in creating the enabling conditions required for this type of approach. (Raisio et al., 2018; Peters, 2017).

Multi-layered and splintered system has become a problem not only for the most vulnerable service users with complex problems and multiple needs, but also for public sector services management and administration. The fragmented system and



**Fig. 11.1** DiakHub's Quadruple-Helix framework for HEI-led Public Social Innovation System

its multi-layered supervision and management cannot ensure continuity for the service users. (Määttä, 2012, 2015, 2016) Co-creation and its variants have been seen as an answer to such challenges of the welfare to produce more cohesion and social innovation to the complex system (i.e., Tuomas, 2016). Co-creation can be understood as the varying ways in which the users of the service, often “citizens”, or “customers” are engaged in the design of the service (Brandsen et al., 2018). Co-creation practice brings together the necessary stakeholders whose participation is important in relation to the development of the service. Thus, following the quadruple helix framework, co-creation happens when the actors come together in different situations to bring their own expertise or knowledge to the development of the service.

Instead of being tangible, wicked social problems could be defined as complex, unpredictable, open ended or intractable. Wicked social problems are generally seen as associated with multiple interests and values of stakeholders, the context of interorganizational cooperation and multilevel governance and fragmentation and gaps in reliable knowledge (Head & Alford, 2015, p. 711, 716.)

Wicked social problems are multidimensional because they are connected broadly to the service system. Homelessness, mental health and substance abuse problems, child protection and long-term unemployment are examples of complex social problems. They are not able to be solved by a single profession. In addition to the fact that the clients are in a vulnerable situation, multiple and simultaneous support and assistance needs constitute a challenge for professionals and for a whole service system. Aiming to resolve intertwined situations of client groups, solutions should be comprehensive and inclusive. Tackling wicked social problems calls for specific tools, such as systemic thinking, collaboration, and coordination, as well as adaptive and collaborative leadership roles of public leaders and managers (Head & Alford, 2015, p. 724; Rittel & Webber, 1973, p. 167).

Systemic approach requires client centeredness and involvement of all relevant stakeholders; professionals and managers from public, private and third sector as well as researchers and developers. (Head & Alford, 2015, p. 23.) Broad collaboration is needed, therefore it should be planned, supported, and implemented carefully. The Quadruple Helix Framework (Fig. 11.1.) depicts a joint effort of the state/government, academia/university, industry/business and public/civil society to come together in a participatory domain to create and govern social innovation

(Arnkil et al., 2010). It has been thoroughly tested and reported for instance in the In For Care Project in Sweden, offering methods and tools for implementing the framework in the context of health care services.

Bellandi et al. (2021) have handled social innovation governance and the role of universities throughout quadruple helix partnerships in Italy. They suggest that universities may have various roles in projects that utilise quadruple helix framework: knowledge providers, but also as mediators that can act between different fields, interests and agendas and support a diversity of actors (*ibid.*, p. 8). The capacity to take different roles in different cases and partnerships can be one success factor for a HEI to accelerate social innovation (*ibid.*, p. 5). Social innovation can be seen as a broadening concept of service innovation that includes social change by social action (Windrum et al., 2016).

Dobers and Stier (2018), pp. 63–64) have listed recommendations for organisations that work with quadruple helix collaboration and co-creation in social sciences and humanities fields. The research has divided them in four categories: management, involvement, communication, and tools and spaces (Table 11.1). As visible in the table, recommendations for communication are the most, as well as the category of involvement.

The current research of quadruple-helix partnerships as the founding power of learning platforms in HEIs has not been widely studied yet, but several examples show the potential of these systematic co-creation activities by HEIs. In this article the research presents the DiakHub concept as a concrete example of such platforms and introduce a way to establish such activity in practice, by opening a development case of Zekki—a youth-centred digital service.

### 3 Data and Methods

This research was conducted applying collaborative autoethnography (CAE) (Chang et al., 2012) by the researchers of this article and the development team of DiakHub. Collaborative autoethnography has its roots in autoethnography (AE), creating a richer pool of data through various methods of data gathering (Roy & Uekusa, 2020, p. 387). It has its limitations, and has been criticized by its “non-accountability, non-generalizability and non-representativeness” (*ibid.*, p. 388), but was a fit method for this study, as “dialogue among the team is reflective of shared experiences on a topic. . .” (*ibid.*, p. 387), and the study is focused on the creation process and piloting of the DiakHub. The data in this article consists of the documents about DiakHub prepared by the development group and the wider group, notes of meetings and self-assessments carried out, as well as interviewing each other.

DiakHub’s development team consisted of four Ph.D. level professionals with a long career in University of Applied Sciences RDI activities. The group was supported by several professionals with a strong connection and understanding of the University’s pedagogical practices and the organization of teaching up to the planning and implementation of curriculum. DiakHub was co-developed among key

**Table 11.1** Collaboration and co-creation within quadruple-helix

<b>Management</b>	<b>Involvement</b>	<b>Communication</b>	<b>Tools and spaces</b>
Top management must commit itself to collaboration. It should be part of the organisation's long-term planning, and 'seed money' and personnel should be set aside for the work that needs to be done.	To ensure commitment to the collaboration, all stakeholders should be engaged right from the initial phase of the project. Involving them in defining the common task at hand will decrease the likelihood of misunderstanding, convince them of the benefits, make them accepting of the investment needed, and help avoid divergent expectations and friction as the collaboration progresses.	In many cases, other fields have a head start when it comes to impact-driven co-creation. Therefore, produce an arsenal of good-practice examples and arguments for the value and potential of SSH research without risk of being put in a defensive position. SSH is essential when it comes to addressing the so-called great challenges of our time.	Develop tools to learn from success stories and good-practice examples (i.e. models of systemic organisational learning)—So that they are transferable to planned or existing collaboration.
	Interact frequently with your partners, be receptive to them and nurture your relationships with them.	Make differences (and similarities) in terminology, language and communication visible.	Provide platforms and spaces for interaction.
	Make use of facilitators and translators, and intermediaries to optimise collaboration.	Address and challenge mutual stereotypes as early as possible. Also, think beyond dichotomies—e.g. academics-non-academics, industry-government—And work actively and systematically with attitude change by, for example, de-dramatizing academia and counteracting perceived status differences.	
		Discuss the foreseeable outcomes and impacts at the very outset of collaboration. Make sure they can be documented and assessed.	

(continued)

**Table 11.1** (continued)

Management	Involvement	Communication	Tools and spaces
		Clarify each other’s roles and views on professional integrity, and on the potential benefits and risks of collaboration, while giving credit to the individuals involved for their efforts.	
Management	Involvement	Communication	Tools and spaces

actors within the organization and the concept creation process was facilitated by a service design professional outside of the academia.

The development team held regular meetings every two weeks from the beginning of year 2020. In the initial phase, broad lines of action were created in relation to the strategy, followed by the structuring of the concept and, thirdly, the connections to practical activities. Short memos and conceptual outlines of the meetings were prepared and presentations to outsiders were stored in a separate folder. From time to time, the group evaluated the direction of its own progress.

At the beginning of 2021, the group reflected on its own activities by assessing the degree to which the goals set for the activities were achieved using the so-called traffic light model. The targets (42) were selected from the first action plan. The goals included larger and smaller entities. Of the objectives, 16 were assessed as making good progress (green), 19 as having made sufficient progress (yellow) and 7 as being in the start-up phase (red). The final evaluation of the process was conducted as collaborative autoethnography discussions as the working action researchers started to plan an article together.

#### 4 DiakHub: Co-Creative Solutions for Vulnerable Groups

In this section, the research introduces the DiakHub concept and its primary functions in the Finnish higher education field. In the RDI sector, Diak works with its partners to promote the sustainable wellbeing of the most vulnerable groups in society within national, European, and global contexts by improving social and health care service systems by bringing focus to the service user perspective. A community development and co-creation approach is applied both in Diak’s education and RDI activities. Diak’s strengths include close contacts with a nationwide professional network, and this allows Diak to combine theory and practice in innovative ways, bringing research results from the grass roots level to the level of decision making.

DiakHub is part of Diak’s RDI ecosystem, a new structural cooperation model. Cross-disciplinary knowledge creation and communication flow secures the

relevance of our RDI, and consequently, of the learning outcomes. This co-creative approach grounds scientific knowledge creation and experimentation in complex wicked societal challenges, experienced locally, regionally, nationally, and globally, applying the quadruple-helix and exploiting co-creation methods and tools. DiakHub's innovation activities aim to lead to more functional human-centred service systems and service processes. DiakHub activity can be verified through co-creation RDI activities and public service innovations. The role of students is central; while engaged in DiakHub activities, they become co-designers and experts, participating in the teaching and RDI activities they are exposed to during their studies. DiakHub is augmenting Diak's expertise so as to support public service innovation as well as building of social and health care and employment services capacity, diverse service producers (social enterprises, third sector and diaconia), and higher education institutions to better tackle wicked problems by creating human-centric systemic change via co-creation activities. Different continuity of care has been identified as one of the key components of human-centred service delivery. This ensures the satisfaction and confidence of service users. Continuity of treatment is compromised during various transitions. Often transitions occur between sectors and across organizational and professional boundaries. What is needed is a paradigm shift towards a more networked way of working. (Haggerty, 2003; Snowden, 2002.)

DiakHub assists public sector social and health care and employment services via its quadruple helix co-creation framework to address wicked problems. It does this by bringing different actors together with three RDI excellence co-creation tools. Different co-creation tools can support the design of the services, as well as organization strategies and building of networks. The use of such tools origin from service design thinking, such as service blueprint, and have been utilized as a strategic advantage for example already in the 2010s in the city of Helsinki in Finland (Jyrämä & Mattelmäki, 2015). These tools can be concrete game-like systems or facilitated processes, of which aim is to help a certain group of people to discuss, converse, create solutions and make decisions (Vaajakallio, 2012).

Co-creation tools support public social and health care and employment systems to re-combine existing organizations and resources in a manner that improves systemic functioning and collective effort, and these tools consider the different roles in enabling systemic human-centric change and public sector innovations. (Gouillart & Hallett, 2015). Diak's co-creation tools tackle the multi-causality and interdependencies of complex problems through (1) *Service Integration Design (SiD)* collaborative leadership tool for human-centric public social and health care; (2) *3X10D®* human service integration self-assessment tool; and (3) *Primary impacts* tool for evaluating the strengthening of human-centric inclusion and agency. SiD and 3X10D® tools are recognized and recommended tools for reforming social and health care services by the Finnish Institute for Health and Welfare. In this article the research present one example related to the 3X10D® tool and its development process, that was conducted within the DiakHub quadruple-helix framework.

Co-creation and coproduction are instances that enable talk, communication and shared knowledge-(co-)creation (see ie. Hannula, 2014, 2020; Lund Petersen, 2019;

Vaajakallio, 2012). The knowledge creating multidisciplinary and multi-actor teams within the DiakHub produce relevant content, solutions, and social innovations to contribute to development in respect of the identified wicked social challenges and phenomena. The new knowledge that is co-created in DiakHub is utilized in education development at all levels from BSc to post-graduate life-long learning education provision and diverse RDI activities.

## 5 DiakHub Activity in Practice: Co-Creating a Youth-Centred Digital Service Zekki

The case of the creation of Zekki—service depicts how the problem space occurred in the field came to the knowledge of Diak’s specialists, and led to the start of a co-creation process, where different stakeholders were participating in the different phases of it. The co-creation process consisted of three iteration rounds: (1) Development of 3X10D survey, (2) Development of service paths, (3) Development of Zekki (see Fig. 11.2.). Each development round had five steps: (1) Shared vision creation, (2) Co-design, (3) Co-creation, (4) Testing and delivery, and (5) Evaluation (depicted in detail in Table 11.2.). The service development followed an iterative cycle, where the development of the service doesn’t end with the first release but continues in interplay with different evaluation phases and feedback channels (Botero & Hyysalo, 2013).

3X10D® tool was launched to social and health care professionals in June 2020 as a part of nationwide digital social and health service platform omaolo.fi. While the 3X10D® was in professional use, new needs emerged which led to the next iteration process resulting in the Zekki, youth-centred digital service.

Table 11.2 depicts the iterations rounds in the case of Zekki, and what happened within each round. The focus of the Zekki project was in the creation of a service aimed at youth, as youth (15–24 years) is a critical transition period from

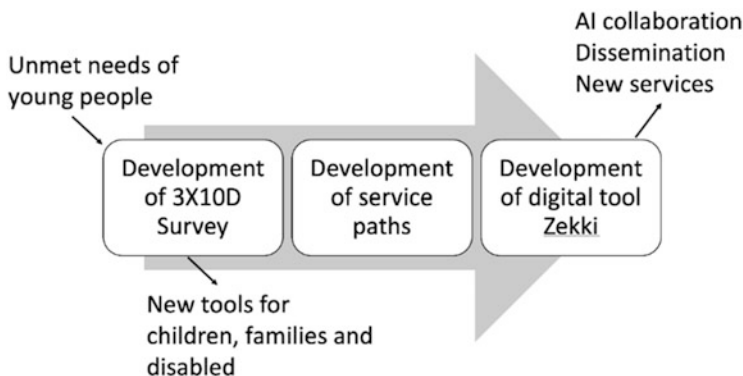


Fig. 11.2 A three-staged development process of youth-centred digital service

**Table 11.2** Co-creation and quadruple helix in practice. The development process of Zekki—a youth-centred digital service

	<b>Vision of the solution</b>	<b>Co-design</b>	<b>Co-creation</b>	<b>Testing and the delivery</b>	<b>Evaluation</b>
<b>Iteration 1</b> <i>The problem:</i> Segregated services, various professionals, various methods.	All professionals should see the young person and his or her whole life and share the information.	Literature review; self-evaluation which utilizes information from Well-being theories.	A multi-dimensional self-evaluation with ten questions of different life aspects. Easy answering (0–10).	Piloting, testing in the school health system.	<b>3X10D survey</b> School health professionals as key actors, must be integrated into the school health system. New needs emerge.
<i>Participating stakeholders</i>	Diak's specialists School health professionals	Diak's specialists School health professionals	Diak's specialists School health professionals	Diak's specialists School health professionals Young citizens	Diak's specialists School health professionals
<b>Iteration 2</b> <i>The problem:</i> Young people do not get support they need	Further understanding of the needs of the young citizens	The entity of young peoples' life as a basis	Systematic structured focus group discussions with 3X10D. Evaluating current services.	Visualization of the needs and service paths, defining the major problems in current services.	<b>Service paths</b> The need for information of the support services and situation-targeted services
<i>Participating stakeholders</i>	Young people as key actors Diak's specialists	Diak's specialists Young experts by experience	Young experts by experience as interviewers, young people in different situations as informants Diak's specialists	Young experts by experience Diak's specialists	Young experts by experience Diak's specialists
<b>Iteration 3</b> <i>The problem:</i> Excellent services exist but young people do not	A young person has to be able to find support easily and at a one place	A youth-centred service which targets the	Digital workshops in co-creating the content of the service.	User-testing followed repeatedly the technical development.	<b>Zekki—a youth-centred digital service</b> Further improvements were made constantly



<p>find the right support at the right time. <i>Participating stakeholders</i></p>	<p>focusing on his/her own situation. Young people as key actors Diak's specialists</p>	<p>support for the current situation. SE professionals Diak's specialists Service designer</p>	<p>SE professionals Diak's specialists Service designer Technical developer</p>	<p>Young citizens Diak's pupils SE professionals</p>	<p>according to user-testing. Young citizens Diak's pupils SE professionals Technical developer Diak's specialists. <b>Evaluation</b></p>
	<p><b>Vision of the solution</b></p>	<p><b>Co-design</b></p>	<p><b>Co-creation</b></p>	<p><b>Testing and the delivery</b></p>	

adolescence to adulthood, which strongly affects the future well-being. Today, however, there is a large discrepancy between the young people's needs and the current services. This results from a multi-layered and complicated system, where multiple organisations act as providers. This kind of complicated system has become a problem for especially young people, and to most, those young people with multiple needs (Paananen et al., 2019). Segregated services and young people's various needs underlined the importance of developing new tools to combine the needs and the support more effectively.

The co-creation process of Zekki shows us, how a wide spectrum of people is needed in producing a satisfactory service, that answers to the needs of the users. The professionals from social enterprises (SE) and Diak, young citizens and Diak's pupils were involved more systematically and more comprehensively in the developing process, than before in the Diak's service delivery history. The co-creation process implements the DiakHub's quadruple-helix framework in practice. OECD's Observatory of Public Sector Innovation (OPSI) presented 3X10D® tool case study as a one of the best practices in public service innovations, and Zekki is currently a nationwide public digital service in Finland.

