



CCO

Co-creation Orchestration

Abstracts for Laurea's multistakeholder co-creation publication



AMMATTIKORKEAKOULU
University of Applied Sciences

www.laurea.fi



Ministry of Education and Culture



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Foreword

TUIJA HIRVIKOSKI, LAURE UNIVERSITY OF APPLIED SCIENCES
MIKAEL UITTO, UNIVERSITY OF HELSINKI

Understanding the power of collective innovation has taken decades and challenges have been numerous, one of them above the others: How to convince the non-believers? "Show us evidence," they demand.

Therefore, the aim of this publication is to provide evidence and examples demonstrating how co-creation, open innovation and open science are more than new and unproven phenomena. The following example from Finland shows the length of the journey of, and the potential behind joint innovation and science.

A century ago, Finland was suffering from the highest infant mortality rate in Europe. Although doctors became more available and medical technology advanced by leaps during the first few decades of the 20th century, the infant mortality rate remained sky high (14%).

Bringing together all the needed stakeholders to secure a healthy childhood for all

In 1920, paediatrician Arvo Ylppö returned to Finland after completing his studies at Imperial Children's Hospital in Berlin, and together with The Mannerheim League for Child Welfare begun building what would later become the maternity clinic system. This new programme was aimed not at creating more doctors or better medicine, but at making sure that new-born Finns and their parents would find the nurses and doctors throughout their pregnancy, infancy and childhood, by automatically scheduling the most critical medical check-ups, and by educating the fathers-and-mothers-to-be. A complimentary maternity box was used to attract the parents to sing-up to the new system.

Metaphorically, Finland was at that time, the world's Living Laboratory of Health Science, involving both professionals and citizens into collaboration to secure healthy childhood for all.

Thanks to Mr. Ylppö, orchestrating the various medical advancements and the maternity clinic systems' ability to

rapidly introduce these radical and intrusive processes to the public, Finland was quick to find itself at the other end of infant mortality charts. The infant mortality rate today being one of lowest in the world.

The Finnish maternity clinic system is a great example of how radical, nationwide change can be rapidly achieved by bringing together all the needed stakeholders, including the fathers-and-mothers-to-be and facilitating their co-operation.

Mainstreaming multistakeholder co-creation, Open Innovation and Open Science

More recently, after convincing evidence from several European Union funded projects, the idea of multistakeholder innovation co-creation had matured, and in 2006, the European policymakers were ready to agree that indeed, Europe and its regions and cities were actually open innovation ecosystems for their people, communities for public and private stakeholders and academia to collaborate in.

During the Finnish Presidency of The European Council, in 2006, the Helsinki Manifesto was launched. This was the genesis for the formal development of European Network of Living Labs (ENoLL), the forerunner of Open science and Open innovation. Since then, Laurea together with other ENoLL members has promoted co-creation and citizen-involvement both in science and in innovation. Consequently, the message of open science and open innovation has spread far and wide among more than 400 organisations across the world. Their multi-stakeholder and citizen centric approach attest to the Living Labs position as genuine examples of the development of citizen science and open innovation in Europe.

Today, we are more than halfway through Finland's ongoing Presidency of the European Council. This time, the focus has been on climate issues. As the Open Innovation

and Open Science have already transformed the way we innovate, we can unite our best resources to co-design and co-implement the needed solutions to save the planet and humankind.

A collection of abstracts illustrating how multistakeholder co-creation materialises concurrently

Laurea, together with its two projects, both funded by the Finnish Ministry of Education and Culture publishes this collection of abstracts. These projects are "Co-creation Orchestration" (CCO) and "Developing open RDI, Learning and Innovation Ecosystem at Universities of Applied Sciences". Both of these projects research and aim to apply open science principles in education, innovation and RDI work at Laurea and with its partners.

The abstracts introduces how Laurea and its partners engaged in multistakeholder collaboration allowing for and benefiting from opening of research, innovation and educational processes. The aim of this collection is to make apparent the benefits and challenges of co-creation, relevant skills and know-how, and best practices.

The first part of abstracts introduces the broad expertise and research work in innovation co-creation and service design in Helsinki-Uusimaa region. The abstracts are mainly written by Laurea experts and has been grouped under the following subheadings:

- Value co-creation in multistakeholder innovation and business ecosystems,
- Co-creating health and wellbeing,
- Citizen involvement in co-creation activities,
- Co-creation allowing for and benefiting from opening up research, innovation and educational processes

In order to ensure diversity and international view, Laurea invited, via the CCO webpage (www.ccco.laurea.fi) writers outside Laurea to send their abstracts. Hence, the second part of the collection consists of longer abstracts on Co-creation and Living Labs written by Laurea partners.

Final papers will be published during the spring of 2020.

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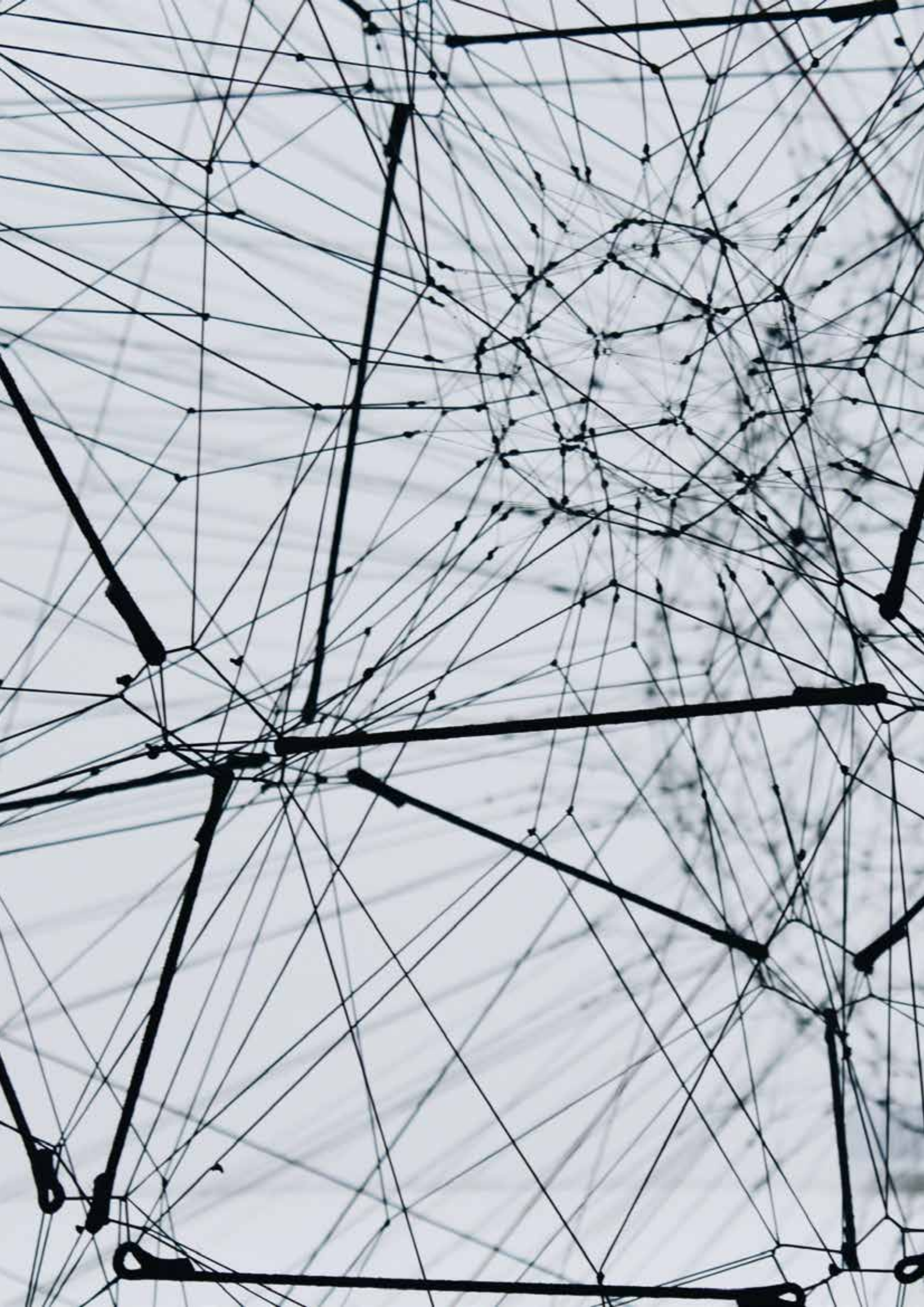
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I