## 6 Discussion

As our study shows, building a more inclusive society and solving wicked social challenges calls for thoroughly redesigning the relationship between Diak as a higher education institution, the public sector, and diverse service producers and service users in accordance with co-creation principles. This implies building a structural institutional infrastructure linking Diak's teaching and RDI with public sector, diverse service producers and service users' perspectives and needs. It also includes making already existing connections visible, developing them into wider networks, and subsequently transforming them into systematic cooperation feeding into education, research, development, and innovation. Establishing structures for co-creative research and innovation is an iterative, experimental process.

Traditionally, development work in the Finnish HEI's is done through project activities. The amount of externally funded projects is one of the performance metrics (Universities of Applied Sciences Act 932/2014). In this case, the role of externally funded projects is emphasized. It often annoyingly means that project development work is interrupted until the project objectives towards the funder are met. Of course, projects are directed at best in line with the organization's strategy, but successive projects do not automatically cumulate the added value of the projects. The strategy and the themes it creates build the necessary framework conditions for linking individual projects together (Cooke-Davies et al., 2009). However, it is not enough to pursue a stronger accumulation and correction of scientific and practical knowledge (cf. scientific knowledge). The different Quadruple-Helix framework structures are a step towards organizationally integrating individual projects and measures into a broader development mission. DiakHub is an example of an organizational structure that also supports the strategic aims of the organization.

Different HEI's Quadruple-Helix framework activities as well as Hub's concept are approaching company-like innovative operations. The way of operating and the speed of launching new activities easily collide with the traditional way of operating in a university. There are often different time cycles in teaching and research and development. It is obvious that the university is not a service organization, but the outputs must be transferred to others. Therefore, one option to solve this conflict is for Hub to form business activities, for example start-ups, in which the university staff would be involved part-time. There is some literature already implying, that societal innovations also have an economic significance (see for instance Heiskala, 2007). Thus, the future possibilities for DiakHub could be in accelerating for instance social entrepreneurship (see Iqbal et al., 2018) within the quadruple helix partnerships.

Although, for example Windrum et al. (2016) claim that social innovation still lacks measurement tools and research related to it, which implies that more research is needed to be able to better claim the value of multi-actor co-creation for social innovation. Activities must have clearly defined objectives and be measured if the research want to assess the performance of operations. In many cases, Universities measure the points at which they receive funding. In Finland, these are indicators related to teaching and RDI work. Most of the funding comes to Universities of Applied Sciences from teaching-related issues. The issues measured in RDI projects are largely related to the work done in the projects and the resources obtained from them, and less to the results/impacts obtained by them. This is problematic when it comes to promoting impact and effectiveness of work done by the University. In the future, DiakHub's operations must be assessed based on the added value it provides to quadruple helix parties. This means creating and leveraging more advanced KPIs. In this case, for example, the dissemination and utilization of the innovations produced by DiakHub can be assessed *ex post*, both within the university (between teaching and RDI) and especially in working life and society at large. This creates a basis for assessing the relevance of the activity more broadly than describing how to do your own activities.

Dobers and Stier (2018, pp. 63–64) have emphasized the key elements of Hub operations, including the integration of operations into organizational activities, and enabling staff participation in Hub operations, as well as the ability of the parties to create direction of projects and maintain the interaction between actors. This requires shared concepts and language. In operations, roles and incentive systems must be clear and communication open. The new advanced products and methods that have emerged must be communicated in such a way that it strengthens cooperation. These good developments should be documented for good dissemination elsewhere and as a basis for new openings. As DiakHub promotes social entrepreneurship, and has its aim in scaling the concept, it is notable that different countries may interpret the concept differently due to different cultural values (Canestrino et al., 2020), meaning that the scalability of the concept needs to expand to cultural scalability, and consider other contextual elements too (Misbauddin & Nabi, 2019).

Based on the self-assessment, Diak has directed its special expertise and linked it to the strategic goals of the organization in establishing the DiakHub. Similarly,

research activities have been linked to development projects. During the DiakHub establishment work, previously separate service products were assembled into a new type of “product family”. Within the organization, it was also possible to increase RDI work and teaching in master’s studies and, to some extent, in BA studies through DiakHub. Diak has also familiarised itself with other quadruple-helix framework initiatives and similar kinds of operations in other universities, both nationally and globally. During the first year of operation, a plan was also made for the establishment of a new website, and this was implemented in March 2021 (see [www.hub.diak.fi](http://www.hub.diak.fi)). The aim of the website is to build a dynamic platform on which students and other actors can interact with each other. Likewise, it enables active marketing and networking. In the nascent phase, there are various measures that require systematicity, such as contacts with courses and students more broadly, communication with other actors and topical seminars. Similarly, Hub’s marketing within the organization needs to be clarified. International connections are also still in the start-up phase.

## 7 Conclusion

As the research stated in the introduction, our aim was to illustrate a way for HEI’s to respond to complex social problems with a design-led approach, as well as show how HEI’s can actively develop innovations within a quadruple-helix framework. The research did this by describing the concept of DiakHub, and presenting the case of Zekki service, and thus opening a co-creation process within the quadruple-helix framework. As the Diak’s social innovation initiative DiakHub is still very recently established, more longitudinal data is needed to evaluate its nature and what positive aspects it brings to the strategic development of Diak’s daily practice in the long run. Although, our article shows that based on the quadruple-helix framework and a design-led approach, it is possible to a HEI to establish a new kind of research and learning platform that promotes social innovation and the focus on most vulnerable citizens in a relatively short time span. In higher education, funding mostly comes from public funds, which means that operations are not as strongly dependent on income streams as in private (small) companies. More stable funding makes it possible to carry out various experiments.

On the one hand, universities have a key role to play in teaching and education that limits their activities, but on the other hand, it enables students to be integrated as a natural part of quadruple-helix framework -type development work. Diak as a university is not a service organization or service provider, but a partner that produces public information for others, facilitates and supports partners in various ways. Due to the nature of Finnish universities, it is possible for universities to develop social innovations without commercial goals. The research believes this will support the public sector in developing its operations more efficiently. The research encourages the researchers and actors in the field to actively develop and reflect on new social innovation platforms and bring them to practice for evaluation as the learning process whilst doing it itself is valuable.

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# Chapter 12

## “Thinking outside the Box”: Social Innovations Emerging from Academic Nursing-Community Partnerships



Cheryl Zlotnick and Mary McDonnell-Naughton

**Abstract** Nurses comprise the largest group of healthcare workers in the world. Increasingly, nurses in higher education institutions are collaborating with not-for-profit and community-based organisations to devise programs, projects and interventions that benefit both their students’ education and individuals in the community. This chapter describes an integrative review of these academic nursing-community partnerships, focusing on the nurses’ roles, the students’ role and the lessons learned from the partnership strategies that blend the expertise of the community members and nurses in higher education.

**Keywords** Social innovation · Nursing · Academic-community partnerships · Intersectionality · Global nurse citizen · Public health · Community health

### The Key Points of the Chapter Are the Following

- To understand social innovation in the context of nursing.
- To characterise the two branches of population-based nursing involved in social innovation.
- To identify principal concepts relating to healthcare inequity found in population-based nursing.
- To summarise basic findings on the status of social innovation in population-based nursing.
- To delineate the three primary pillars of a social innovation exemplar in population-based nursing.

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## 1 Introduction

The global Covid-19 pandemic, which began early in the year 2020, revealed the importance of population-based nursing services in the community not solely to dispense vaccinations, but also to provide care and assistance to at-risk population groups (Salvage and White 2020). Nurses understand that effective population-based interventions are only possible with community partnerships. This integrative review examines the current state of the art of social innovations used in population-based nursing.

Social innovation has been defined in many ways, but the consensus is that social innovation signifies enlisting community involvement to assist with an intervention or project that either improves personal capacity such as knowledge on self-care, develops new formal structures such as healthcare services for un- or under-served populations, or alters national systems such as changing social or healthcare practices to ensure more effective and culturally-appropriate care (Grimm et al. 2013). Social innovations are complex and require a multi-disciplinary approach to intentionally create or improve the capacity for tackling societal challenges in healthcare and other areas; social innovations by design must possess the “soft” infrastructure of community input, know-how and expertise (Grimm et al. 2013; Ziegler 2017). The Vienna Declaration, the first document delineating the topics and priorities of social innovations, notes that higher education institutions (HEIs) are ideally situated to promote social innovations (Hochgernet et al. 2011).

In HEIs, nursing departments encompass practice, education and research, and all three dimensions strive to improve healthcare services (Kaya et al., 2015). Nursing education includes didactic, classroom courses on subjects such as physiology, pharmacology, psychology, sociology and communication that provides nursing students with a broad knowledge-base, which is essential for good clinical practice. Nursing education also includes “real-life” clinical experiences in hospitals, clinics and the community where nursing students learn to apply principles from classroom education to their clinical practice. At all degree levels (bachelor’s master’s and doctoral), nursing students learn about research, as it is through research that the interventions, services and procedures that improve healthcare outcomes are identified, infused into clinical practice, and documented into evidence-based practice (EBP) guidelines (Mackey and Bassendowski, 2017). At the centre of EBP is the patient (Mackey and Bassendowski, 2017), and the best method of ensuring that new practices are culturally appropriate and meet the needs of diverse patient populations is by inviting input from representatives of the patient population (Madjar et al. 2019; Zlotnick 2021). Thus, the creation of social innovations by mobilising collaborations with community representatives is vital (Dil et al., 2012; McSherry & Douglas, 2011) to improve the quality of healthcare delivery and the quality of life in the community (Kara, 2015).

## 2 Social Innovation and Nursing

### 2.1 *A Slice of Nursing History*

Social innovations are collaborations or partnerships with the community that create interventions designed to remedy unmet societal needs such as inequities in healthcare or social welfare services (Pulford and Social Innovation eXchange (SIX), 2010). The practice of social innovations is not new to nursing, as the leaders of the nursing profession in the late 19th and early 20th centuries sought to promote health and well-being among disenfranchised and vulnerable populations by working in partnership with representatives from those communities (Curley 2020; Fee and Bu 2010; Thurman and Pfitzinger-Lippe 2017).

This population-based nursing approach underwent a dramatic change during the twentieth century when industrialisation and urbanisation created new technologies that introduced many new and sophisticated hospital-based diagnostic tests, instruments, and treatments for acutely and chronically ill patients, enticing nurses to move from working in the community to working in hospitals (Grimm et al. 2013; Kub et al. 2015). Nursing education, following these trends, revised their curricula to concentrate on inpatient care.

By the late 20th and early 21st centuries, however, a cadre of nursing leaders revived the emphasis on population-based nursing and the need for social innovations (Sela-Vilensky et al. 2020). This focus was not only supported by nurses, but also by the World Health Organization and the Institute of Medicine (Institute of Medicine (US) Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing 2011; World Health Organization 2013).

### 2.2 *Global Nursing Citizen*

Population-based nursing embraces the concept of the global nurse citizen, nurses dedicated to initiating and collaborating with others to develop interventions and programs that reduce inequity in healthcare access, utilisation and status (World Health Organization 2017). The World Health Organization (WHO) has coalesced a wide array of geographical, social, physical and economical concerns that are sources of worldwide inequity, called Sustainable Development Goals or SDGs, including “Good Health and Well-being” (SDG-3) (World Health Organization 2021).

Devising effective interventions or programs that effectively address the SDG-3 of Good Health and Well-being requires input from professionals with diverse backgrounds as well as the expertise of representatives from at-risk populations. It means nurses must participate in changing public policy so it promotes healthcare access and utilisation among all population groups (Scott and Scott 2020); but healthcare professionals do not have all the answers. While they may understand

the contributions of their scientific disciplines, only members from at-risk population groups have the cultural knowledge to: (1) judge culturally appropriate approaches that will promote use and access to healthcare services, and (2) identify barriers erected by discrimination and racism that reduce access to healthcare resources, knowledge and services.

For example, an institutionalised barrier could be making healthcare services available only between the day hours of 9 am and 5 pm, reducing service utilisation by people who work during the day and would lose a day's pay if not at work. Some healthcare policies add to existing vulnerabilities by ignoring differences that exist in certain population groups due to culture, language, socio-economic status or geographical location. An example is a policy allocating each individual ten mental health visits per year when ample epidemiologic evidence suggests that individuals living in impoverished, high crime areas require many times more mental healthcare services than those living in middle to high income, low crime areas. Equality means distributing the *same amount* of resources to all members of the population; equity indicates distributing resources *according to the need* of the members of the population (World Health Organization (WHO) 2021). The global nurse citizen is dedicated toward developing social innovations and interventions that promote societal equity in every aspect of life, as is noted in the SDGs (Clark et al. 2017; Rosa et al. 2019).

Nursing, as a caring profession, is committed to the provision of high quality, respectful patient care for all people, regardless of their socioeconomic status (International Council of Nurses (ICN) 2020; Scott and Scott 2020). Population-based care includes working different groups (may be defined by gender, culture, socioeconomic status, religion, geography or other characteristics) to advocate for equitable healthcare service access (International Council of Nurses (ICN) 2018). The importance of social justice and healthcare service equity is documented within the standards of professional population-based nursing practice (called competencies) (Nursing and Midwifery Board of Ireland 2016; Torres-Alzate 2019).

The first step of launching a population-based intervention or program, according to the standards of professional population-based nursing practice, begins with a community assessment, which is the identification of the community culture, supports and resources, and challenges (Campbell et al. 2020). This assessment is only possible when nursing students or professionals actively listen to community members, recognise their own biases, and check their community assessments with individuals from those same communities (Quinn et al. 2019; Shahzad et al. 2019). Accordingly, nursing curricula for population-based nursing include skills on being inclusive and developing healthcare social innovations (Grimm et al. 2013).

### ***2.3 Population-Based Nursing: Community and Public Health Nursing***

Two branches of nursing practice in population-based care are community health and public health nursing. Both branches are similar in that nurses work with population and community groups; however, while community health nurses focus on treating chronic and acute illnesses, public health nurses focus on disease prevention and health promotion (Issel and Bekemeier 2010; Molloy and Caraher 2000). Community health nurses, therefore, provide the bridge for supporting and coordinating care for discharged hospital patients, and other chronically and acutely ill individuals recuperating in the community. They assess health indicators and can implement or adjust treatments. Public health nurses support and encourage behaviours that prevent disease and promote health and well-being such as vaccinations, well-baby care, coordinating resources and presenting educational seminars that promote healthy behaviours for targeted populations at risk. Some countries have both types of population-based nurses, while others combine the role (Schober et al. 2020).

Both branches of population-based nurses face many challenges. Healthcare funding for nurses has focused mostly on inpatient nursing care, resulting in inadequate staffing and lack of advancements in community and public health infrastructures (Issel and Bekemeier 2010). Migration has added to the complexities of working in the community, as many societies are comprised of individuals with different cultures, languages, and needs. Divisions based on socioeconomic status may further increase the inaccessibility to health and social welfare services. Thus, to ensure healthcare equity, community and public health nurses must devise creative and unique strategies that optimise resources, and facilitate effective delivery of culturally appropriate healthcare services to a variety of population groups (Dupin et al. 2020).

### ***2.4 Community Members: Populations at Risk and their Needs***

Being at-risk is often related to social disadvantage and based on characteristics such as age, gender, ethnicity/race, ability/disability, and socioeconomic status (called intersectionality (Daftary 2018)), and those with more characteristics or layers of social disadvantage are at greater risk for having decreased health status, access, utilisation, and outcomes. Not surprisingly, socioeconomic status is central to social disadvantage as low socioeconomic status is more common among women, ethnic/racial minorities, the unemployed and the elderly (or very young).

Other health indicators also may contribute to being at-risk, such as body mass index (BMI), activity level, and history of chronic diseases such as diabetes (World Health Organization 2013). Population groups with characteristics that are

associated with greater social disadvantage are more at risk of chronic diseases (Stringhini et al. 2017). Accordingly, population-based nursing academic partnerships target disadvantaged and underserved populations as determined by intersectionality or health indicators (Ezhova et al. 2020).

### 3 Methods

The best methodology to cull information from a body of literature is to conduct a review. However, there are several types of review and each type of review achieves a different goal. The most common types of reviews are systematic reviews, scoping reviews and integrative reviews. Systematic reviews are designed to uncover evidence on treatments or procedures with the goal of guiding decision-making on the treatment or procedure under study (Munn et al. 2018). Scoping reviews are used to map the evidence and key concepts for exploratory questions on a particular topic with the goal of identifying knowledge gaps and determining future research directions (Colquhoun et al. 2014). The integrative review focuses on a specific concept and is used to synthesise existing literature and gain a clear understanding of a phenomenon or issue with the goal of advancing practice, informing research, and promoting policy (Broome 2000; Whittemore and Knaf 2005; Whittemore 2007).