VALUE CO-CREATION IN MULTISTAKEHOLDER INNOVATION AND BUSINESS ECOSYSTEMS

Regional development promoted through increased inclusion and co-creation

JOUNI KOSKI

LAUREA UNIVERSITY OF APPLIED SCIENCES

To boost the conditions for regional development, Finnish universities of applied sciences have been assigned a statutory regional development task in addition to their educational and RDI (research, development and innovation) tasks. Pedagogy is no longer an internal matter of higher education institutions, but rather a common area involving the institution's partners and surroundings. The pedagogy of universities of applied sciences, which aims to integrate higher education institutions with their region and society, strengthens the institutions' ability to participate in the development of regions. Learning by Developing (LbD), an educational action model created at Laurea University of Applied Sciences in the first decade of the 21st century, was crucial to the evolving focus on regional development and the development of co-creation methods.

Inclusion, whether of individuals, communities or regions, carries enormous power. Concerning regional

development, the strength of the pedagogy adopted in universities of applied sciences is based on co-creation, which also emphasises the inclusion of students. When regional development involves students of universities of applied sciences, who are accumulating their professional competence, as well as staff members, and when learning takes place in cooperation with partners in the region, the resulting development input and force are of an enormous volume. In the future, universities of applied sciences may exert an increasing impact on the renewal and revitalisation of regions. This requires the methods and forms of co-creation to be continuously developed. If, in this context, citizens are increasingly involved in the development of their residential areas and living environments, the work will most certainly result in more effective solutions for the changing needs of regions and communities.

KEYWORDS:

- Regional development
- Co-creation
- Learning by Developing

Co-creation Orchestration – Transforming innovation processes

TUIJA HIRVIKOSKI & HEIDI UITTO
LAUREA UNIVERSITY OF APPLIED SCIENCES

We are living in a world that is changing at a rapid pace. Globalization and technological development are bringing about many benefits. However, the challenges we meet are often complex, inter-connected and systemic: so-called 'wicked problems'. The challenges are no longer local or one-dimensional. Solving complex problems requires cross-sectoral, cross-disciplinary, and cross-border collaboration (Mazzucato, 2018).

To strengthen co-creation based innovation ecosystems regionally and internationally, the Finnish Ministry of Education and Culture and Laurea University of Applied Sciences have decided to fund a three-year Co-creation Orchestration (CCO) project. Additionally, the project aims to strengthen Laurea's RDI profile.

Solving wicked problems requires new rules and new thinking that are determined by collaboration and openness.

The world's leading consultancies and tech companies have been using co-innovation and co-creation as a method to involve customers in innovation processes for over two decades now. The aim of the CCO project is to update those dyadic models into models, which both, enhance involvement of different stakeholders into innovation and value co-creation, and benefit from it.

However, co-creation does not happen without structures and mediation. Another term for mediation is 'orchestration'. Based on a literature, this paper researches value co-creation enablers and obstacles in multistakeholder ecosystems. Moreover, it explores what motivates businesses, researchers, public sector players and citizens to come together and innovate. Finally, it discusses how adherence to open science and open innovation might be a competitive advantage for successful value co-creation in multistakeholder ecosystems.

KEYWORDS:

- Knowledge provision
- Co-creative methods
- Scaling the pilot to other councils and cities

Co-creation in the public sector

SAMI KAUPPINEN

LAUREA UNIVERSITY OF APPLIED SCIENCES

The Co-Created Health and Wellbeing (CoHeWe) project focuses on the promotion and development of innovation cooperation between cities and companies. One of the main goals is to develop and implement customer-oriented social, health and well-being services to promote health and well-being and prevent illnesses in four cities (Helsinki, Tampere, Oulu and Vantaa). The CoHeWe project also supports the cities in changing their role from service providers to innovative service enablers. It also offers companies the chance to more closely participate in the development of new services, starting with the survey of service needs. In addition, companies get the opportunity to network with municipal social and health services and with other businesses. In the context of harmonised service trials, companies can also offer their services to the participating cities.

The practices and operating models of the participating cities, as well as the co-creation model drawn up based on studies, are assessed and developed in the context of CoHeWe project. This article presents the initial co-creation model for the public sector developed during the project. In this context, co-creation means the participation of various parties, such as public-sector organisations, employees, companies and city residents, in the development work. Goal-oriented interactive cooperation is at the heart of the activities. The services co-created in the project are based on the needs of the residents and other stakeholders, and they are developed in cooperation with professionals and companies in the caring industry.

KEYWORDS:

- Public sector
- Public sector Innovation
- Co-creation
- Collaborative Innovation

The view from the Region: opportunities and challenges for innovation and co-orchestration

JOHANNA JUSELIOUS
HELSINKI UUSIMAA REGIONAL COUNCIL

Helsinki-Uusimaa is the most innovative region in the European Union from among 238 regions (European Commission Innovation Scoreboard 2019). Innovation equals future jobs and growth and we can see general progress in the EU. However, to stay ahead in the global race, both the EU and its member states need to continue investing in and developing the right policies for innovation to flourish.