For the goal of identifying the principles for successful social innovations developed via academic population-based nursing partnerships, this study will use an integrative review methodology. The integrative review uses a five-step methodology (Hopia et al. 2016; Whittemore 2007):

1. identify the purpose,
2. provide a PRISMA diagram indicating article inclusion and exclusion,
3. describe the method of evaluating articles and provide summaries of the articles,
4. conduct analyses delineating the most important concepts/themes including a table listing the articles on which the analyses were based, and
5. present the results.

**Identify the Purpose** The aim of this integrative review is to examine social innovations created by non-hospital/non-clinic partnerships with academic, population-based nurses. This review will focus on the nurses' and nursing students' roles, the partnership strategy, and the highlights of social innovation. The research question is: what are the principals for successful social innovations created through partnerships comprising non-hospital/non-clinical organisations and academic population-based nurses?

**Provide a PRISMA Diagram Indicating Article Inclusion and Exclusion** Most nursing literature is found in the databases of the Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE, and PsychInfo. The following keywords were included: "academic partnerships", "interventions or therapy or

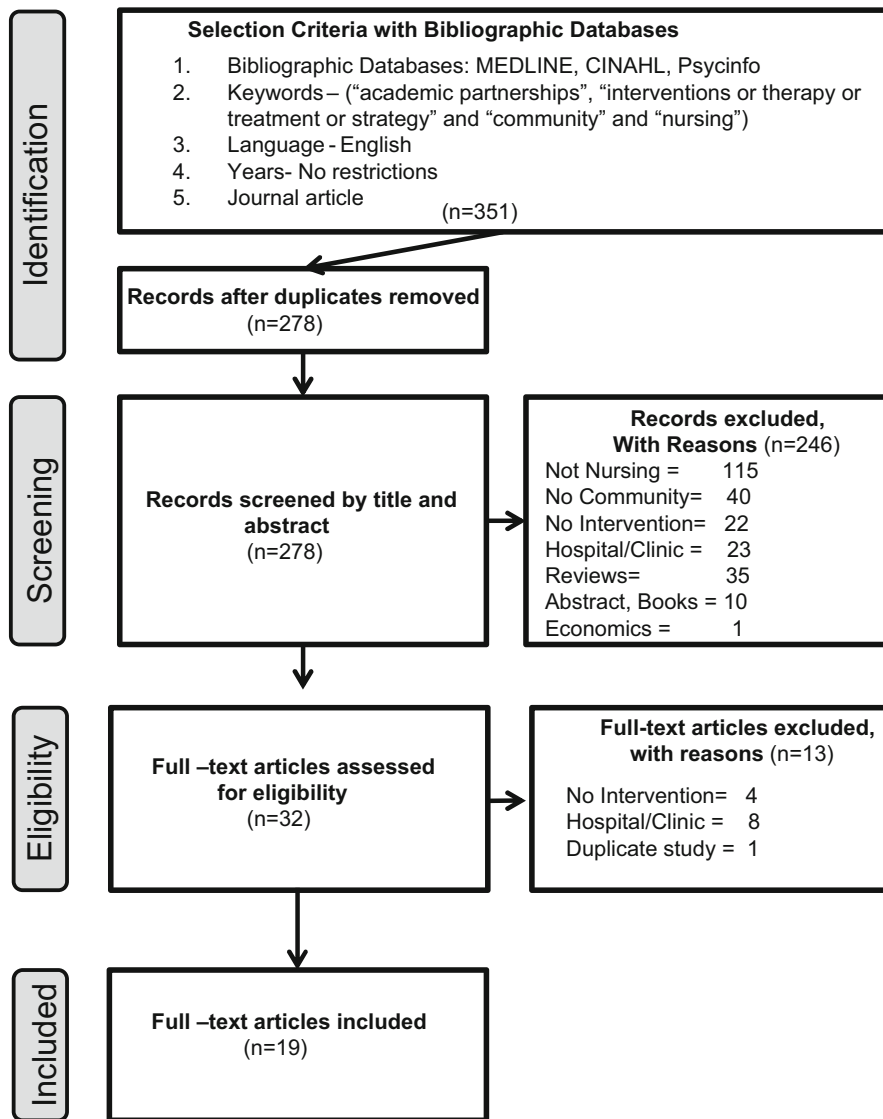


Fig. 12.1 PRISMA figure of study search

treatment or strategy” and “community” and “nursing”. Inclusion criteria were articles that were: (1) English-language and (2) published in journals. No year limits were used. The PRISMA figure illustrates the details of the search (see Fig. 12.1).

**Describe the Method of Evaluating Articles and Provide Summaries of the Articles** Of the 351 records of article abstracts obtained, duplicate records were removed prior to abstract evaluation. Next, abstracts of the records were

reviewed. Exclusions were made based on the omission of: nursing (n = 116), a community group (n = 40), and/or program/intervention (n = 22). Also excluded were records of abstracts referring to hospital- or clinic-based interventions (n = 23), review articles (n = 35), editorials/book evaluations (n = 10) and a single study describing the economic situation rather than the intervention/program (n = 1). Of the records remaining (n = 31), the full articles were read resulting in additional exclusions (n = 13) due to: hospital- or clinic-based interventions, the absence of program/intervention, and the finding of a duplicate study not previously identified. The final sample of articles (n = 19) were summarised in a table, organised by author and year, study purpose, methods and results, the nursing role in primary care, the academic-community partnership, and highlights (see Table 12.1).

**Conduct Analyses Delineating the Most Important Concepts/Themes** Content analysis was used on the final sample of articles (n = 19) to identify patterns, themes and subthemes. In the first step, each author reviewed the articles and created the table describing basic characteristics of the interventions and identifying common themes. Next, both authors compared their findings and discussed any questions, indecisions and ambiguities, eventually reaching consensus.

## 4 Results

Three primary themes arose from the partnerships presented in the articles (n = 19): (1) the methodology to obtain community input; (2) the need for mutual benefits among partners; and (3) sustainability and its link to the focus and types of projects.

### 4.1 *Methodology to Obtain Community Input*

The methodologies used to create a partnership varied, as 48% (n = 9) reported a specific partnership framework: 26% (n = 5) used a service-learning framework, 11% (n = 2) used the community-based participatory research (CBPR) approach with a community advisory board, and the remaining 11% (n = 2) used advisory boards, memoranda of understanding or contracts.

The methodology to obtain community input was linked to funding support and the type of project. For example, two of the three projects that reported funding support had advisory boards (Knight et al. 2020; Sullivan-Marx et al. 2010). Only community health projects used CBPR, an approach that requires input from the representatives of the target population (Friedman et al. 2012; Stacciarini et al. 2011). In contrast, the service-learning paradigm was found in articles reporting both public health and community health social innovations (Alexander 2020; Alexander et al. 2014; Breen and Robinson 2019; Gresh et al. 2020; Tyndall et al. 2020).



**Table 12.1** Description of Selected Articles (n = 19)

Author (Year)	Study Purpose-Goals	Methods and Results	Nursing Role—Primary Care	Academic-Community Partnership	Highlights
Alexander, Canciani, and Krauser (2014)	Describes an Academic-practice collaboration for evidence-based injury prevention in the community to support student nursing education.	<p><b>Methods:</b> Program with nursing students and faculty to dispose of expired and other unused medications. Efforts included working with community coalitions and providing social marketing to ensure key stakeholders throughout the community understood the goal and were able to support project implementation.</p> <p><b>Results:</b> An evaluation over a one-and-a-half-year period detailed successful collection and disposal of medications.</p>	Public health intervention with faculty guidance in which nursing students initiate collaboration with stakeholders and work to sustain efforts.	Nursing students and faculty partnered with several different community agencies.	Coordinated multiple-faculty project facilitated service-learning.
Alexander (2020)	Describes a public health nursing partnership with schools and key community stakeholders to develop health promotion workshops.	<p><b>Methods:</b> Uses the Healthy People 2020 Mobilize Assess Plan Implement Track (MAP-IT) framework to devise school-based interventions on food literacy and healthy eating.</p> <p><b>Results:</b> A total of 75 nursing students provided information on food</p>	Public health nursing with faculty and bachelor’s students in working with schools to promote nutrition education and obesity prevention.	Partnership was between faculty of the bachelor’s degree program and schools. School perspective not provided.	Service-learning model successfully infused learning principles for health promotion activities.

(continued)

Table 12.1 (continued)

Author (Year)	Study Purpose-Goals	Methods and Results	Nursing Role—Primary Care	Academic-Community Partnership	Highlights
Breen and Robinson (2019)	Evaluate service learning through academic partnerships for registered nurse (RN) students who worked with different community agencies.	<p>literacy for 640 schoolchildren. Specific results not provided.</p> <p><b>Method:</b> A qualitative evaluation study, interviews and focus groups on students and agency members.</p> <p><b>Result:</b> Mutual benefit: RN students gained leadership skills and awareness about inequalities and being a change agent; agencies gained increased quality of care and trust in nurses and their abilities .</p>	Community health nursing with varied nursing roles depending on agencies' needs.	RN students with a variety of different agencies— Used service-learning framework.	Service-learning promoted trust from the agencies' perspective and appreciation of vulnerable groups from the RNs' perspective.
Burke et al. (2015)	Describes a partnership between a school district to enhance disaster preparedness.	<p><b>Methods:</b> Disaster simulation with 40 schoolchildren who pretended to be injured was implemented and assessed.</p> <p><b>Results:</b> The simulation demonstrated the importance of school nurses in disasters.</p>	Public health project with school nurse participation in disaster planning. No student activities noted.	Few details on the academic role, other than in the planning.	School nurses are essential for disaster planning.

<p>Davis and Gustafson (2015)</p>	<p>Describes the development and evaluation of a project to promote healthy families and communities via an academic-practice partnerships.</p>	<p><b>Methods:</b> This project used a “it takes a village” approach to create a doctorate in nurse practice (DNP) program by using a partnership that included 3 colleges/schools of nursing and public health nurses from the local health department, educate BSN nursing students, build student-family partnerships, and promote wellness in the community. <b>Results:</b> The partnership provided 175 home visits by 53 students. Ratings good, response rate poor.</p>	<p>Public health nursing project supported student education and provided community services. The students used new tools such as geographic information system mapping to identify barriers to wellness (e.g., few markets with healthy foods, lack of green space).</p>	<p>The partnership featured nurses in academia and in practice.</p>	<p>Academic and practice partnerships flourished when the goals for both partners are met.</p>
<p>Eddy et al. (2008)</p>	<p>Describes the development of a Partnership to assist pregnant women who were victims of intimate partner violence (IPV).</p>	<p><b>Methods:</b> University researchers partnered with 12 counties and their home-visiting programs. These two partners received education and worked together on home visits to assess the presence of IPV. <b>Results:</b> A total of 9 of 23 visits had IPV. Health department workers found some difficulties working with the university researchers—Issues with the formality of consents.</p>	<p>A public health project to examine IPV. The health department nurses were responsible for conducting the care. University partners collected data. No student activities noted.</p>	<p>The partnership was primarily to conduct research but the health department workers also gained information on IPV.</p>	<p>The partnership enabled working nurses to obtain education on IPV; however, research procedures were problematic at times.</p>

(continued)

Table 12.1 (continued)

Author (Year)	Study Purpose-Goals	Methods and Results	Nursing Role—Primary Care	Academic-Community Partnership	Highlights
Friedman et al. (2012)	Describes a community-academic-clinical, research team focused on the development of a prostate cancer education intervention with African-American men and women.	<b>Methods:</b> Community based participatory research (CBPR) approach with community advisory panel (CAP) of African-Americans from the community to develop an intervention on prostate cancer that included a “prostate nurse navigator” <b>Results:</b> No results of the intervention are provided.	Public health nursing Endeavour to develop the oncology nurse navigator role to work with families and multi-disciplinary teams. No student activities noted.	Used a community advisory panel (CAP) to provide the academicians with basic input on the community’s culture. The specific details of the partnership are unclear.	The CBPR approach is a strategy that encouraged academics to engage community members and provide culturally appropriate care.
Gresh et al. (2020)	Describes a school of nursing’s partnership with a city network to decrease isolation of older adults during the COVID-19 pandemic while contributing to student nurses’ education	<b>Methods:</b> Qualitative information was collected to examine: Students’ opportunities to learn about community needs; have time for reflection; and benefit the community. <b>Results:</b> Responses indicated that the partnership achieved the above goals.	Public health nursing intervention for student nurses to connect older adults with resources and agencies within the community.	The partnership between a community network and school of nursing was solidified by a memorandum of understanding.	Service-learning was provided and students learned about the social determinants of health.
Hildebrandt et al. (2003)	Presentation of a community nurse Centre (CNC) and acute and chronic care services operated by a university.	<b>Methods:</b> The CNC provides acute and chronic care, monitoring, health promotion, screening, referral, and educational programs to groups. A	Community health nursing interventions of advanced practice nurses (master’s and doctoral) and faculty worked with a	The partnership was between a university and an inner city area with subsidised housing. The model suggests stakeholders and other	Sustained collaboration community nurse center more than 10 years - nursing students and faculty worked together.

		<p>retrospective study on records of the CNC during 11 years of operation (n = 3079) were abstracted.  <b>Results:</b> Findings indicated that services changed over time. Case management was needed and per patient also increased.</p>	<p>community health nurse and part-time physician.</p>	<p>community organisations are involved.</p>	
<p><b>Knight et al. (2020)</b></p>	<p>Description of the creation of a nurse-family partnership (NFP) (a nursing college program) with various agencies to establish a home visiting programme for first-time, low-income mothers and infants.</p>	<p><b>Methods:</b> Obtained funding to work in collaboration with the health department. The program is faculty-directed, includes existing nurses, and bachelor's and graduate nurses. Community advisory board nurse directs program.  <b>Results:</b> Mutual benefit as students of all levels learn and infant indicators show of many types improve. The programme is in 42 states.</p>	<p>Public health nursing partnership involved faculty and bachelor's and graduate nurses who provided population-based nursing information and resources to low income, first time mothers and their children.</p>	<p>Funding from several sources support a community advisory board and the partnership that leverages resources from the university to work with the health department to help low-income first-time mothers.</p>	<p>Philanthropic funding supports partnership, advisory board and the opportunity for inter-professional and peer scholarship across the university and community.</p>
<p><b>Lashley (2008)</b></p>	<p>Describes a program to promote oral health and preventive services for homeless people and also</p>	<p><b>Methods:</b> Nursing and dental students worked together to provide nursing and dental health services at homeless sites.</p>	<p>Public health nursing project for students promoting oral health education and arranged dental visits.</p>	<p>The partnership was between a university and a mission for homeless individuals.</p>	<p>Collaboration between dental and nursing students promoted oral health for homeless adults.</p>

(continued)

Table 12.1 (continued)

Author (Year)	Study Purpose-Goals	Methods and Results	Nursing Role—Primary Care	Academic-Community Partnership	Highlights
Marcus (2000)	<p>to provide student nursing experiences.</p> <p>Describes a collaboration On substance abuse for academics and community-based professionals to develop appropriate efforts with the goal of also educating student nurses.</p>	<p><b>Results:</b> Of the total enrolled (n = 279), 55% receiving services.</p> <p><b>Methods:</b> An interdisciplinary model identified problems, determined risk factors and considered cultural context to devise substance abuse (includes tobacco) prevention and risk reduction program. The project launched several teams to initiate health promotion activities to prevent substance abuse.</p> <p><b>Results:</b> Descriptive findings indicate success.</p>	<p>Public health nursing project involved faculty and nursing students who worked with community for substance abuse prevention and home-visiting of drug-exposed neonates.</p>	<p>The university worked with many different community based organisations.</p>	<p>This project educated faculty first and then provided a course to ensure that everyone had sufficient knowledge.</p>
Northrup et al. (2008)	<p>Describes creation of a school-based heart-health screening and intervention program, a grant-funded program supported by a university and school nurses of fifth grade students.</p>	<p><b>Methods:</b> The LIFE program was designed to identify obesity risk and provide counselling to fifth graders and their families. Screenings were conducted and reports sent home to parents.</p> <p><b>Results:</b> Only 23% responded and 50% of those made changes in lifestyle to reduce obesity.</p>	<p>Public health nursing with school to conduct screenings. Physical education educators also were involved. No student activities noted.</p>	<p>The role of the university appeared to be mostly co-teaching study results.</p>	<p>A grant funded this program with school nurses and other school officials to reduce childhood obesity.</p>

<p>Schaffer et al. (2017)</p>	<p>Identifies best public health practices for a consortium among public health nurses, faculty, and a variety of agencies.</p>	<p><b>Methods:</b> The consortium (comprising 12 local public health agencies, 3 state partners, and 13 academic institutions) provided the sampling frame for a quantitative survey and qualitative focus groups on the partnership. <b>Results:</b> Satisfaction reported by all partners. Competencies for the partners were: Community assessment, teaching-learning, and self-assessment.</p>	<p>Public health nurse education partnership between professional public health nurses and bachelor’s nursing students and faculty.</p>	<p>The partnership met the needs of the public health agency nurses and the academic needs of the students.</p>	<p>Successful partnership engaged public health nurses in agencies and academic nursing faculty with students.</p>
<p>Singh et al. (2017)</p>	<p>Describes a student-run, faculty-facilitated future nurse and health Club to show the importance of higher education in health care.</p>	<p><b>Methods:</b> Faculty from the university (including nursing) along with high school officials convened a club student nurses from the university discussed their education and goals with high school students. <b>Results:</b> High school students’ and their parents’ scores on satisfaction and self-actualisation improved.</p>	<p>Recruitment for future nurses—Promote minority nurses via a club in which nursing students participated as presenters to high school students.</p>	<p>The partnership involved the school and university. The university operated this intervention to improve university entry for minority high school students.</p>	<p>University nursing students were instrumental in enlightening high school students on the career of nursing.</p>

(continued)

Table 12.1 (continued)

Author (Year)	Study Purpose-Goals	Methods and Results	Nursing Role—Primary Care	Academic-Community Partnership	Highlights
Stacciarini et al. (2011)	Describes a community-based participatory research (CBPR) to develop a mental health intervention for rural Latinos.	<b>Methods:</b> The CBPR advisory committee contained members from the Latino community and health professionals. <b>Results:</b> The partnership noted a stigma was attached to psychological resources and few existed. Information was collected to develop services.	Community health nursing project with a psychiatric nurse. No student activities noted.	The partnership was the precursor for a research study and the development of psychological services.	CBPR fomented the partnership using community expertise, essential for the development of culturally appropriate services.
Sullivan-Marx et al. (2010)	Describes a ten-year program for community-based long-term care, high-risk older adults and provides education opportunities for nursing students.	<b>Methods:</b> University founded and operated an academic nurse-managed (students and faculty) center serving high-risk older adults; contains several advisory boards with a budget of \$33 million. <b>Results:</b> Outcomes include lower rates of hospitalisation and emergency room use.	A completely nurse-operated with hired staff, faculty and nursing and other students e.g., business students.	The program has several boards with community representatives.	Completely nurse-created and operated program served older adults in the community. Sustained more than a decade.
Tyndall et al. (2020)	Describe service-learning benefits for nursing students in cultural immersion (USA to Guatemala)	<b>Method:</b> Single case study, used content analysis on retrospective and prospective interviews, physical artefacts, and	Public health nursing with faculty mentoring RN students to be health educators and learn about	Nursing college and a Guatemalan elementary school Next step - a community-	Service-learning partnerships used a framework—Feasibility, access, data collection,



	teaching school- children about hygiene and health	documents <b>Result:</b> Mutual benefit- elementary school students learned and received hygiene supplies (e.g. toothbrushes) and students gained leadership and health education skills.	inequalities and global citizenship	based participatory research project	and consistency- for the partnership
Wilson et al. (2000).	Describes a partnership between a school of nursing and migrant workers that supports student nurses education on vulnerable groups.	<b>Methods:</b> The school of nursing launched a program to care for migrant workers, as it, other stakeholders and agencies joined. <b>Results:</b> Success measured by the number of children receiving services and feedback from collaborators and students.	Community health nursing and nurse practitioner students provided health screenings and other services.	University school of nursing established the collaboration and encouraged the participation of many other stakeholders.	Academic nursing led the creation of a widely accepted collaboration. Sustained more than 6 years.
Stacciarini et al. (2011)	Describes a community-based participatory research (CBPR) to develop a mental health intervention for rural Latinos.	<b>Methods:</b> The CBPR advisory committee contained members from the Latino community and health professionals. <b>Results:</b> The partnership noted a stigma was attached to psychological resources and few existed. Information was collected to develop services.	Community health nursing project with a psychiatric nurse. No student activities noted.	The partnership was the precursor for a research study and the development of psychological services.	CBPR fomented the partnership using community expertise, essential for the development of culturally appropriate services.

The community partners varied by project and included agencies, schools, the public health department, and interested individuals; and by definition, the nursing academician was among the partners. The number of members within the partnerships also varied. Many partnerships comprised only an academic institution and a single community partner, while one grew to include a myriad of agencies (Wilson et al. 2000). Another became a multi-million-dollar government funded businesses (Sullivan-Marx et al. 2010).

## ***4.2 The Need for Mutual Benefits among Partners***

Most articles identified mutual benefits when they initiated the partnership, and some conducted surveys or interviews to assess satisfaction with their partnerships and activities (Breen and Robinson 2019; Knight et al. 2020; Lashley 2008; Schaffer et al. 2017; Tyndall et al. 2020). Others measured either the provision of services or the attainment of outcomes (Alexander 2020; Alexander et al. 2014; Davis and Travers Gustafson 2015; Eddy et al. 2008; Gresh et al. 2020; Hildebrandt et al. 2003; Marcus 2000; Northrup et al. 2008; Singh et al. 2017; Stacciarini et al. 2011; Sullivan-Marx et al. 2010; Wilson et al. 2000).

From the articles, it was clear that the nursing academic partner held many roles: originator of the innovation, provider of services, evaluator, fundraiser and researcher. Almost all articles indicated that the nursing academic partners were the originators of the innovation project ( $n = 16$ ) and most indicated that either the nursing academic partner's faculty or students were among the providers of the social innovation ( $n = 15$ ). The role as evaluators was noted in about half the articles ( $n = 11$ ). Even less common among the nursing academic partners were the roles of fundraiser ( $n = 3$ ) and researcher ( $n = 3$ ).

The majority of partnerships included nursing students; however, almost a quarter of the articles ( $n = 5$ ) reported no student involvement. Articles describing interventions without students included: research studies (Eddy et al. 2008; Northrup et al. 2008; Stacciarini et al. 2011), the development of new nursing specialties such as the Oncology Nurse Navigator (Friedman et al. 2012), and simulations of disaster preparedness comprising a variety of multi-disciplinary health professionals (Burke et al. 2015).

Among the articles reporting nursing student participation ( $n = 14$ ), the majority initiated the partnership for the purpose of teaching nursing students about the social determinants of health and the consequences of inequities (Alexander 2020; Alexander et al. 2014; Breen and Robinson 2019; Davis and Travers Gustafson 2015; Gresh et al. 2020; Knight et al. 2020; Lashley 2008; Marcus 2000; Schaffer et al. 2017; Sullivan-Marx et al. 2010; Tyndall et al. 2020; Wilson et al. 2000). One launched the partnership to address inequities in the nursing workforce (Singh et al. 2017) and another sought to illustrate the utility of nurse-operated community centres (Hildebrandt et al. 2003).

### **4.3 Sustainability and its Link to the Focus and Types of Projects**

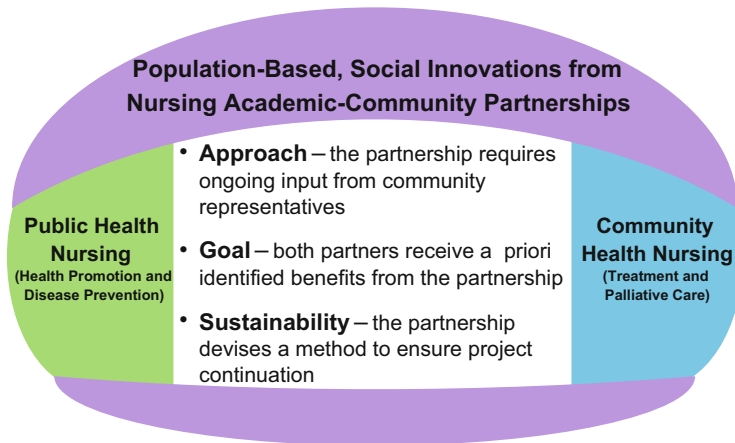
Among the total sample of articles ( $n = 19$ ), most reported public health ( $n = 13$ ) rather than community health ( $n = 5$ ) nursing projects, although one article was not categorised in either branch of population-based nursing as it described efforts to increase college recruitment of Hispanic high school pupils into the field of nursing by having nursing students provide presentations on their college experiences (Singh et al., 2017). Public health programs targeted drug-exposed infants, school children, new mothers, and older persons; and they provided health education on oral health (Lashley 2008), cancer prevention (Friedman et al. 2012), healthy eating (Alexander 2020; Northrup et al. 2008), maternal-child preventive healthcare (Knight et al. 2020; Marcus 2000), intimate partner violence (Eddy et al. 2008), disposal of unused prescription medication (Alexander et al. 2014), and disaster preparedness (Burke et al. 2015). Some projects conducted assorted interventions based on a community assessment (Davis and Travers Gustafson 2015; Gresh et al. 2020; Schaffer et al. 2017). One article described a project in which nursing students learned to provide education on health-related topics in an under-resourced country (Tyndall et al. 2020).

In contrast, community health partnerships (providing acute and chronic illness care) ( $n = 5$ ) focused on a wide spectrum of mental health treatment and services (Stacciarini et al. 2011) or working with various agencies to provide screening and treatment (Breen and Robinson 2019). The target populations were individuals living in low-income communities (Hildebrandt et al. 2003) or older persons (Sullivan-Marx et al. 2010) or migrants (Wilson et al. 2000). The vast majority (80%) of community health partnerships reported multiple collaborators (Breen and Robinson 2019; Hildebrandt et al. 2003; Sullivan-Marx et al. 2010; Wilson et al. 2000). Two of the five community health nursing partnerships reported project sustainability for more than a decade (Hildebrandt et al. 2003; Sullivan-Marx et al. 2010), and a third sustained their project for more than six years (Wilson et al. 2000).

In summary, community health, compared to public health, programs were more likely to report sustaining the partnership for long durations of time, most often with the support of external funding (Hildebrandt et al. 2003; Sullivan-Marx et al. 2010; Wilson et al. 2000), while public health partnerships contained fewer partners, were smaller in scale, and rarely reported sustaining the partnership over time.

## **5 Discussion**

Population-based social innovations implemented through academic nursing-community partnerships varied by population group, methodology and goals; nevertheless, this integrative review found that all partnerships adhered to the ideal of working in partnership to decrease inequities in healthcare access, utilisation or



**Fig. 12.2** Principles for population-based nursing-academic community partnerships

outcomes (Grimm et al. 2013) in both branches of population-based nursing (i.e., community health and public health nursing). Nursing academic partners frequently held multiple roles including as project initiators, providers and evaluators of the social innovations. The nursing academic frequently was the initiator of the partnerships and used a systematic approach that not only ensured that community representatives provided input, but also that the community input was incorporated into the social innovation project. Moreover, most social innovations had identified benefits for both partners (i.e., the nursing academicians and the community members); however, in contrast, very few social innovations had successfully developed a formal feedback loop ensuring sustainability of the partnership or the project.

This integrative review found that the exemplars of nursing academic-community partnerships were characterised by three basic elements: (1) the approach that the partnership requires ongoing input from community representatives; (2) the goal that both partners receive a priori identified benefits from the partnership; (3) sustainability of the partnership by devising a method to ensure project continuation (see Fig. 12.2).

Engaging the community in a consistent and systematic way was a priority for the success of the social innovations, and nursing academicians demonstrated their commitment for obtaining systematic and ongoing input from the community by using approaches such as community-based participatory research (CBPR). CBPR is a methodological approach that requires an active and representative community advisory board to ensure the use of culturally-appropriate instrumentation, procedures and recruitment for at-risk and vulnerable populations (Wallerstein and Duran 2010); and the social innovations indeed included various vulnerable populations such as ethnic minorities, migrants, older persons, new-borns of mothers with substance abuse problems, and youth with few resources.

Most nursing academic-community partnerships identified benefits for both partners. Community members received services, information, and connections to

healthcare services and resources, and academic nurses obtained placements to provide ‘real world’ experiences for nursing students. The benefits also extended to students, the next generation of health professionals, who saw the consequences of the unequal distribution of healthcare resources. Nurses are considered healthcare resources and this point was made when a social innovation engaged nursing students to speak with high school pupils of a minority ethnic group (the ethnic group was under-represented in the nursing profession) to encourage them to become university nursing students and enter the nursing profession. Such efforts show the commitment to reducing inequities even in the nursing workforce (Murray 2019).

Sustainability was found in some academic nursing-community partnerships exemplars but lacking in most. The few social innovations reporting sustainability efforts tended to be partnerships in which the nursing academic partner was tied to community nursing’s efforts for providing individuals treatment and follow-up of acute and chronic illness rather than public health nursing’s efforts for providing health promotion and disease prevention. While public health partnerships were more plentiful, they were smaller, mostly unfunded, and less likely to report mechanisms for sustainability compared to community health partnerships (providing treatment for acute and chronic illnesses). This finding may result from the almost universal healthcare orientation for disease treatment rather than disease prevention, a problematic orientation that academic nursing faculty are working to change in their curricula and in their nursing students (Dupin et al. 2020; Issel and Bekemeier 2010; Sela-Vilensky et al. 2020). The World Health Organization is similarly dedicated to changing this orientation worldwide (World Health Organization 2013).

A primary goal of social innovations is to improve society and address inequities. In healthcare, inequities are characterised by increased morbidity and early mortality. While all social innovations in this integrative review met the first criteria of launching an intervention and making efforts to decrease society inequities, few academic nursing-community partnerships provided documentation that their social innovations had successfully attained outcomes that systematically decreased societal inequities. Most noted the number of services provided or satisfaction with services. Only a single well-established social innovation noted outcomes of decreasing hospitalisation and emergency room visits; this academic nursing-community partnership provided older persons with chronic illnesses assistance in the community health, supported by substantial funding (Sullivan-Marx et al. 2010).

Most often community health programs (i.e., providing treatment for chronic illnesses) rather than public health programs reported successfully obtaining external funding (Hildebrandt et al. 2003; Sullivan-Marx et al. 2010; Wilson et al. 2000). Unfortunately, many government health systems fund curative programs, particularly those using new technology, rather than disease prevention or health promotion programs (Issel and Bekemeier 2010; Shern et al. 2016). Yet, initiating more targeted, public health social innovations that promote health and prevent illness could reduce the incidence of disease thereby reducing inequities in serious health problems that occur later in life and result in early mortality; it is for this reason that public health nursing community partnerships are vital (Institute of Medicine

(US) Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing 2011; World Health Organization 2017). Clearly, health professionals and healthcare systems must lead the change in orientation that focuses primarily on disease prevention and health promotion, before the lay population can be persuaded to follow suit, as it is through these efforts that health status inequities can be reduced (Madjar et al. 2019). This change of orientation already has the support of the World Health Organization, which has declared that preventing illness and promoting health is the cornerstone of healthcare systems in the European region (World Health Organization 2013).

## 6 Conclusion

Nurses, the largest healthcare labour force in the world, will play a key role in providing population-based healthcare services in the community (World Health Organization 2013). Nurses of all levels advocate for their clients, whether the client is an individual, community or population group, to promote policy changes that contribute to reducing existing inequities for at-risk population groups (Ellenbecker et al. 2017; O'Connor 2017; Taft and Nanna 2008). When appropriate interventions are lacking, nurse academicians need to model the role of a global nurse citizen, a nurse who becomes a change agent and initiates social innovations that promoting efficient, equitable, accessible population-based services with oversight and feedback from the community (Clark et al. 2017; Rosa et al. 2019). Nursing academicians not only must respect the values, knowledge, perspectives, and ideologies of community partners but also instil those values into nursing students through the curricula. That is, social innovation must have the dual role of benefiting the community and contributing to student learning. Equally importantly, the social innovation must be sustainable so it can realise its goal to promote healthcare equity.

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## Chapter 13

# Social Innovation in Higher Education from a Disability Studies Perspective



Csilla Cserti-Szauer, Anikó Sándor, Vanda Katona, and György Köncezi

**Abstract** Due to the traditionally highly hierarchical nature of science, close connection with praxis is not always smooth. Participatory approaches can significantly support the balancing of power and the connection of academic theory with practice. In (Critical) Disability Studies, it is particularly important that user needs are met through co-productive design, and implementation. In this chapter after providing the theoretical foundation of (Critical) Disability Studies, our experiences are summarized in research, teaching, and service development, highlighting the strengths and challenges of the participatory approach to enrich the social innovation ecosystem. Finally, the chapter points out the adaptation and many possibilities of the participatory method that might create inclusive networks and communities in higher education.

**Keywords** Persons with disability · Social inclusion · Social innovation · Disability Studies · Participatory method

### The Key Points of the Chapter Are the Following

- To demonstrate the role of higher education in generating social innovations that respond to the needs of persons with disability.