The identified key success factors in the Helsinki-Uusimaa innovation ecosystem, with particular attention paid to the role of the University of Helsinki, Aalto University and universities of applied sciences, namely Laurea, present an example of research institutions that have a strong role in the quadruple helix, according to which the Helsinki-Uusimaa innovation ecosystem is developed. The smart specialisation strategy of the Helsinki-Uusimaa region and its implementation aim policies at supporting the strengthening the existing place-based innovation ecosystem in the region.

In addition to highlighting key enabling factors and catalysers, the smart specialisation describes the main quadruple helix actors and explains their role in facilitating and driving the emergence of this innovation ecosystem.

The Helsinki-Uusimaa innovation ecosystem builds on a strong knowledge base. Decades of government and private investments in research and development intensive activities have resulted in a high concentration of human scientific and technological capital and important research infrastructures. These R&D investments have diminished in recent years, but the new government is committed to increasing public R&D spending, which is likely to boost universities and universities of Applied Sciences (UAS).

The participation of all actors (including students and citizens) is seen as crucial by leading organisations in the local context. This view has been actively supported and

facilitated by universities, the regional and city governments and the ecosystem orchestration of smart specialisation by the Helsinki Smart Region, which is developed the Helsinki-Uusimaa Regional Council.

Co-creation with citizens/users is increasingly being cultivated through open innovation and open science methodologies and open innovation spaces. Shared activities and large-scale endeavours bring together all parties involved in an entrepreneurial discovery process of experimenting, taking responsible risks and learning in a collaborative way. Innovation brokers have, at the same time, been mandated to develop public-private partnership networks and multi-stakeholder collaboration.

When identifying the context in which Helsinki-Uusimaa has become an innovation leader, it should be emphasised that the territorial dimension of innovation by focusing on place-based innovation ecosystems matters. How it matters can only be unfolded by taking into account the smart specialisation policy concept. Smart specialisation is operationalised in Europe through regional research and innovation (R&I) strategies and builds on the economic strengths, collective intelligence and recognised assets of a certain area and, through an entrepreneurial discovery process (EDP) involving a wide diversity of stakeholders, identifies the strategic areas of intervention to make innovation flourish (Foray, 2015). In short, smart specialisation calls for a multi-level stakeholder interaction, which is also seen as the quadruple helix model.

As Oksanen and Hautamäki (2014) point out, an innovation ecosystem "can refer to local hubs, global networks, or technology platforms. It also has roots in industry and business clusters" (Porter, 1998; Estrin, 2008). These authors place an emphasis on local and regional

ecosystems, particularly on those places that nurture a culture of innovation and make an innovation ecosystem grow.

Key factors in a regional innovation ecosystem include a (relatively) harmonic business sector where established large companies and new start-ups specialise and cooperate under value chains and clusters; local markets permeable to product innovations and connected to global networks; a risk-taking entrepreneurial culture to a local society which accepts facing major challenges and is open to change and evolution.

Other enabling factors include the continuous movement of ideas and people, fluid interaction and 'cross-fertilisation' between business and academia, academia and government, government and business, organisations and individuals. Dynamic companies play a pivotal role in the ecosystem, but services supporting the commercialisation of products and developing innovation networks are equally needed. The latter is precisely the role played by intermediary organisations like technology centres, enterprise incubators and a vast range of territorial innovation agents rooted in the local society.

When most or all of those conditions are met, place-based innovation ecosystems usually emerge and consolidate over time, developing hand-in-hand with local society. Indeed, a sense of community and belonging grows among local actors, who associate their success with that of the local or regional community.

Top businesses and start-ups across sectors have started to develop MyData-based services and need new infrastructure and interoperability principles. Research institutes, government agencies and other organisations support the development. Together they have established a MyData Finland Alliance, an open community that advances MyData pilots and shares knowledge and resources. The aim is to

develop a national, internationally scalable interoperability model for personal data management (source: Mydata.org).

At the same time, Open Science is crucial for researchers. For social impact, it is recognised increasingly clearly that open availability of research articles has become a central part of the societal impact of universities.

The Helsinki-Uusimaa Regional Council is the regional authority for the Helsinki-Uusimaa Region, formed by its 26 municipalities. Its main mission is to support sustained wellbeing and economic growth by means of regional development and land-use planning, and the promotion of local and regional interests. As a council, it plays a coordination and consensus building role among the smaller territorial units, articulating common regional needs and long-term development goals and conditions for sustainable development. The Regional Council works in close cooperation with member municipalities, the government, universities and research institutions, the business sector and civic organisations. As I have argued, the Regional Council has been a key enabler of the Helsinki-Uusimaa innovation ecosystem. The Helsinki Smart Region brand has been a product of the Helsinki-Uusimaa Regional Council.

Finland has a binary university system, distinguishing between research universities, such as Aalto University and the University of Helsinki, and the UAS, such as the Laurea University of Applied Sciences, which operates throughout the Helsinki Smart Region. The latter, being more applied in nature, have only in recent years been expected to play an active role in carrying out research and innovation-related activities. However, as suppliers of graduates, they have also contributed to the vibrant innovation ecosystem which is home to several higher education institutions of applied sciences — namely, the Metropolia University of Applied Sciences as well as Haaga-Helia University of Applied Sciences, Laurea University of Applied Sciences and Omnia

Institute for vocational education and non-formal adult education. Universities of applied sciences have the mission of training professionals with an emphasis on labour market needs and conducting research and development that supports instruction and promotes regional development in particular. The education in a UAS emphasises co-operation with business, industry and service sectors at the regional level in particular. Being mandated by law makes the UAS particularly closely involved with the regional innovation ecosystem and smart specialisation development.

It is a strategic choice to be a part of an ecosystem. In an open ecosystem policy, the innovation ecosystem, entrepreneur ecosystem and business ecosystem all play a crucial role. However, the ecosystem needs to be orchestrated, or enabled, as to which role in smart specialisation is given to regional governance. The innovation ecosystem, which includes academia, feeds know-how and research into the ecosystem, while business delivers the workforce and the entrepreneurial aspect feeds the start-ups and ideas which are essential to the development in this context.

Laurea's initiatives, such as Co-creation Orchestration, build a model that is helping companies, the public sector, academia and citizens to co-create better health and wellbeing services in the most innovative region in Europe, the Helsinki-Uusimaa region. Its aim is to make innovation more open, inclusive and collaborative. Its aim is to contribute the following: Sustainable Growth by Co-creating better and more customer-oriented health and wellbeing products and services faster and with reduced costs; Inclusive Growth by promoting an inclusive and equal future through open science and open innovation and enhance peoples' trust in research and science; Growth through Collaboration by increasing cross-border and inter-stakeholder collaboration, innovation, and research; and Becoming a Pioneer by aiming to become a leading developer of co-creation orchestration services globally and to produce benchmark scientific research papers and manuals on co-creation.