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- To understand the importance of connecting the participatory approach to (Critical) Disability Studies.
- To present co-productive practical solutions in (Critical) Disability Studies.
- To support the learning of theoretical and practical experiences in the field of participatory research and teaching.
- To show an example of participatory innovation through inclusive service development.
- To enrich the social innovation ecosystem with the possibilities of increasing the frequency that the participatory approach is used in (Critical) Disability Studies.

## 1 Introduction

Many of the world's 1 billion people with disability face discrimination and oppression every day. They lack access to mainstream health, education, housing and labour market services. They are more likely than nondisabled people to live in poverty. They cannot exercise their full range of rights and be active members of their communities. (WHO & World Bank, 2011; Köncezi & Sándor, 2019) As stakeholders in higher education, we have to take steps to change this unfair situation.

Our starting point and primary scientific discipline is (Critical) Disability Studies, therefore, an inter- and transdisciplinary system of knowledge and action dating back approximately half a century. As the theoretical basis of participatory research and higher education, (Critical) Disability Studies is defined as a critical social scientific discipline that never forgets about reflecting onto the hidden and oppressive power that exists in the society. It can be also characterized by mutual and deep respect between co-working individuals of the educating, researching and developing teams. Participatory research, education and innovation remain ever vigilant of their own voice of persons with disability (Köncezi, 2018).

(Critical) Disability Studies also understands the complexity of disability, reveals the causes of marginalisation, maps the social and cultural causes of exclusion, and focuses on power.

Researchers dedicated to (Critical) Disability Studies are characterized by concentrated and deliberate theoretical and empirical self-monitoring, careful and on-going self-reflection and the need to form and continuously rewrite their findings, theorems and canons. In addition to this keen attention, a commitment to scientific humility is another strength of the discipline.

(Critical) Disability Studies also ventures into barely researched areas, putting the life experience and narratives of persons with disability in focus. Researchers are interested in exploring the systems of power (macro- and micro-power) and understanding their mechanisms of operation. It draws attention to the tangled threads of social interdependence, the so-called multidimensional interpretations of 'otherness', the significance of diversity and its value-creating power. For instance, linking issues of gender, sexuality, race and ethnicity to disability, or critically analysing public services such as inclusive and special school systems and proposing changes to school culture.

The activities of researchers dedicated to (Critical) Disability Studies are not satisfied with exploring, analysing and describing and publishing the results. They want to make an impact. The aim is to develop a conceptual system that allows for the analysis of social processes, power dynamics and cultural meanings, to achieve progressive social change: inclusivity, equal opportunities, emancipation and accessibility. At the individual level, the goal is self-determination, self-advocacy, empowerment, and well-being.

Close attention to the voices of the people involved in our activities is achieved in a number of ways, e.g., by everyday personal relationships and conversations and by researching, teaching and developing together with members of the affected community. In (Critical) Disability Studies, persons with disability are subjects, contributors and partners as opposed to objects (Walmsley, 2001; Goodley, 2017; Könczei, 2018).

Based on the theoretical foundations of (Critical) Disability Studies the chapter presents developments in higher education that strengthen the social participation of people with disability through participatory research, education and innovation. Section 2 presents the theoretical framework of a common interface between (Critical) Disability Studies and Innovation Management. Section 3 focuses on theoretical and practical examples of this interdisciplinary approach in research, education and innovation. International references and Hungarian examples have been chosen that enhance the inclusiveness of higher education through social innovation. The conclusion summarises our results.

## 2 Theoretical Framework

Both the functioning of higher education and the creation of products and services are characterized by a shift in power relations: persons with disability and members of other marginalized groups do not appear to be active actors in the creation of knowledge necessary for progress. Curricula, research and development pertaining to persons with disability are still typically created by professionals who are not persons with disability. At the same time, co-productive solutions and methodologies for the inclusion of people with disability are increasingly available.

According to innovation-oriented approaches, higher education, citizens of local communities, the public sector, decision-makers and for-profit actors work together to develop and create the quadruple helix ecosystem (Plattner et al., 2017; Castiaux, 2016). User involvement, citizens' science, responsible science (Buchner et al., 2016) and processes based on different collaboration strategies with users are all integral, inalienable parts of the quadruple helix ecosystem (Osborn et al., 2016; Ryan, 2012; Katona & Sándor, 2020). The so-called living labs can become important catalysts in supporting these processes (van Geenhuizen, 2016; Liedtke et al., 2012; Guzmán et al., 2013). By focusing on working together with persons with disability, we enrich the repository of social innovation practices and provide

examples of what responsible innovation and purpose-driven innovation can mean in everyday life (Grant & Grant, 2016; Stilgoe et al., 2013).

Several sources point out the effectiveness of involving users to be part of the team in project-based higher education innovations (Wilken et al., 2014; Chemi & Krogh, 2017). Innovation management concepts such as user-led innovation (Bühler, 2001; Hoole & Morgan, 2010; Munn-Giddings et al., 2009), user involvement, and user-centric innovation (Gamble et al., 2016; Selden & MacMillan, 2006) provides a background to map the needs and ideas of those who utilise the product or service. The concepts of citizen involvement (Creighton, 2005; Ryan, 2014; Pivik, 2002; Jurkowski et al., 2002) and co-production (Cahn, 2000; Hunter & Ritchie, 2007; Roberts et al., 2012; Brandsen et al., 2018) interpret the importance of planning, implementing and testing with stakeholders in the field of various public services and related policies.

It is increasingly common practice in the market to design products or services in such a way that the target group gets involved in the process to make it more easily adjustable to the needs of the user. Similarly, tailoring benefits and services to the needs of citizens has a *raison d'être* in public services, as well. There are many practices in the international arena where the products, services and benefits are the outcome of the co-production and cooperation of professionals and stakeholders. (Boyle & Harris, 2009; Wilken et al., 2014; NOU, 2011; Voorberg et al., 2014.) In the field of disability, the user-led, citizen-led approach began to take shape (Barnes & Mercer, 2006; Priestley et al., 2010; Concannon, 2005; CRPD, 2006) in human rights, civil rights movements and international conventions that emphasized the active participation of persons with disability in the processes. Participatory, emancipatory methods in (Critical) Disability Studies enable persons with disability to participate in both education and research (Walmsley & Johnson, 2003; Atkinson, 2004, 2005; Schubotz, 2020). Inclusive methods used in (Critical) Disability Studies that support the empowerment of persons with disability in combination with user-led procedures employed in the design of services can contribute to the implementation of disability services fitting the needs of persons with disability.

### 3 From Participatory Research to Co-productive Service Development through Participatory Teaching

#### 3.1 *Participatory Research*

**Theoretical Background of Participatory Research** According to the principle “Nothing about us without us!” the (Critical) Disability Studies approach is based on the voice, decision-making and active participation of those concerned in areas that directly affect their lives. However, we cannot leave science out of this approach, even though in many cases it is persons with disability who are being studied. In the traditional canons of research, it is not customary for the researched person to take on



the role of the researcher. This tradition is observed by inclusive research, in which it is explicitly seen as a strength and value when a person with local knowledge and lived experiences is also involved in the research (Clements et al., 1999; Mills et al., 2006; van der Riet & Boettiger, 2009; Creswell, 2013). As Walmsley (2001, 187-188) says: „Inclusive Research is a term used to refer to a range of research approaches that have traditionally been termed participatory or emancipatory, broadly speaking research in which people with learning difficulties are involved as more than just research subjects or respondents.”

The participation of the persons with disability can also contribute to a greater degree of validity, as we can adapt to the needs of this target group by actively paying attention to their lifestyles. In this way, we can formulate our research questions in a way that takes into account the needs of persons with disability during the data collection process (Mercer, 2002). We can reach a high level of understanding of social “reality” by stepping out of the world of labels. Subjective interpretations can bring us closer to understand where real people are located behind social categories and complex processes (Goodley, 1996). With inclusive research, we can get closer to breaking down the boundaries between the minority and the majority, and empower persons with disability and other marginalised people. There are two main types of this research: emancipatory research carried out entirely by members of a given marginalised group, and then participatory research, where stakeholders get involved to varying degrees in addition to non-affected researchers (Barnes, 2003; Marton & Köncezi, 2009).

What distinguishes participatory research from traditional research is that, beyond the research process, the individuals involved can influence decision-makers in professional public life and praxis. Thus, activist and advocacy elements are also characteristic (French & Swain, 1997) of this kind of research. Inclusive projects have the explicit aim of creating an activity, service or product with the active participation of people with disability to reach a stronger impact on the lives of participants and their groups than traditional design.

In Hungary, we do not have much experience with inclusive projects, but we came across several initiatives and doctoral studies that follow this approach. (Harper, 2009; Katona, 2014; Sándor, 2018; Kunt, 2019) The research programme “From equal opportunities to Taygetus?” (Hernádi & Kunt, 2018; Köncezi, 2018), is mentioned in more detail here. In this research, the presence and experience of participatory researchers is strongly reflected in the formulation of the hypothesis and the questions related to each research component.

The hypothesis of the research was that the modern Taygetus not only exists, but can also be found by examining the hidden power structures of everyday life. The first research component consisted of 16 narrative interviews with mothers who had received a positive diagnosis of Down’s syndrome at the time of their pregnancy. Their decisions regarding the continuation or terminations of their pregnancy were analysed. The second research component was about families adopting children with disability, which is a rather rare process in Hungary. Questionnaires and narrative interview techniques were used to find out the characteristics of those parents and

families who adopt children with disability as well as the features of the adoption process. The third part of the research explored the possibilities of women and men with intellectual disability who wanted to become parents. Semi-structured life-world interview techniques were used. The entire research was accompanied by two main participatory researchers who were given a role in the plenary reflection space on the research. In addition, the sub-researches involved co-researchers related to the specific topics who supported the design of the research instruments.

In inclusive research, participatory and professional researchers should be given different but equal roles (Heiszler, 2017). Participation in research expands the participatory researchers' knowledge of the science and research methodology, just as, conversely, their knowledge also adds to the work (Antal, 2017). Researchers working in academia can gain insight into the life experiences of persons with disability, enriching everyone and blurring the seemingly clear boundaries of our knowledge, somewhat. (Nind, 2008; Nind & Vinha, 2012).

To make joint work more effective, initiatives are needed to prepare participatory researchers in advance (e.g., to provide training in the basics of (Critical) Disability Studies and methodology). In the training of the so-called empowerment experts, the University College of Teacher Education in Vienna focused on mobilizing the individual resources of the participants. The goal of the training coordination team was, in line with the theory of empowerment, to primarily strengthen participants in their own abilities and encourage them to take responsibility for issues affecting their own lives. They then turned to the ideas they had e.g. in connection with the development of higher education. The practical element of the training contained, for example, situational exercises in which future empowerment counsellors with disability could express their views on disability issues. They attended, among other things, a meeting of the Committee Monitoring the Implementation of the Convention and a related project day, as well as classes in higher education. As a result of the joint work, an Inclusive Training Office was created and the participants became contributors. Graduates work on additional professional issues immediately after training and perform mentoring for newly recruited participants (Wilhelm, 2012). These knowledge elements were acquired by our participatory research colleagues during the internship, however, we believe that in the future it would be important to provide training before the research project begins. According to our plans, this type of training would also be implemented in an inclusive way, as collaboration between researchers with and without disability.

**The Practice of Participatory Research Based on Experiences of the Carry on! Project** Hungarian practitioners of Disability Studies have used the participatory approach in an increasing number of research projects, and at different stages of the research, the active participation of the persons with disability have been ensured by applying various techniques and the principles of participation.

The Carry on! research project is a good example of utilising the participatory method. The aim was to explore career planning pathways for students with disability in order to support further education and employment. To explore the hindering and supporting aspects, semi-structured interviews and focus group discussions were

conducted with professionals working in schools and career guidance services as well as with young people and adults with disability (Cserti-Szauer et al., 2020).

Two co-researchers with disability who have extensive experience as users in career planning and employment services also participated in the entire process, from the research design to the data collection and analysis. The interviews were mostly recorded in pairs, where one researcher with disability and one nondisabled researcher acted as the interviewers, complementing each other as equals in both the focus group and the individual interviews. The interviews were preceded by a thorough co-preparation where the script was designed together. (Caldwell, 2014).

Interviewing in pairs has produced positive results. Apart from the initial bias of the interviewees, when the role of the researcher with disability could not be managed properly, the presence of the participative researcher added value to the overall interview situation. In some cases, the interviewees spoke even more openly due to a “peer-to-peer” atmosphere. One participatory researcher summarised the experience as follows: “I saw my presence balanced the research situation, because I felt that interviewees spoke more openly and disclosed their experiences connected to disability better. Parents not only spoke about themselves, but also about the perspectives of their children. In their answers, experts didn’t hide behind the theories, they focused on practical problems and possible ways of solutions. So, the results could be more authentic.” (Sándor et al., 2019).

The techniques used in participatory research serve as additives in other areas of cooperation, such as education and service development. In addition, the research experience gained from the Carry on! project has been directly integrated into training development, providing an example not only of the interdependence of research and education, but also of the legitimization of educational materials by those who the curriculum is about.

### *3.2 Participatory Teaching and Inclusive Seminars*

**Theoretical Background of Participatory Teaching** Much of the international literature on participatory approaches gaining ground in higher education is provided by the discourse on amplifying the voices of students from diverse backgrounds and needs. (Seale, 2010; McLeod, 2011; Brooman et al., 2014; Svendby, 2020) Educational viewpoints emerge from the experiences of emancipatory actors, particularly along different narratives of overcoming factors hindering integration into the academic environment. (French, 1998; Pritchard, 2010; Hoffmann, 2017; Flamich, 2017; Loványi, 2020) For academic persons with disability, this coping mechanism is particularly decisive and significant due to the ableist environment, and the lack of appropriate support (Williams & Mavin, 2015; Brown & Leigh, 2018; Mellifont et al., 2019).

Even less literature is available on participatory higher education and inclusive courses with co-teachers with different support needs. One is an inclusive project

led by Koenig and Buchner (2009), whose participants conducted a seminar on inclusive research in which persons with intellectual disability and physical challenges studied together with the students of the course and at the same time they were also present in the process as co-teachers. Prior to the course, participants already had experience with inclusive research and self-advocacy. The content of the seminar was defined jointly by the instructors and each participatory co-teacher had the opportunity to explain a chosen topic in more detail during class. During the semester, they had to design and implement their inclusive research projects together with groups of 3–4 students. The small research groups presented their results together in a public conference at the end of the semester. It played an important role in the evaluation process of the seminar that the instructors conducted interviews with the participatory participants.

An initiative similar to that of Koenig and Buchner is reported by Klauß and his team (2008). The Heidelberg University of Education has been hosting so-called integrative seminars since 1999 for students in special education training, and persons working in workshops for persons with disability and students with intellectual disability.

The research of Katona and Sándor (2020) summarizes the experiences of inclusive seminars introduced by the Gusztáv Bárczi Faculty of Special Needs Education at the ELTE University in 2016. An inclusive seminar is defined as any higher education course in which professional instructors and participatory instructors teach together as equal partners. In this example, professional educators primarily bring their knowledge to university courses. Participatory instructors are colleagues with disability who primarily pass on their life history and life experiences in university courses. An inclusive/participatory methodology is an approach in which the method used in the project, the use of ICT tools and the involvement of participatory teachers are applied in a multi-teacher model (Katona, 2019; Katona & Sándor, 2020).

In inclusive seminars, the partnership between colleagues is extremely important and also serves as a role model for students who often meet persons with disability for the first time during these classes. As it is suggested for students during projects to work with at least one stakeholder, this way they can also experience co-working.

Significant participation of persons with disability in classes clearly brings their experiences closer to students. It also helps to understand that persons with disability are also different, there are no communication “recipes” for everyone, as illustrated by the following example.

### **The Practice of Participatory Teaching Based on the Experiences of the Inclusive Seminar ‘Theory and Practice of Supported Living’**

Inclusive seminars are created along a variety of professional subjects. Topics such as the history of special needs education, employment, ageing and death, among others, can be included. Courses with the participation of persons with intellectual disability are of particular value, as in these co-productions, in an easy-to-understand communication environment, our co-teachers participate as equal partners both in the

creation of knowledge content and in the knowledge transfer itself as well as its evaluation.

We launched the ‘Theory and Practice of Supported Living’ course aiming at developing the competencies of professionals working in supported living settings, which are gaining more and more ground in the Hungarian policy and service system and are replacing the institutional culture. After all, their role is key in empowering persons with intellectual disability, supporting their independent living, and building equal partnerships to deliver high-quality services. (Bánfalvy, 2020).

In addition to the academic knowledge base provided by professional educators from the fields of Disability Studies and social policy, we incorporated the experience of people with intellectual disability who lived in large nursing homes but moved to supported living. Our partners were Zoltán Iván, György Kalányos and their supported decision-making assistant, Ildikó Horváthné Somogyi. The aspects of family life were brought in the process by our participatory teacher András Futár (Losoncz et al., 2018).

The 20-hour-contact course was organized around five topics: the methodology of inclusive seminars, the basic principle of self-determination, empowerment and human rights, supported living as a service, and professional roles in supported living. The preparation for the lessons began with the co-development of syllabus and series of questions. Our goal was to increase the assertiveness and self-confidence of the participatory teachers. During preparation, we used the action-oriented form of education, thus increasing the independence, and self-awareness of our participatory teachers.

Students were also receptive to new knowledge, methodology, and the involvement of participatory teachers. Here is a quote of how our participatory teachers experienced the joint work: “It was good that they listened to us with interest and were curious about us. We like to talk to students. We can also tell them new things. When we are in class, the (lot of) work we put into preparation pays off. We were very anxious during the first class, but less so later. We did not know anyone at the beginning of the course, but we also made new friends by the end. It was a difficulty in class that we did not always understand the question, or misinterpreted it. We needed help with this several times. After class, by the time we headed home, we were always very tired, but it felt good and we were proud of ourselves.” (Iván et al., 2017, 151).

Co-created projects were presented to each other at the Project Festival. The projects presented theoretical issues (factors supporting and complicating self-determination in life, easy-to-understand communication translations) and personal stories (future plans of young people in aftercare, coming out of institutions, narratives of adults in supported living setting), as examples of teamwork models of interdisciplinary, inter-sectorial cooperation in higher education.

### 3.3 *Participatory Innovation*

**Theoretical Background of Participatory Innovation** Involving users in various innovation processes is a valuable initiative for the development of both market products and public services (Buur & Matthews, 2008). Product and service development processes are characterized by the need to explore user needs for their success (Ulwick, 2005). However, this is not an easy task in practice. The process is even more difficult when the users themselves are not clear about what product or service they need. All they feel is the lack of the proper products or services. Exploring the needs is also difficult because these are so-called “sticky needs” that are difficult to access (von Hippel, 1994; Sánchez-González et al., 2009). Principles of output-oriented innovation, e.g., job-based thinking emphasize that most users are not able to communicate what solution they want, but what gap they would like filled or what activity they need support with. People with disability are in a similar situation. They cannot identify personal assistance as a possible key to their self-determined life, rather they experience difficulties if this service is unavailable.

In many cases, during development attempts are made to gather information from users through some form of quantitative or qualitative research, such as market research or focus group interviews. However, the democratization of innovation is characterized by the emergence of users at an earlier stage and with a higher level of participation, for example due to the lead-user method or the co-creation approach (von Hippel, 2005; Chemi & Krogh, 2017). Monitoring the activities of lead-users (Brem et al., 2018), Participatory Design or Design Anthropology (Buur & Matthews, 2008) served the same goal but with a different focus: of getting to better understand the perspective and needs of the product and service provide the best possible solutions for users.

Participatory innovation has a dual purpose. On the one hand, it is gathering knowledge about users that inspires product and service development, and on the other, implementing these developments for business purposes (Buur & Matthews, 2008).

Buur and Matthews (2008) identify five activities that characterize participatory innovation: (a) field study, where ethnographic research helps to get to know the people whose voices might be strengthened; (b) sense-making, where the observed practices and needs are analysed with the involvement of industrial actors and users; (c) co-ideation, when these actors think about the business opportunity inherent in product and service development ideas; (d) business modelling, when business models behind product and service development are created with the involvement of industry and users; (e) co-design, when a specific product prototype or service pilot is implemented.

In the area of public policy and service development, co-production has become an extremely popular approach in the last decade. As an example, there is a Norwegian document Innovation in the Care Services (NOU, 2011), that emphasises home care services designed in partnership with families. We also draw attention to Northern Ireland’s Disability Strategy, which was developed by Disability Action,

an advocacy umbrella organisation, and the Department of Health, Social Services and Public Safety. In FREDA project, Roberts et al. (2012) worked with people with intellectual disability to create human rights training materials and curricula. Purcel et al. (2019) mentions the Australian National Disability Insurance Scheme and the research & development methods that might strengthen disability-inclusive and user-led opportunities. To summarize briefly the essence of the idea, users of various public services (mainly education, child protection, social and health services), their families and neighbours, and the service provider organizations work in partnership to design, manage, implement and evaluate given service (Bonfils & Askheim, 2014; Brandsen et al., 2018).

The concept is interpreted in the context of the new social economy model, which by exiting the traditional production-consumption process, puts the emphasis on innovation and social networks (Murray, 2009). Co-production is also closely related to the concept of empowerment, as it aims to give users power and responsibility to control their own lives. Recipients of services are competent citizens who have the right to improve the quality and accessibility of various public services with their own knowledge and resources (Bonfils & Askheim, 2014).

This idea is also in contrast with the traditional hierarchical specialist model of welfare services, as well as the market approach, where users appear exclusively as consumers. Co-production, by designing and creating services with users, provides an extremely diverse repertoire—with a number of local and individual adaptations (Bonfils & Askheim, 2014).

**The Practice of Participatory Innovation Based on the Freekey Project for the Development of Personal Assistance Services** The Disability/Studies/ and Social/Innovation Lab was created in this participatory innovation and co-productive approach with the goal of assisting disabled and nondisabled Lab members with research-based product and service development along the real needs of users.

The DSSI Lab operates in an academic environment, thereby strengthening the potential of higher education to contribute to social change in the field of disability. We also aim to support the quadruple helix ecosystem, where the academic, policy, industrial/business and civil sectors work together in a variety of areas to improve the quality of life of people with disability and figure out:

- how to link academic and disability movement activities and transform them into social innovations,
- how to extend participatory teaching and research and social innovations stemming from them beyond the disability field,
- how to strengthen personal assistance as a research and development and innovation activity for sustainable societies.

As a project of the DSSI Lab, Freekey came about as a group of persons with and without disability. The founders of this bottom-up initiative are persons with disability and professional researchers.

During the joint work, it has become clear that the possibility of equal co-operation as colleagues is primarily influenced by environmental factors, such as equal access, accessible transportation and the presence or absence of personal assistance services. In Hungary, the user-managed 24/7 personal assistance service for persons with disability is not legally guaranteed, and models financed from individual resources are extremely difficult to maintain. A common strategy combining life experiences and learned knowledge has begun to develop with the goal of launching a co-productive, participatory service.

A direct antecedent of this development is Shakespeare et al.'s (2018) presentation at the annual Disability Studies Conference in Budapest, which examined narratives related to personal assistance in England. This experience triggered the need to organize a joint action in the participants of the conference. This was followed by two workshops that gathered the opinions and experiences of stakeholders (Csángó & Sándor, 2019; Sándor et al., 2018). One of the biggest challenges during the conversations was that persons with disability themselves should be getting information about the service empowering them to fight for their own rights. Otherwise, fear and even resistance may surround the intention to develop at a later stage, as was the case with the introduction of other community-based services, such as supported living.

In 2019, eight further members were involved and the organization of a community began in which users and researchers would be equally represented in order to achieve balance of power relations. Strong emphasis is placed on developing the co-decision making process and defining roles. The task of researchers is primarily to create the conditions for activities and provide reflection on them. Users, in turn, gain control over the definition of topics, the communication of common goals, and appear as active citizens in the community organization process. The bottom-up initiative is reinforced from the outset by the fact that educational and research results can be immediately incorporated into the work of activism and community organizing and vice versa: experiences of the project practices have a strong impact on university education and research.

The first joint project was an outreach and community building series. Based on the experiences of the workshops, the project provided knowledge in an easy-to-understand way, through films,<sup>1</sup> about how the service enables self-determination. The advantage of co-production and co-creation is that there is constant feedback about the service you want to improve from those who are targeted by the development. In order for the opinions to be incorporated effectively, it is worth slowing down the rhythm and schedule of the projects in order for each team member to play a significant role in it. It is good practice to recruit people with an interest in personal assistance and experience in self-advocacy and public performance. It is not they who fit the tasks, but during the process tasks and roles that best fit their skills are created. Experience shows that, for this reason, it is essential to examine and analyse

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<sup>1</sup><https://youtu.be/wAbnBjY2zx4>, <https://www.facebook.com/freekey8/videos/226051768840782/>, <https://www.facebook.com/103761497962643/videos/280246450082174>



individual resources, areas for development, ambitions and needs at the individual and group levels.

The challenge in co-development is that supporting participants' empowerment processes is extremely time consuming. It is particularly difficult to involve people in a complex, empowering operation who have been forced into a passive role until then by their socialization. At the same time, professionals may find it difficult to share power, to involve persons with disability in innovation activities and to empower them. Since it is true here, as well, that not everybody has to do the same thing for equal work to take place, the definition of tasks, roles and competencies is key. In a democratic group, managing these things flexibly can benefit the work, but at the same time, it can cause tension and frustration when someone feels they are expected to take part in tasks that are difficult, inaccessible, or just too simple and not challenging enough for them. Honest communication has contributed to the fact that after a year of working together, not only good results in the development of the personal assistance service were achieved, but also the organizational operation became clearer and smoother.

## 4 Conclusions and Plans for the Future

As discussed in the chapter more than one billion people in the world live with disability. (Critical) Disability studies focus on their lives as persons with disability are often unable to enjoy political, economic and social rights and are excluded from their communities. Reducing their oppression and marginalisation, supporting their empowerment and their inclusion in local communities is a priority that should be on the agenda of higher education stakeholders.

In the practice described by the chapter persons with disability might be involved in the creation of higher education knowledge content that is about or affects their lives. Their voices must be heard by those involved in higher education. "Nothing about us without us!" principle needs to be mainstreamed in research, teaching and innovation. Mainstreaming (Critical) Disability Studies and human rights perspective is also an efficiency issue. User involvement in project-based higher education innovations leads to social impact and strengthens inclusive communities, as described by several sources.

The inclusive higher education methods presented in this chapter might promote the activation and involvement of people with disability in research, education and innovation, which opens up new areas of social participation. They also support academics to become more diverse and inclusive.

Persons with disability become active subjects of research instead of being objects in emancipatory and participatory research. As researchers, they raise issues and questions that are significant for them. This increases the credibility and relevance of the research. Non-participatory researchers can gain a deeper insight into the life situations and experiences of people with disability, which will make their knowledge more diverse and manifold. The presented international and

Hungarian research focuses on several areas of disability issues, giving examples of ways to benefit from the added value of participative work.

We experienced that participatory research results can be integrated into higher education portfolios in a number of ways. One track is through participatory teaching, where persons with disability and nondisabled people work together as partners but in different roles. Participatory teachers bring their lived experiences and life stories to the classroom, while non-participatory educators add their academic background. Course topics provide opportunities for a range of teachers to share their experiences related to the disability field: mutual rethinking of mainstream and disability services, empowerment and supported decision-making are among them.

Participatory higher education practices related to the inclusion of people with disability are known from Oliver Koenig, Tobias Buchner and Theo Klauß et al., mainly in higher education institutions of Germany and Austria. The Hungarian practice of involving participative teachers with different support needs develops these traditions. Inclusive seminars enrich Gusztáv Bárczi Faculty of Special Education, Eötvös Loránd University for at least two reasons: the long-term involvement of people with intellectual disability and the pedagogical methodology. By involving people with intellectual disability, the empowerment of one of the most vulnerable groups is enhanced. Co-productive work with them also makes academic communication more accessible through an easy-to-understand method. The pedagogical methodology of the inclusive seminars combines elements of project-based learning, info-communication tools and the multi-teacher model with participatory characteristics.

Participatory innovation provides opportunity to involve users in the design, implementation and piloting processes for both market products and public services. It makes available consumer feedback that is valuable for producers, developers, policy makers and democratises the innovation process. The personal assistance service development presented in the chapter provides an example of this colourful and multifaceted process by describing the co-productive elements.

However, co-working brings a number of challenges. The pace of innovation is slowing down to have enough time for empowering people with different support needs, to make their voices heard. Accessibility of the built and communication environment must be ensured, otherwise collaboration will not work. However, it is worth overcoming the challenges because the inclusion of users with disability results in a richer quadruple helix ecosystem.

Our practice confirmed that the disability experience is a valuable resource not just in research, but in teaching (Critical) Disability Studies as well. We are convinced that the method the chapter described might become a valuable tool in establishing more inclusive communities and the participatory approach will contribute to the development of user-friendly products and services.

The future of research, education and innovation together with people with disabilities can also move towards intersectional multiplication. Participative approach focuses on the inclusion of marginalised people, not only in relation to disability, but also on other intersectional groups, such as women with disability or

ethnic minorities with disability, or even women from ethnic minorities. This complex direction goes beyond the (Critical) Disability Studies perspective, but can enrich the innovation ecosystem with inclusive solutions.

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# Chapter 14

## Possibilities of Social Bonds Using to Finance Higher Education Institutions



Natalia Konovalova

**Abstract** In many countries, funding for higher education institutions is insufficient and requires the search for new financial instruments and financing models. One such financing model could be the issuance of social impact bonds aimed at improving the efficiency of higher education institutions. The study focuses on the use of financial instruments as social bonds for additional funding of higher education institutions. The peculiarities of social bonds and the possibilities of their application in the field of higher education are explored in the paper. The results of the study comprise three proposed innovative approaches to the development of a mechanism for the issuance of bonds. The first approach assumes that the issuer of social bonds in favour of the university is a bank or other financial institution. The second approach is based on the methodology of issuing social bonds by a university with the participation of the state. The third approach to the use of social bonds is the creation of a platform for financing long-term educational programs; it can be done with the participation of a large company implementing large-scale socio-economic projects. Such platform will have a great social and economic effect.

**Keywords** Higher education institutions · Social impact bonds · Investors · Extrabudgetary financing · Flowchart

### Key Points of the Chapter Are the Following

- Higher education efficiency can be improved through a combination of budgetary and extrabudgetary sources of funding.
- The sources of off-budget financing of universities can be expanded through various social and charitable programs, as well as through the issue of social impact bonds.

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- One of the most effective way to finance universities is through the issuance of municipal social bonds.
- In order to accelerate the implementation of universities' social impact bonds in Latvia, it is necessary to launch a pilot project at the municipal level.
- The chapter introduces the flowcharts of issuance of social bonds by universities with various options of interaction of the project participants.

## 1 Introduction

As is known, higher education includes a set of systematized knowledge and practical skills, which allow to solve theoretical and practical problems on a professional profile, using and creatively developing modern achievements of science, technology and culture. Consequently, higher education aims to ensure that graduates of higher schools, by realizing their acquired knowledge in the process of working life, benefit society and the state as a whole, ensuring its constant development. It is obvious that higher education has not only an educational and scientific dimension, but also solves the social problems of society. In most European countries, higher education institutions are funding based on public and private capital. However, the proportion of private and public funding in higher education varies from country to country. Besides, the tendency of public financing for universities is decreased in many countries (Eurostat, 2020). What supplementary finance sources can be used in the education system? The article argues that the sources of off-budget financing of universities can be expanded through various social and charitable programs, as well as through the issue of social bonds.

The use of social bonds is always associated with a certain impact on the project being implemented. Therefore, the term “social bonds” and the term “social impact bonds” are interchangeable. Social bonds are one of the dynamic innovative instruments for financing social projects through public and private partnerships. Social impact bonds are debt securities that contains a loan agreement based on mutually beneficial conditions of interaction between several organizations of different profiles of activity but striving to achieve a certain socially significant result (Burand, 2013). In its simple original form, social impact bonds are a bond loan of the bank, which is aimed at attracting charitable funds. The money that will be received during this loan should be used to finance large projects of the university with the participation of the state or to implement a certain educational program, which is carried out by a non-profit organization. Social impact bonds are issued in favour of another person but have certain conditions. So, if the project financed in this way is successfully implemented, then the costs are compensated by the state. But if the results are not achieved, then a refund will not be provided. Therefore, social impact bonds are called “pay for success”. Thus, the participants in such an investment product are the state, social facilities, banks, non-profit organizations, investors, social auditors, investment consultants. The effectiveness of investments and the achievement of goals by all participants in the investment program depend on a

coherent interaction. Interest in this instrument is growing rapidly, owing to its potential to attract long-term investment in the development of a resource base for social projects (Choudhary & Jain, 2017). It seems that efficiency in higher education can be enhanced through a combination of budget and off-budget sources of funding.

One of the main participants in a social project using social impact bonds may be higher education institutions, since they are a sphere aimed ultimately at creating social benefits. And it is the process of education at a university that represents the primary stage of creating a social good—the formation of an educated intelligent person with special knowledge and skills, who can later independently create other social benefits in society. Therefore, universities and other higher education institutions contribute to creation and formation of the individuals who will be beneficial to society due to implementation of the acquired base of knowledge and skills. And this is an important social project and an important type of social entrepreneurship. Therefore, social impact bonds of universities can become an extrabudgetary tool and a source of funding for higher education institutions. Since educational and socio-economic goals can be realized simultaneously, thanks to the interaction of universities with research centres, research laboratories, business incubators and other business organizations, the application of social bonds can be successfully used to finance higher education institutions.