KEYWORDS:

- Smart specialisation
- Innovation ecosystem
- Regional development
- Co-creation

Co-Creative approach for better wellbeing at home by new "Smart Home Care" concept

ISTO MATTILA, LAUREA
UNIVERSITY OF APPLIED SCIENCES

Co-creation is an established way to create value in cooperation between customers and companies (Prahalad & Ramaswamy, 2004). In education design, the added value from co-creation is most clearly seen in the quality and impact of education. In the context of educational organisations, studies have been conducted on the impact that the increased cooperation between administration and students can have on the design of education and on the organisation's service processes (Chemi & Krogh, 2017; Wardley, et al. 2017). The added value from co-creation is anticipated to take the form of e.g. successful service experiences, increased personalization and the students' positive relationship to their institution (Dollinger et al., 2018).

The concept of continuous learning shifts the focus of education and its provision increasingly towards working life and to non-degree education. Impactful work life-oriented

education must be directly linked to the competence needs of working life, and education must be accessible alongside work.

Through co-creation methods, both working life needs and the conditions for education provision can be taken into account when designing education. Co-creation can thus help increase the individuality of education and the utilisation of user experiences. In addition, education can strengthen learners' positive attitudes to the phenomenon of learning.

In this article, we lay the foundation, based on earlier research literature, for an examination of the added value resulting from multi-stakeholder co-design of work life-oriented education. It can be used to inform and guide the best practices for the designers of lifelong learning within higher education.

KEYWORDS:

- Home care
- Wellbeing
- Predictiveness
- Algorithm

How to co-create an innovation journey: From an innovative idea to a market-ready product

Case BOOST+INNO

KRISTA KERÄNEN, TARJA LAAKKONEN, JARI KYRÖ & JAAKKO POROKUOKKA
LAUREA UNIVERSITY OF APPLIED SCIENCES

INTRODUCTION

Our university faced a challenge: R&D work was not generating innovations. The university could produce an excellent level of research and development activities (R&D) including innovative ideas but in commercializing activities the results were poor.

In response, an initial objective of the BOOST+INNO project was to boost the university's innovation culture and commercialization process to increase the number of innovations. We engaged 24 innovators, including 15 innovative ideas, for a one-year development project to understand what should be done better in order to get more efficient innovation results. From the beginning of the project, we adopted service design and co-creation process/tools to engage innovators to support their innovative idea development and enable all participants to co-create the possible future model.

As the innovative ideas were all in different stages of their development, we started first with understanding their needs and the current state of their development. Thus, although we adopted the stages of the service design process, we did not follow the process as a whole group but we rather gave mentoring and tools on how innovators should move on with their innovative ideas. We also wanted innovators to understand that the service design process is not a one-way street but rather an iterative process in which you might move backwards and forwards.

While mentoring innovators, we started to iteratively develop an innovation journey which would better enable innovators and other actors in an innovation process to understand what actions and which people, including knowledge/skills, would be needed in commercializing innovative ideas. We allowed innovators to picture how they feel about the innovation journey and how they think



it should be built. Moreover, we included several innovation professionals to co-create the innovation journey. After 15 workshops including more than 200 people, we can proudly present a new innovative BOOST+INNO tool. A tool that enables innovators and other innovation stakeholders to understand what an innovation process is all about.

WHAT IS BOOST+INNO?

BOOST+INNO is a tool that can be called a serious game as it uses gamified elements to co-create an innovation process. The game set includes predesigned cards, blank cards, a game board, sand timers and inks. The game has rules on how to proceed, but it does not have any winners or losers;

CO-CREATION APPROACH + SERVICE DESIGN METHODOLOGY



instead, every gamer gains knowledge and understanding related to the innovation process. Furthermore, it allows innovators to co-create their own innovation journey and understand what lies ahead before the innovative idea is commercialized.

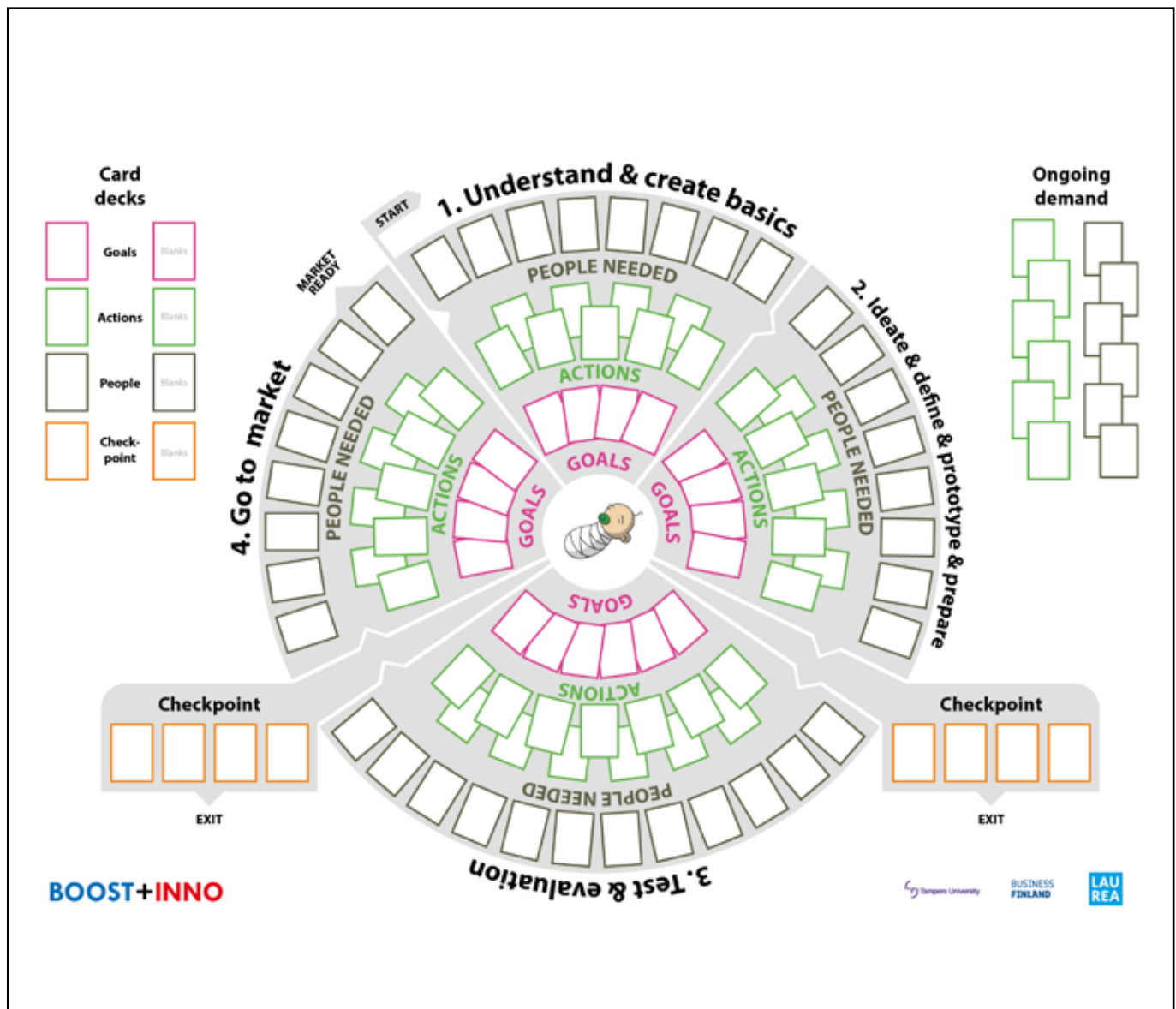
The tool has four different card groups: a) Goals, i.e. what goals need to be achieved during the process, b) Actions, i.e. what actions should be performed while achieving the goals, c) People, i.e. who are the people, including skills/knowledge, needed to perform the actions of an innovation process, and d) Checkpoint, i.e. how can we measure that we have done the right things and that we can move on? Each group contains several predesigned cards and also blank cards as each innovation process seems to vary depending the nature of the innovative idea and context (start-up, large corporation, SME, university) where the innovation process takes place.

The benefits of BOOST+INNO are the following: a) while co-creating an innovation process, players not only learn personally how an innovation process should be built but they also learn to create it together; b) the innovation process becomes more tangible and understandable; c) the game generates mutual understanding; d) for students, it

teaches what an innovation process means; e) it supports managers/ directors in decision making; and f) it allows more efficient planning of the whole process.

To conclude, as we have now been playing BOOST+INNO game in several organisations including universities, large corporations, SMEs and start-ups, we have found that a tool like this can effectively boost innovation activities. There seems to be a need for this kind of tool. As a result, we are planning to commercialize the BOOST+INNO tool and currently we are planning the MVP to be launched by the end of 2019. It can be said that BOOST+INNO is a living example itself of an innovative idea that is born as a result of co-creation. The innovation culture in our university has grown stronger in many ways: a) the number of innovative ideas has increased, b) we now have a process on how to take them further, c) a handful of innovative ideas have gotten to "go to market stage", and d) we have an innovation activist (a process owner) whose role is to support innovators in their innovation process. Finally, here is some feedback from one of the innovators: "The project was outstanding. The tools developed really support the commercialization of an innovative idea. The materials and tools are clear and easy to use, and they are usable in many different cases".





Co-creation of knowledge for innovation in multi-stakeholder projects

HARRI RUOSLAHTI

UNIVERSITY OF JYVÄSKYLÄ & LAUREA UNIVERSITY OF APPLIED SCIENCES

The European Union (EU) promotes innovation through its research funding programmes that offer opportunities for the co-creation of knowledge involving diverse groups of academics, businesses and public organisations in project consortia. Although participants may have conflicting interests, during a project, the focus is on sharing insights and experiences. Accordingly, this doctoral thesis aims to gain an understanding of knowledge co-creation for innovation in funded projects from the viewpoint of multi-stakeholder communication, focusing particularly on communication with and the participation of end users. It does so by studying the topic from four theoretical perspectives: the co-creation of knowledge, innovation networks, knowledge development processes and the resilience of complex social networks. These function as a framework for the six studies and seven published papers of this thesis. The context of the studies delivering case data consists of eight EU-funded projects aimed at research and innovation.

The findings show that common development goals serve as the basis for partners to engage in sharing insights and experiences while developing knowledge for innovation.

The perspective of the co-creation of knowledge highlights the intensive interaction among the many diverse actors who engage in building relationships and trust to enable joint work on a common problem. The perspective of innovation networks highlights that comprehensive solutions may require different roles from actors facilitated by structures and communication expertise. The perspective of knowledge development processes points to evolving input, throughput and output communication when engaging various stakeholders, especially end users, adapting participation strategies over time. The perspective of resilience of complex social networks emphasises agile project communication to address vulnerabilities through interdependencies.

Research and innovation projects bring about complex processes that call for close attention to interactions among a diverse group of stakeholders and the ways that end-user participation takes form in various project phases. This thesis adds to the overall body of knowledge on co-creation in innovation networks and, in particular, collaboration within EU-funded research and innovation project consortia.

KEYWORDS:

- Co-creation of knowledge
- Innovation networks
- Multi-stakeholder projects

Systemic design addressing complexity in service ecosystems: integrating empathic and systemic perspectives

PÄIVI PÖYRY-LASSILA & ANNA SALMI
LAUREA UNIVERSITY OF APPLIED SCIENCES

The challenges that social and healthcare systems worldwide face are growing in complexity. Big societal issues, such as changing demographics, cost increases and technological advancements, create an urgent need for a systemic transformation. At the same time, citizens' challenges in wellbeing become ever more extensive and polarised, and more difficult to solve by any single actor or service. The complex systemic challenges call for an interdisciplinary approach that brings together multiple stakeholders to co-create solutions for the transformation of the wellbeing service ecosystems.

The service design approach has been successful in focusing attention on the customer and aligning the design efforts with customers' needs. However, it achingly struggles in combining empathic perspectives with systemic concerns. On the one hand, customers' evolving service needs and, on the other, service providers' needs to collaborate within the ecosystem, as well as decision-makers' or policy-makers' information needs must be considered. One answer is systemic design that integrates systems thinking and design thinking into an approach that brings together ideas from

open systems and complexity perspectives and designerly ways of innovation.

In this article, we study how empathic and systemic concerns were brought together and addressed in MORFEUS, a joint multidisciplinary project of Laurea and Aalto that explored wellbeing service ecosystems. The project's focus was on mental health-, child protection- and substance abuse-related services, and the service ecosystems were studied by looking into a collection of services that a fictional case example family would use. The project consisted of five intensive co-development cycles employing a participative approach and co-creation methods, in which the ecosystem actors and the actual service users closely participated. As the main result, the project developed an information modelling prototype to which all information required for the procurement, production and consumption of a service could be collected. Both the development process of the information modelling and the resulting prototype serve as an example of combining the empathic customer perspective with the systemic level of design.

KEYWORDS:

- Service ecosystem
- Information modeling
- Systemic design
- Health and social care services
- Co-creation

Orchestration practices in multi-stakeholder co-creation: Case Smart Kalasatama

KAISA SPILLING, FORUM VIRIUM HELSINKI

ANNE ÄYVÄRI, LAUREA UNIVERSITY OF APPLIED SCIENCES

During the last decade, orchestration has been widely discussed in the context of innovation ecosystems and networks. However, it is often used as a metaphor without any specific meaning. We aim to elaborate on orchestration practices by analysing a Smart Kalasatama case. On a very generic level, we understand orchestration as “planning and coordinating the elements of a situation to produce a desired effect” (MOT Oxford Dictionary, 2019).