The aim of the study is a development of a mechanism of issuance of social bonds by universities with various options of interaction of the project participants; it will be done based on an analysis of the financial needs of universities, an assessment of their social impact and possibilities of obtaining off-budget financing. The object of the study is higher education institutions of Latvia. Methodology employed relies on observation, survey, interviews, economic analysis and synthesis. The survey was conducted among academic staff in Latvian higher education institutions to determine the level of efficiency of social impact bonds use. The interview was conducted with heads of Latvian commercial banks and with heads of large Latvian companies to reveal the degree of readiness of investors to be partners for universities. The theoretical and methodological basis of the study are the normative documents and legislative acts of Latvia and directives of the European Union, scientific and special literature on the problem under study, scientific articles and periodicals.

## **2 Background and Theoretical Framework of Social Investment through Impact Bonds**

In modern economic studies, it is common knowledge that the liberalization of economic relations is characterized by a decrease in the contribution of the state to solving social problems. This is due to both the lack of resources in the state and the content of the liberal worldview of its leadership. In turn, this requires the creation of institutional conditions for the development of various forms of social investment

with the participation of private capital. Social investment has become the dominant approach to welfare reform in Europe and elsewhere (Jackson, 2013). Scholars supporting this perspective have argued that it represents a paradigm shift from neo-liberalism—defined as the ideology of the minimal state and welfare retrenchment (Laruffa, 2018).

The development of social investment is a consequence of the evolution of liberalism, according to which individual interests with full freedom will not always benefit the public interest (Ives, 2015). The article debates that it is not entirely correct to argue that granting freedom for individual interests will automatically improve the satisfaction of public interests. Most famous economists in world science agreed that it is necessary to use state regulatory and management mechanisms to solve public problems, since “clean” competition in the market and the desire to maximize profits alone are not able to do this on their own (Burand, 2013).

One type of impact investing is the social impact bond (SIB), an arrangement where investors in a project receive financial returns based on the project outcomes, specifically the accomplishment of prespecified social objectives. Social impact bonds are geared toward funding social interventions while earning financial returns (Marco, 2018). Broccardo and Mazzuca claim that SIBs can provide a functional linking mechanism in social service systems. Furthermore, they can help boost the innovation and sustainability of this system (Broccardo & Mazzuca, 2019). Social impact bonds have been welcomed enthusiastically as a new funding tool for social innovation, yet also condemned as an instrument that neglects beneficiaries’ and taxpayers’ interests, opening profit opportunities in the field of social politics for smart private investors (Maier Maier & Meyer, 2017).

SIBs are financial instruments in which investor funds working capital for non-profit organizations that deliver a way to connect social sector with capital markets (Mulgan et al., 2011). If the non-profit organizations meet predefined objectives, public sector savings are realized, and the government then pays back the investors their principal plus a rate of return. However, if the savings are not realized, the investors get no repayment. In terms of investment risk, these instruments are more like an equity investment than a typical bond purchase. The most peculiar feature of these bonds is that they are based on result, and it is easy to register them in accountancy; another point is that the government reimburses the amount only when the desired social objective is achieved, otherwise no payment is made. SIBs are more systematic and analytical since they are based on proper identification and assessment of a social problem whose solution is to be sought. Since careful analysis and assessment of social problem is done before investing the amount, there are less chances of failure as more result-oriented targets are achieved (Choudhary & Jain, 2017). Social impact bonds attract private investment to social programs by paying a market rate of return if predefined outcome targets are met. SIBs monetize benefits of social interventions and tie pay to performance, limiting governmental control once the contract is designed. Despite policy enthusiasm across the globe, SIBs have failed to attract private market investors without substantial additional guarantees. SIBs raise questions about government’s ability to ensure broader public values (Warner, 2013). Social impact bonds combine some

components of results or performance, based on financing and public-private partnerships, which have been used to fund public services for many decades (Burand, 2013).

However, impact bonds differ in several ways. First, in an impact bond, financing is provided upfront rather than when results are attained. Second, results in social impact bonds are usually related to outcomes as opposed to outputs. Third, impact bonds can focus on the delivery of human services as opposed to the traditional physical infrastructure that has often been the center of both public-private partnerships and performance contracts. Finally, in contrast to programs such as Program for Results (P4R) or results-based financing (RBF) being used by the World Bank, impact bonds bring in private sector rigor and performance management to drive results. The prototype of social bonds can be considered a non-tradable version of social policy bonds (SPB), developed by Horesh in the paper “Injecting incentives into the solution of social problems: Social policy bonds.”, which described a new type of investment (Horesh, 2008). This type of bond can be issued by the local government or the government of the country and sold at auction to the person who offered the highest price. After issue, the bonds will be freely circulating. Social policy bonds are interest-free, with an indefinite maturity date. The state guarantees the redemption of bonds for a fixed value only if the social goal is achieved. Therefore, they can help solve any problems in society that need to be reliably defined and quantified. The peculiarity of social bonds is that they do not bring financial benefits during their circulation but bring income after project implementation only. An investor can make a profit only depending on the result of the investment, otherwise they lose the invested funds. Therefore, in terms of risk, social bonds are more like equity investments or a structured product.

The idea of social bonds was developed in the UK, where since 2007 a special council under the Prime Minister has been developing various alternative financing tools for solving social problems (Eddy, 2015). The term “social impact bond” was introduced by Mulgan, and the first issue was authorized by the UK Department of Justice in 2010 (Mulgan et al., 2011). Currently, the development of this tool is actively engaged in the American company Social Finance US, which considers social bonds as an instrument of public-private partnership, which finances effective social services through a conditional contract aimed at obtaining a certain social result (Dear et al., 2016). Development Impact Bond (DIB) is a modification of social bonds in many developed countries (Burand, 2013). DIBs are specially adapted to the social problems of developing countries. Their main difference from social bonds is that a large international organization is usually the payer for the result of investment. Investors are either organizations from another country or from the country where the investment is made. In turn, the state, represented by the government of the country in whose territory social investment is carried out, acts as a coordinator and helps to select independent evaluators to assess the social impact of the project and local performers, and can also be one of the parties to this transaction. Thus, development bonds in their institutional form are similar to social bonds, but the main goal for them is the socio-economic development of the territory as a whole (Eddy, 2015).

It should be noted that social bonds as financial instruments have their disadvantages and advantages. Proponents of this financing tool emphasize the possibility of using them not only for socially oriented, but also for innovative projects in the early stages of development through attracting private funds and private investors, encouraged by the state through the provision of tax benefits until positive results are obtained for the project (Burand, 2013). The expected savings of the state budget are used as a basis for attracting investment in the implementation of programs for prevention and early intervention in solving socially significant problems that will prevent their development in the future. Critics of this financing tool note that since the state pays investors income when reaching the result from the previously planned budget for social projects, it turns out that social bonds do not attract additional capital to solve social problems, but instead, on the contrary, divert part of the money intended to finance other projects (Horesh, 2008). In addition, the implementation of the project through social bonds can be much more expensive for the state compared to other ways of financing due to the fact that it is necessary to hire specialists who know the mechanisms for implementing the project and independent evaluators to determine the effectiveness in achieving the intended goals. Social impact bond is one of the dynamically developing innovative tools for financing social projects based on public and private partnerships. SIB is a debt liability (security) that contains a loan agreement based on mutually beneficial conditions of interaction between several organizations of different profiles of activity but striving to achieve a certain socially significant result.

### 3 Social Impact Bonds Feasibility Criteria

Four basic criteria are necessary for impact bonds to come to fruition. These criteria are “meaningful and measurable outcomes”, “reasonable time horizon to achieve outcomes”, “evidence of success in achieving outcomes”, “appropriate legal and political conditions” (Eddy, 2015). Meaningful outcomes should minimally be indicative of outcomes that are predictive of the life trajectory of an individual. If an outcome has no evidence that demonstrates that it will lead to better outcomes later on, paying for it doesn’t make a great deal of sense. While interventions should by no means be limited to the outcomes that are interesting to outcomes funders, when choosing outcomes for repayment in social impact bonds (SIB), ultimately the outcome must be attractive to them. This likely means that the outcome metric should be a meaningful proxy for longer-term economic outcomes (Gustafsson-Wright et al. 2015a, b).

Reasonable time horizon to achieve outcomes is a second criteria of social impact bonds feasibility. A time horizon for achieving outcomes is reasonable if there is substantial evidence from previous evaluations that the specified outcomes will occur within this time frame. At the same time, a reasonable time horizon is one in which outcomes are measurable and therefore indicative of future life-long opportunities for the individuals. A reasonable time horizon will also be one in which

investors and outcome funders are able and willing to make and receive payments given, for instance, legal and political conditions in a country.

The third criterion of social impact bonds feasibility is evidence of success in achieving outcomes. Evidence of success in achieving outcomes should come from evaluations of interventions that closely mirror the services and how they are delivered in an intervention supported by an impact bond. These evaluations are best if they come from a context similar to the one in which an impact bond is planned, though this is not absolutely necessary. At the very least, evidence should probably be available at the country level for an impact bond to be considered feasible (Gustafsson-Wright et al. 2015a, b). Rigorous evaluations are recommended, such as randomized control trials or other techniques that compare outcomes for a group receiving a service with another group that does not receive a service, while also accounting for differences between the groups compared. Ultimately, however, the extent to which evidence must be rigorous is very dependent on the risk appetite of the investors and the requirements of outcome funders.

One more criterion of social impact bonds feasibility is appropriate legal and political conditions. Appropriate political conditions are those that demonstrate support for the services delivered in an impact bond by relevant stakeholders, including local, state, and national governments, as well as investors. Support for a particular service may be found in a policy framework or strategy document or may be demonstrated in previous funding allocated to services. In addition, appropriate legal conditions will enable governments (in their role as outcome funders) to pay for outcomes beyond the fiscal year in which a contract is made and for that matter to pay for outcomes at all. This is often necessary since most public expenditure is committed on a yearly basis. It may also be necessary for legal conditions to support the ability of the government to direct funds to an intermediary in a transaction and for the intermediary to have the authority to make certain decisions, such as selecting a service provider. Legal conditions will also facilitate a transaction such that investors have contract protections and are incentivized to provide capital for the impact bond (Stump & Johnson, 2016). Other relevant issues that may influence the feasibility of an impact bond include how governments treat hybrid investments, which include debt and equity components, and how they treat various stakeholders involved in a deal that may be located outside of a country.

The design of an impact bond can vary greatly in terms of the composition of the players involved, their roles, and the timeline and process of putting. The development process for an impact bond transaction is unique to each deal, though four major stages of the process are fairly consistent across deals: a feasibility study, structuring the deal, implementation, and evaluation and repayment (Acevedo & Live, 2016). Within those stages, there are some basic components of each deal process. These include the identification of a social challenge; an assessment of feasibility for developing an impact bond based on a set of criteria; the raising of capital from senior and/or subordinate lenders or grant makers; the defining of the intervention, outcomes metrics, and evaluation methodology; the procurement of a service provider (which can occur through various different processes); the negotiation of contracts between stakeholders; the provision of the services; performance

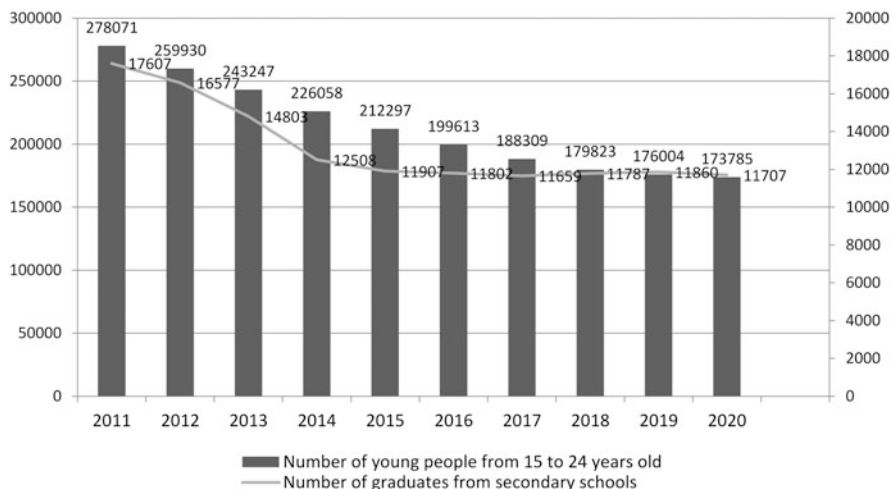


management (in some cases); and evaluation. The order in which these components take place can vary greatly across deals (Gustafsson-Wright et al. 2015a, b).

For example, in some cases a service provider is identified early on in the process, allowing inclusion of service provider-specific data in the feasibility analysis; in other cases, the service provider is procured after the identification of an intervention and after a feasibility analysis are conducted. Similarly, the capital can be raised before or after securing an outcome funder depending on the circumstances. Social impact bonds can be fully used to finance higher education institutions. Higher education financing must compete with an array of other public service. A new type of public-private relationship is needed, but such a relationship must do more than simply share accountability—it must also alleviate fiscal pressures on students and their families and create mechanisms that prevent more tuition increases (Salerno, 2016). Salerno in the paper “Higher Education: social impact bonds and income share agreements” concludes that most agree on the unrealistic expectation of continued growth of public investment in higher education or the funnelling of more funds into existing investment vehicles (Salerno, 2016). SIBs and individual savings accounts (ISA) represent novel solutions to limited government budgets. They promote accountability and long-term investment in educational infrastructure. They align risk and reward. They are both flexible and responsive to changing labour market dynamics. Making these tools work will require new ways of thinking about not just public priorities but also private-sector investment risk and reward (Salerno, 2016). Social Impact Bonds are a relatively new funding mechanism of social projects. In education, there are thirteen SIBs underway around the world related to vocational education and early childhood education (Bloomgarden et al., 2014). But Social Impact Bonds have a big potential of development. Evidently Social Impact Bonds are a novel financing mechanism for public services delivery. SIBs are a strategically ambiguous policy tool and policymakers should be cautious about SIBs due to contractual complexity and issues with ethics, governance, accountability and transparency (Tan et al., 2019).

#### **4 Opportunities for Using Sources of Funding Based on Public-Private Partnerships in Latvian Higher Education**

The proportion of public and private funding for higher education varies from country to country. Public funding in higher education costs is about 90% in Austria and Italy, about 80% in Portugal and Finland, about 2/3 in the UK, Denmark, Sweden, Ireland (OECD, 2020). Most German universities are state-owned, and tuition is free of charge. At the same time, more than 30% of students receive material assistance either from the federal budget (33% of all funds), or from land budgets (45%), or from various communities (22%) (Kottmann et al., 2019). However, in many other countries, public funding for universities is less than 50%. And

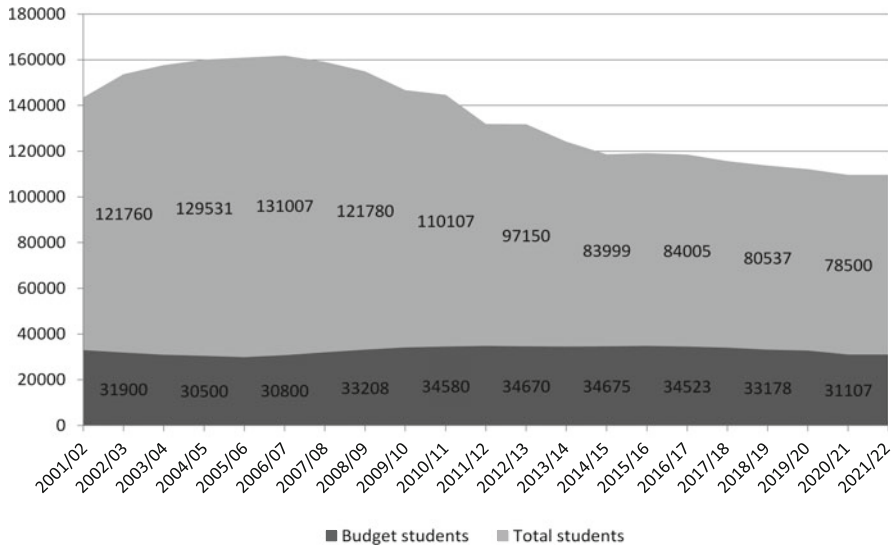


**Fig. 14.1** Number of young people from 15 to 24 years old and number of graduates from secondary schools in Latvia (Source: Latvian Ministry of Education and Science, 2021)

universities are forced to look for additional sources of funding. In Latvia, state financing of universities is less than 40% and has a large differentiation in the fields of education. It should be noted that the total number of students in Latvia is decreasing, which is associated with a decrease in the number of secondary school graduates and the number of young people from 15 to 24 years old (Fig. 14.1). The data of the Central Statistical Bureau of Latvia evidences that 78,500 students are studying at Latvian universities in the 2020/2021 academic year (Central Statistical Bureau of Latvia, 2021). It is 1.1% less than a year ago. The number of newly enrolled students also decreased. In the 2020/2021 academic year, 28,700 students entered universities in Latvia, which is 2.4% less than a year earlier. Half of the newly enrolled students (51.6%) in the 2020/2021 academic year began undergraduate studies, 24.8% began master's programs, 21.7% began college programs and 1.9% began doctoral programs.