Smart Kalasatama is an Urban Living Lab for speeding up smart city development in Helsinki. Smart Kalasatama is developed through co-creation and piloting, in close co-operation with 200+ stakeholders including residents, companies, city officials and researchers. The innovation agency of the City of Helsinki, Forum Virium Helsinki, orchestrates multi-stakeholder co-creation and

experimentation activities in Kalasatama in the fields of wellbeing, mobility, learning, electricity, waste management, etc. Forum Virium has adopted the role of a facilitator-orchestrator (Hurmelinna-Laukkanen & Nätti, 2018) aiming to foster the co-creation of ideas, solutions and knowledge within the whole ecosystem without any financial gains for its own organisation.

We identified three main categories of orchestration practices: (1) relationship building to mobilise actors with versatile resources, (2) supportive and coordinative practices to foster co-creation in an empathic atmosphere and to solve conflicts, and (3) practices related to learning and knowledge mobility. In addition, we highlight the role of the research partner, Laurea UAS, in co-developing and evaluating the practices and processes in multi-stakeholder co-creation.

KEYWORDS:

- Innovation
- Ecosystems
- Orchestration
- Practices

Inspiring co-creation involving companies and students of hospitality

ANIKÓ LEHTINEN, HENRY LYBECK & PIA KIVIHARJU
LAUREA UNIVERSITY OF APPLIED SCIENCES

Companies in the tourism and hospitality industry need new information, new forms of cooperation and solutions as well as new experience industry experts in order to meet the needs of rapidly changing work life. Cooperation between hospitality education and businesses helps strengthen competence and competitiveness in the service industry.

Co-creation that involves companies, lecturers and students and is carried out in Laurea's diverse development and learning environments (Living Labs), such as BarLaurea, provides all parties with new information, experiences and competence. The BarLaurea action model is used in various operating environments to develop and test new products and services together with partners. Laurea's hospitality education is based on the principle of putting students in close contact with workplaces. Thanks to this, students participate in various cooperation projects with some of the best partners in the experience industry. Our graduates are skilled professionals who are able to develop business operations and their own work.

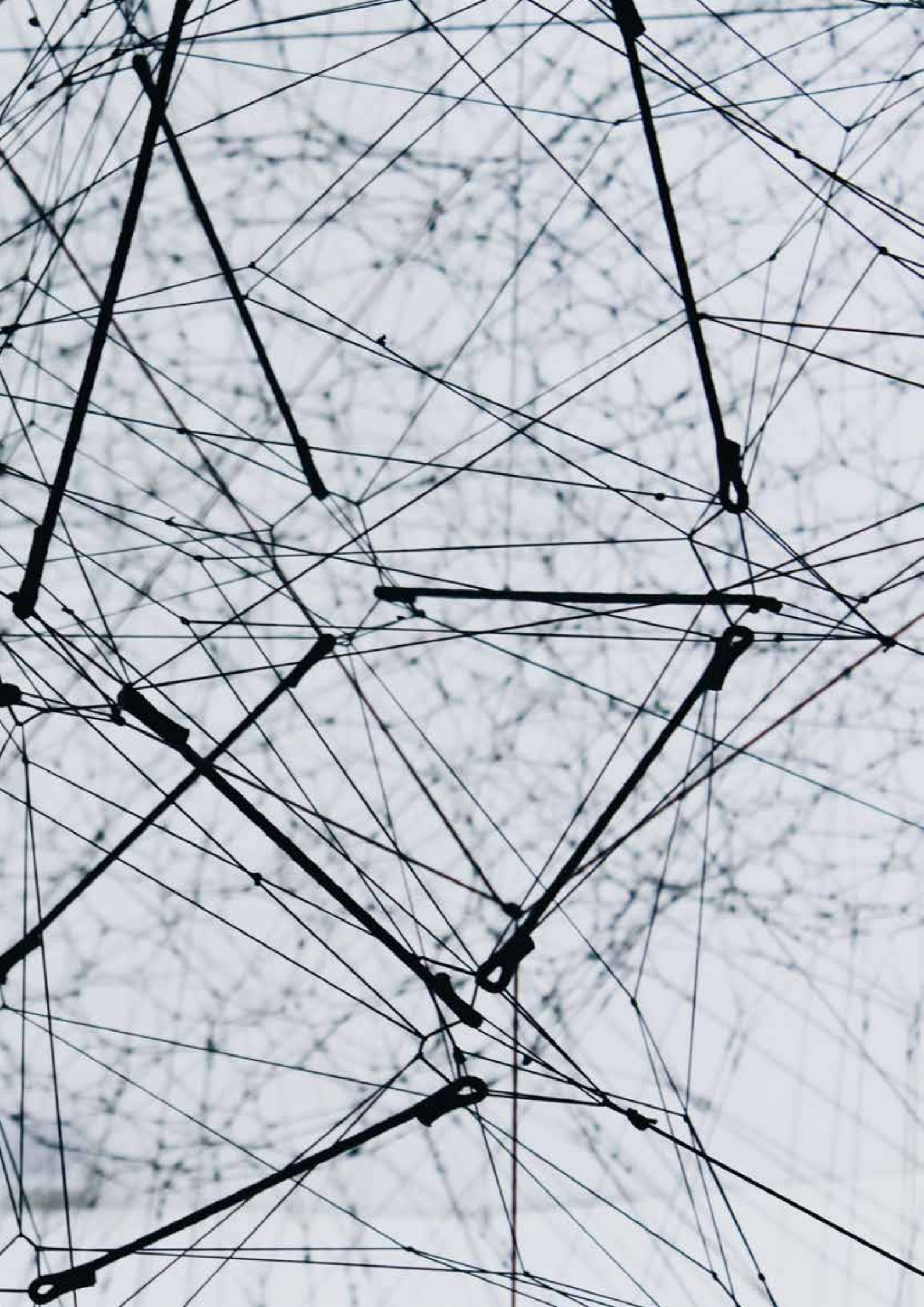
The Ministry of Education and Culture has provided funding for a co-creation project involving companies and hospitality management education (ReKey). The goal of the project is for higher education institutions to develop a new cooperation model that will strengthen the role of universities of applied sciences in the national innovation ecosystem.

This cooperation will provide higher education institutions with information about the latest research, while companies will learn about the practical application of research results. This form of cooperation can lead to information exchanges that benefit both parties. Working with an external partner puts pressure on both students and teachers. Cooperation creates a joint agenda for activities and serves to boost motivation.

Graduates from higher education institutions develop into professionals who, as members of their work community, are capable of examining and developing the company's operations as well as their own work.