More than half of students (56.1%) in the 2020/2021 academic year began their studies at their own expense, and 43.9%—at the expense of the state budget. A more significant difference between extra-budgetary students and budgetary students is observed in the total number of students studying at Latvian universities. So, in the 2020/2021 academic year, the share of students studying at their own expense is 61%, and the share of students studying at the expense of the state budget is 39% (Fig. 14.2).

When analysing the dynamic of the total number of students and the proportion of budgetary and extra-budgetary students in Latvia over the past 20 years, it can be seen that the largest number of students in Latvia was recorded in the period from 2003/2004 to 2008/2009 academic years, and the share of students studying at the expense of the state budget during this period fluctuated within 23–26%. This means that the bulk of students received higher education at their own expense (74–77%).

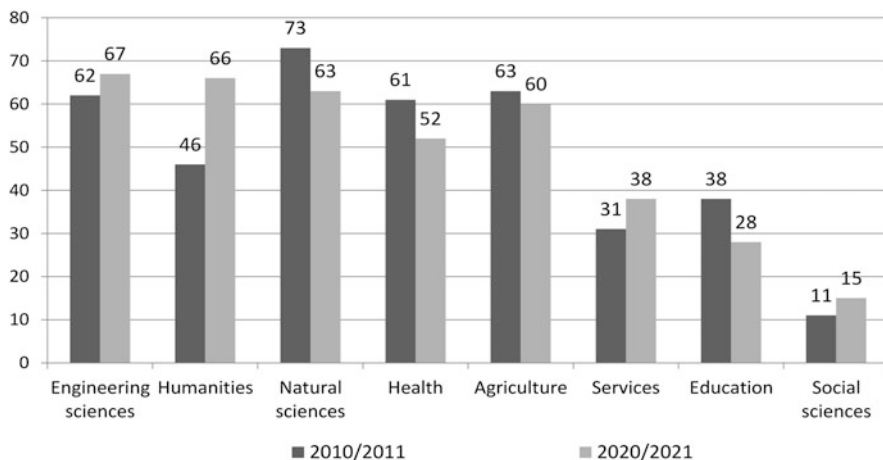


**Fig. 14.2** Quantity of students in Latvia (Source: Latvian Ministry of Education and Science, 2021)

Figure 14.2 also shows that in subsequent years, the share of students studying at their own expense is decreasing, and the share of students studying at the expense of the state budget is slightly increasing. But this is not due to an increase in state funding, but to a decrease in the total number of students. And as shown in Fig. 14.2, the number of students studying on the budget in the last eight years also has a certain tendency to decrease. It should be noted that the proportion of public and private financing in Latvia has a large differentiation in the fields of education. Thus, the Fig. 14.3 shows that the priority areas of state financing are engineering sciences, natural sciences, humanities, health care and agriculture. These areas are financed by the state to the greatest extent (over 50%). More than half of students studying in the above-mentioned areas study at the state budget expense. At the same time, studying in social sciences, education and services is funded by the state in a minimum amount. Such educational areas as education and service are financed from the state budget less than 40%. The lowest funding from the state budget is allocated for social sciences. In the 2010/2011 academic year the share of budget financing for social sciences amounted 11%, in 2020/2021 it was 15%. This means that students in these areas study mainly at their own expense.

All these facts show that Latvian higher education institutions face the problem of lack of funding, which requires the search for new solutions. It is assumed this problem can be solved by issuing of social impact bonds.

The research presents the conducted a survey of academic staff in Latvian higher education institutions (the sample was 20% or 1100 respondents), as well as conducted interviews with potential investors and representatives of state authorities (mainly with experts from the Ministry of Education and Science of Latvia).



**Fig. 14.3** Percentage of students in Latvia studying at the expense of budget funds in areas of study /thematic groups/ (Source: Latvian Ministry of Education and Science, 2021)

According to the results of a survey of Latvian academic staff, conclusions were made about the technical condition of universities, about trends in the number of students, the ratio of public and private funding of Latvian universities, as well as about the level of efficiency of various types of financing. The results of the survey of academic staff showed that the average assessment of the technical condition of Latvian universities on a 5-point scale is estimated at 3.8. In addition, academic staff noted that in the future in Latvia the number of students would decrease, and tuition fees would increase. At the same time, tuition fees would not be an important component of the universities' budget.

In state universities tuition fees in average would be 20% of the total budget of universities; in private universities the share of tuition fees would be at the level 60–65% of the total private universities' budget. At the same time, respondents noted that the negative point was that in average only 60% of the total number of enrolled students completed their studies. The Latvian academic staff noted that most negative factor was that in the future Latvian universities will be forced to work "idling" and quantitative indicators would dominate over qualitative. As for the opinion of respondents on the effectiveness of funding sources for universities, the Latvian academic staff noted that the most effective source of funding for universities is direct municipal funding (39.8% of respondents indicated the highest efficiency level of this source). The possibility of financing universities through social impact bonds was evaluated by academic staff relatively high. 35.2% of respondents noted a high level of efficiency from the use of social impact bonds, 31.1% of respondents noted an average level of efficiency of this source, and only 14% considered that the efficiency of this source considered low. Summary processed survey results of the funding efficiency level of higher education institutions are shown in Table 14.1. The results of interviews with potential investors highlighted the problems and made it possible to determine the degree of readiness of investors

**Table 14.1** Survey results of Latvian higher education institutions' academic personal /as a percentage of total number of responses/

<i>Funding type</i>	<b>Level of funding efficiency in higher education institutions (1 – high level, 2 – average level, 3 – low level)</b>		
	1	2	3
Direct state budget funding	31.1%	22.8%	23.3%
Direct municipal funding	39.8%	19.3%	18.3%
Bank loans	21.1%	38.3%	13.3%
Funding with social impact bonds (SIB)	35.2%	31.1%	14.4%
<b>Other extrabudgetary sources of funding (sponsorship etc.)</b>	12.4%	33.2%	41.1%

Source: developed by author based on the survey of Latvian universities' academic staff

to be partners for universities. As it turned out, for the work of social impact bond system, the presence of an enough investors number who would be ready to participate in the initial financing and agreement with the government is necessary. In order to find out the attitude of investors to the possibilities of social investment, the author conducted interviews with the heads of three Latvian commercial banks and the heads of two large Latvian companies. The results of interviews with heads of commercial banks showed that the possibility of the bank's participation in financing of university using social impact bonds depends on the bank's investment strategy. However, all participants in the interview agreed with the prospects of such projects and pointed out their high effectiveness and benefits for society. However, they noted that investment should be attractive and the return on investment should be 10–15%.

The same opinion on the return on investment in projects associated with universities was expressed by the heads of large Latvian companies. They believed that the return on investment at 15% was not great, but it was stable in the long-term period. At the same time, all interviewees during the implementation of projects would be interested in obtaining good specialists from the circle of university graduates.

The question about return on investment was also asked to experts from the Ministry of Education and Science of Latvia. Experts of the Ministry of Education and Science believe that the commercial return on the implementation of such projects can be even 0%, but the utility effect in society will be much higher. But to ensure attractiveness to investors, the return on educational projects using social impact bonds can be no higher than 5%. According to the representative of the Ministry of Education and Science, too much return may not be understood by investors and may even be an obstacle to attracting investment; given the Latvian mentality, it will most likely be associated with unreliability, shadow transactions and schemes. According to the author, the return on social investment projects of universities should be at the level between the long-term yield of Latvian government bonds and the yield offered in the equity markets. However, with low equity

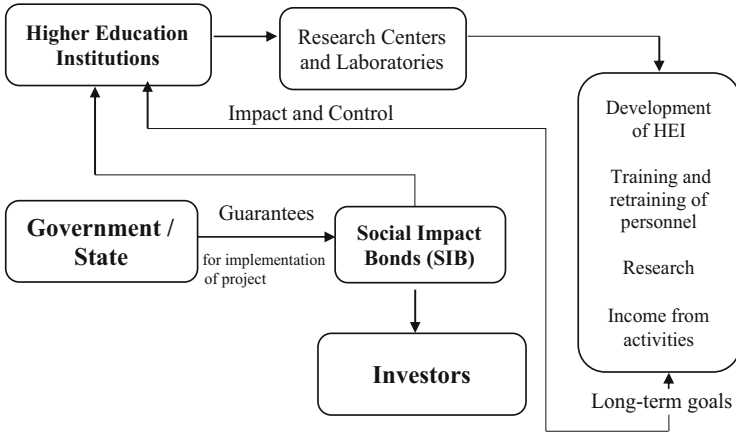
yields, it may be higher than long-term government bond yields and equity market yields.

As a result of the interview, it was revealed that many investors pay great attention to their reputation assessment. And this is one of the important reasons for social investment. But the factor stopping the investor from investing money is the unknown and insufficient understanding of the investment scheme. Investors note that it is very important for them to fully understand the mechanism and functions of all parties involved in the project, as well as the risks associated with the implementation of the project. The interview studied the issues about the readiness of Latvia for using the social impact bonds to finance universities, the degree of feasibility of this process for the country, the obstacles for the implementation of the projects concerning the social impact bonds. It was revealed that there are obstacles to the use of social impact bonds. The main obstacle may be resistance from the public sector, which is mainly due to the lack of experience in public-private partnerships. However, the situation is changing, and it is believed that it is moving in the direction of an environment that would be more favorable for the use of social impact bonds. This shift can be expected to be slow, as it also requires a change in mentality and attitudes. The changes can be faster if they are supported by appropriate educational programs and, possibly, the launch of a pilot project. The survey of academic staff revealed that the highest efficiency of universities financing could be ensured through the sources of direct municipal funding and the use of social impact bonds. Therefore, a successful pilot investment project could concern financing a university at the municipal level and be based on the interaction of the city municipality (representative of the authority), a large investor (represented by a commercial bank or a company) and a private university.

## **5 Approaches to Social Impact Bonds Issue for Funding of Higher Education Institutions**

In order to attract additional sources to finance higher education institutions, at least three approaches can be used, which are based on the social impact bonds issue and the interaction of universities, governments (state), banks, private large companies and investors (Bloomgarden et al., 2014). The first approach is based on the social impact bonds issue by a bank in favour of the university. The second approach is based on social impact bonds with participation of a state as a guarantor and repayment of the bond debt depending on the implementation of the investment program. And the third approach is based on social impact bonds with the involvement of a private large company and a bank to finance long-term educational programs. Above mentioned approaches are suggested based on the study such literature sources as “The Potential and Limitations of Impact Bonds” written by Gustafsson-Wright, Gardiner, and Putcha, “Social Impact Bonds: An Innovative





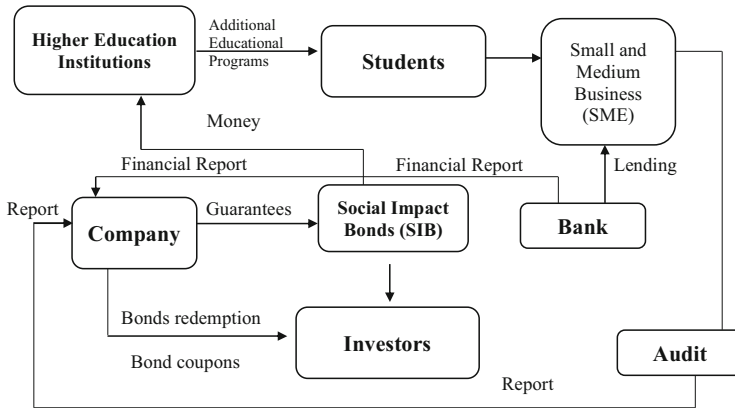
**Fig. 14.5** Bonds issue with redemption depending on implementation of investment program  
Source: Author’s contribution

shown in Fig. 14.5. Such projects proposed for funding are generally high-risk projects and require a strict control. The subject here is a direct investor who is interested in the success of the program and can ensure the return of invested funds. This approach makes repayment of the bond debt dependent on the effectiveness of the implemented investment program.

Financing by issuing bonds to projects such as research centers and laboratories that will be self-sustaining and can generate income from their entrepreneurial activities is promising. As a result, the efficiency of the use of state funds will increase, since the investor controls of project implementation and has long-term commercial goals. Thus, investors in social impact bonds can be industry organizations that are interested in research conducted by a higher education institution; organizations that are interested in long-term training and staff development programs; investment companies and banks that are interested in the successful development of an educational institutions and that implement social and sponsorship programs.

Finally, the third approach to the use of social impact bonds is the creation of SIB to finance long-term educational programs that can have a great social and economic effect without participation of a state. In this case, we can say that a large company implementing large-scale socio-economic projects will play the role of a state. An example of such an educational and at the same time socio-economic program can be a program for training entrepreneurs and creating small enterprises. This project of additional business education will result in the creation of new enterprises; consequently, there will be the social effect in the form of the creation of new jobs and services, provided to the society by newly created commercial organizations. The flowchart of social impact bonds issue according to the third approach is shown in Fig. 14.6. As can be seen from Fig. 14.6, higher education institutions develop and offer for training additional educational programs that can be implemented based on





**Fig. 14.6** Bonds issue for long-term educational programs. Source: Author’s contribution

the creation of business incubators. Business incubators serve as generators of ideas, where students, together with teachers, embody ideas to create new small enterprises.

Support for the creation of new small enterprises can be provided both through bank lending and by attracting venture capital. Therefore, such approach requires control and supervision by an audit, as well as the provision of reports to the company, which is the guarantor of issued social impact bonds. In this case, social impact bonds will be secured by the material base of business incubators and successfully developed business projects to create new small enterprises. And the source of repayment of social impact bonds will be income from the entrepreneurial activities of created small enterprises, in the development of which the company is interested.

Thus, the paper reveals the conclusion that social impact bonds are based on the logic of modern ideas of sponsorship. This idea states that the effectiveness of grants is often doubtful, and therefore, the real investment programs of social institutions and compensation of invested funds become the driving force for the development of society, if these social programs have achieved the desired results. This approach allows us to solve two main problems of modern charity at once: the first is to attract new participants to active social activities at the expense of a wide range of investors, the second is to increase the quality and effectiveness of social programs implemented, as an investor, who is new source of control over the quality of social programs appears. In addition, SIB financing opens up new opportunities for the development of private and public partnerships in the social sphere, allowing the state to pay only for real social projects and save money to solve other equally important and complex social tasks. Therefore, the use of social impact bonds as an additional source of financing for higher education institutions in modern conditions is a very interesting and attractive tool.

## 6 Conclusion

As a result of the study, it was concluded that social impact bonds can be used to additionally fund higher education institutions. This is possible due to the fact that higher education pursues not only the educational and scientific aspect, but also solves the social problems of society, since graduates of higher schools, realizing their knowledge in the process of work, benefit society and the state as a whole, ensuring its constant development.

Social impact bonds can be used along with other sources of financing, such as bank loans, state and municipal funding. Social impact bonds are an extrabudgetary tool and a source of financing for universities and are based on the interaction of many participants: the state, social facilities, banks, non-profit organizations, investors, social auditors, investment consultants and others. The obtained results of the study allowed the development of three innovative approaches to issuing social bonds by the universities. The first approach is based on the issuance of social bonds by the bank with the purpose of financing the university. The second approach is based on the issuance of social bonds by university with governmental participation with the purpose of the implementation of the investment program; it presupposes the loan repayment depending on the obtained result. And the third approach is based on the issuance of social bonds with the purpose of financing the long-term educational programs.

Despite the general positive opinion on the use of social impact bonds, the paper indicates that there are obstacles to their use. The main obstacle may be resistance from the public sector, which is mainly due to the lack of experience in public-private partnerships. But in the process of developing society, the experience of public-private partnerships will accumulate, and their interaction will become close and inevitable. The research concluded that, in order to accelerate the implementation of universities' social impact bonds in Latvia, it is necessary to launch a pilot project at the municipal level. It should be noted that this study can be continued; further research will focus on comparative analysis of social bond using in higher education institutions in different countries.

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