KEYWORDS:

- BarLaurea
- Co-operation in Hospitality Management
- ReKey-project
- Co-creation with working life in Hospitality





CO-CREATING HEALTH AND WELLBEING

Public health nursing students as co-creators in the promotion of health and well-being

MIKKO HÄKKINEN & IRENE LATVA-KORPELA
LAUREA UNIVERSITY OF APPLIED SCIENCE

In this article, we describe the provision of the 10-credit study unit on the evolving multisectoral promotion of health and well-being ("Innovative Multidisciplinary Promotion of Health and Well-being"), developed in connection with the Co-creation orchestration (CCO) project. The unit is part of the core competence studies in nursing education, and is completed towards the end of studies. Graduating public health nurses have multisectoral competence regarding the promotion of health and well-being, which is based on a multidisciplinary knowledge base. Public Health Nurses work in maternity and child welfare clinics, in school and student health care, occupational health, health centers, services for the elderly as well as in non-governmental organizations.

The CCO project is a development project funded by the Ministry of Education and Culture, which combines Laurea's strengths: co-creation and multiprofessional competence in the promotion of health and well-being. The project's goal is to strengthen the co-creation competence of Laurea's graduates and boost Laurea's profile as an expert organisation in co-creation. The project seeks opportunities to make increasingly better use of cooperation between teaching and RDI in workplace development.

The promotion of health and well-being draws on scientific research results and is based on a holistic view of humans. People are seen to be mental, physical, social and spiritual beings, and all of these dimensions interact

in us. The promotion of health and well-being is based on multidisciplinary knowledge and multisectoral operations. At the core of operations is the identification and strengthening of the existing resources of individuals or the community as well as the identification of potential new resources.

The idea of employing service design and co-creation methods in all activities is a key choice in the new strategy of Laurea University of Applied Sciences. What this means in practice is that both staff and students are proficient in the service design philosophy and know how to apply co-creation methods in workplace development. One of the ways to meet this challenge stemming from the strategic choice is to adopt co-creation as a method for development studies in final-stage nursing education.

Co-creation involves goal-oriented activities between people and can take place in either physical or virtual environments. Development often focuses on a product or service. In the course described in this article, nursing students co-create services to promote the health and well-being of their chosen customer group. The equality of participants is key to the co-creation process: participants are considered to be development partners and open dialogue is the goal of interaction. The participants' diverse backgrounds, such as ethnicity, life experience and work experience, are seen to be a positive resource.

KEYWORDS:

- Co-creation
- Dialogic Co-creation
- Public Health Nurse Education
- Promotion of Health and Well-being
- Holistic Concept of Human Being

Co-creating mental health services in the SOLA centre of expertise

CARITA SAARIKIVI & ANNE ESKELINEN
LAUREA UNIVERSITY OF APPLIED SCIENCES

The trend in mental health services has moved increasingly towards a more collaborative partnership with service users. This also means that services are tailored, where possible, to match the individual needs of users. Laurea University of Applied Sciences and the Keski-Uudenmaan Sopimuskoti association launched their joint SOLA centre of expertise activities in spring 2015. The goal of activities is to jointly develop mental health rehabilitation and practices for mental health work based on a recovery-oriented framework.

In 2018, a survey was conducted among the rehabilitation clients of Sopimuskoti (N=50) regarding the centre's activities and their impact on the well-being and recovery of clients. In addition, two interview surveys were conducted, one of which targeted rehabilitation clients (N=16) and the other

the counsellors (N=6). The goal of these was to determine the experiences of clients and counsellors regarding the co-creation of activities in the SOLA centre of expertise conducted in accordance with the recovery-oriented model.

This article describes co-creation in the context of the SOLA centre of expertise and examines the opinions of mental health rehabilitees and employees concerning the development carried out in line with the recovery-oriented model. Based on the results and experiences received, we discuss the opportunities and challenges related to co-creation in the collaborative development of mental health services involving higher education institutions and service providers.

KEYWORDS:

- Recovery-orientation
- Co-creation
- Rehabilitation

Encouraging an active lifestyle among young people with special needs

JUKKA LAITINEN & TARJA MERISTÖ
LAUREA UNIVERSITY OF APPLIED SCIENCES

Young people in need of special support may deal with various physical, mental or social obstacles that hinder their participation in sports and exercise. In addition, they often need a wide support network for their leisure activities. The ongoing Nappi project (2018 – 2020), coordinated by Laurea, aims to promote the health and well-being of young people with special needs. Co-creation and service design methods have been used during the project to devise ways to promote an active lifestyle among the target group.

Co-creation has been carried out both with project partners and in two open events organised in connection with Well-being forums. This has helped commit partners to the project as well as engaged a broader group of participants in brainstorming and development work. The parties involved in co-creation have represented, for example, schools, organisations, housing units, sports clubs, municipal services for the disabled as well as municipal sports and fitness services.

A total of three co-creation workshops have been organised so far during the project. The first one was held in

Leppävaara on 16 May 2018 in connection with the kickoff seminar. The participants consisted of project partners and they jointly developed ecosystem maps for young individuals, with a brief description of their situation along with the people and parties involved. The second co-creation workshop took place in Lohja, in connection with the Well-being forum of 15 December 2018. There, service design methods were used to devise new forms of sports and exercise for young people. The planning was based on the “personas” described in the ecosystem maps that were drawn up during the kickoff seminar. The third co-creation workshop was also organised in Lohja, at the Well-being forum held on 16 April 2019. This time, visionary concept creation was used to develop new activities for different personas in alternative futures scenarios.

This article describes the progress of the co-creation process, the methods used and the results achieved. Based on our experiences, we also discuss the elements of a successful co-creation process.

KEYWORDS:

- Ecosystems thinking
- Co-creation
- Health promotion
- Youth with special needs
- Visionary concept design

Primary nurses as active agents in the co-development process of work practices

PIIA SILVENNOINEN

LAUREA UNIVERSITY OF APPLIED SCIENCES

The article describes how the co-development project that was facilitated by the researchers of Laurea UAS enabled the primary nurses (N=25) of a geriatric rehabilitation ward to be active agents in studying and developing their work practices. The co-development took place in a geriatric rehabilitation ward treating elderly hip fracture patients in a hospital in Southern Finland. The need for co-development of work practices was initiated by the primary nurses themselves. The main objective of developing work practices was to improve patients' discharge procedures. The desired outcomes of the co-development were decreasing the stressfulness of work and strengthening work wellbeing of the respective primary nurses.

Workshop-based dialogical methods were used to carry out the co-development of work practices in three consecutive

workshops organised during 2016. The co-development of work practices offered a conceptual understanding of the challenges of the work and suggestions for development. The results ask for clear responsibilities in multi-professional teamwork as well as functional communication that enable primary nurses to better focus on care work. This in turn creates a sense of purpose in the work. In addition, the co-development of work practices provided the staff of the ward with feelings of empowerment and active agency in the co-development process.

The research described is a part of a project named Competence workforce for the future STN COPE (2016–2019) and is funded by the Strategic Research Council of the Academy of Finland.

KEYWORDS:

- Primary nurse
- Co-developing
- Multiprofessionalism
- Elderly care
- Dialogical methods

Co-creation in a multi-actor network

VIRPI KAARTTI

LAUREA UNIVERSITY OF APPLIED SCIENCES

This article describes the creation, organisation and implementation of co-creation in a multi-actor network in the context of the “Spinning Pilots” (“Pilotit pyörimään”) project. The operating model was set up to support the internationalisation of SMEs in the health and well-being sector in the Uusimaa region. The development need arose from the region’s strategic objective to strengthen the position of Uusimaa as an innovative hub for enterprises and to support high-growth, high-skilled entrepreneurship, in particular. The resulting operating model builds on multi-actor networks. Service users lie at the heart of the network, surrounded by the service provider, universities and other higher education institutions, urban and regional development actors and the global living lab network. Multi-actor co-creation is based on an open operating culture, competence sharing and the principles of open innovation.

This article describes the development of co-creation in a situation where the structures and operating models of the network created during the project had not yet been

established, but were instead in the process of being set up and developed. The network participants represented service users, the potential customers of the pilot companies in Germany, Spain and southern France. The service providers comprised SMEs in Finland as well as living labs operating in their target markets. Laurea was in charge of network cooperation and, together with Metropolia University of Applied Sciences, it contributed substance competence to the project. Upgraded, an organisation for high-growth companies in the health and well-being sector, and Helsinki Think Company, the entrepreneurship society of the University of Helsinki, also contributed their networks and platform for regional development. Living labs in the target markets were reached through the European Network of Living Labs enabled. Development work was supported by Forum Virium Helsinki, representing urban development, and by the Helsinki-Uusimaa Regional Council, the project funder, which offered the perspective of regional development.

KEYWORDS:

- Co-creation
- Living lab
- Regional development

Remodeling education through health technology

**PIA KIVIHARJU, PAULIINA LOUHIALA-HÄNNINEN, ANNA-KAISA HANKANIEMI,
PIRJO HUIKKO, PIA LAHTINEN, MINNA NIKULA & ANNA OJALA**
LAUREA UNIVERSITY OF APPLIED SCIENCES

Laurea's Health technology partner companies innovations bring new methods and opportunities to multidisciplinary education. Laurea's nursing and physiotherapy education has tested VR glasses and Ilioncare's smart camera. Virtual reality as part of nursing and physiotherapy education provides students with authentic experiences of different nursing and rehabilitation operation environments. VR glasses and smart camera provide students with access and experience of learning environments that they do not have access to in real life. Examples include operation rooms, risk site and risk management in different work environments. In addition, students will have knowledge and experience in using new health technology in patient care after graduation.

With VR glasses- and smart cameras, you can record real-life situations in real-world environments. The videos

you make allow you to view different modes and situations from all directions. Videos are perceived to support learning and prepare students to engage in an authentic situation. Students experience virtual reality simulations as safe and effective learning experiences. VR glasses and a smart camera make it possible to teach even large groups with simultaneous video transmission. The equipment facilitates the training and repetition of the acquired knowledge and helps students to prepare for teaching workshops or demonstrations.

VR glasses and smart cameras are already being utilized in many fields of nursing and physiotherapy education, and new applications are being developed all the time with lecturers, students and companies. Also BarLaurea and Social Services Education will try VR-glasses and Ilioncare's smart camera.

KEYWORDS:

- Smart cameras
- Health technology
- Nursing education and smart cameras
- Smart cameras in health education
- Physiotherapy education and smart cameras



III

CITIZEN INVOLVEMENT IN CO-CREATION ACTIVITIES

The promotion of assets in the community

OSSI SALIN, LAUREA UNIVERSITY OF APPLIED SCIENCES
TIMO KOPOMAA, UNIVERSITY OF HELSINKI

Asset-based Community Development and other resource-based approaches have become interesting alternatives in community development. Governmental programme-based solutions to community problems will be gradually replaced by strengthening the role of civil society organisations and their participation in governance at the local level. (Mathie, Cameron and Gibson 2017, 55 ;Mathie and Cunningham 2003, 474)

The aim of this paper is to explore experiences of an e-participatory budgeting process application in southern Finland in Espoo City Centre during the years 2017–2018. In the project, people were encouraged to come up with new ideas to develop their neighbourhoods with the goals of “more alive”, more cheerful and more beautiful”. The participatory budgeting process was called MyIdea and it was also an experiment in e-participation. One of the MyIdea

project’s objectives was to understand how the project promotes the mobilisation of the assets of the people and use of the resources available in Espoo City Centre.

The data consists of development proposals of residents and the experiences of the idea authors in the project. The results tell that residents proposed several assets to be used in a community development. Social assets, like people, associations and enterprises, were emphasised in idea proposals. Other assets were knowledge and skills of the people, material assets and environment and culture. In addition, Results reveal that E-participation as an asset should be developed to work as user-friendly. The project’s call evoked unintentionally an individual mindset among participants and therefore collaboration should be motivated in the project orientation stage.

KEYWORDS:

- asset-based community development

- e-participatory budgeting

Citizen involvement in the participatory budgeting process in their community development

VIRPI LUND

LAUREA UNIVERSITY OF APPLIED SCIENCES

There is growing interest about citizen involvement in community development since citizens' local and practice-based knowledge is an important factor in solving complex urban problems. There are expectations to increase trust and motivation among urban actors, to advance the level of their participation and engagement in decision-making processes, and to promote transparent information sharing and knowledge production in urban citizen science projects. In addition, there is a strong will to empower the participants and their wellbeing.

Participatory budgeting is one of the most popular methods in citizen participation, with its ideas of democratization and promoting social justice. This paper describes an action research project that implemented and examined the experiment of participatory budgeting as a

tool for public engagement in the development of a local urban neighbourhood in collaboration with cross-sectorial civil servants.

The project aimed at enhancing community capacity with human resources, delegating the decision-making power to citizens in defining a part of public resources, and involving citizens in the elaboration and ranking of proposals. The participatory budgeting process was comprised of several phases, including informing citizens, submitting proposals, deliberating in workshops and voting on a digital platform. This paper provides a framework describing participatory budgeting procedure and its rules, the preparation of a suitable user-friendly digital platform, advancing public deliberation in workshops and the role of social media in citizens' involvement in local democracy.

KEYWORDS:

- Action research
- Citizen participation
- Community development
- Participatory budgeting

Laurea University of Applied Sciences as a co-creator in local safety: “Feeling of safety in suburban areas in Espoo”

MINNA FRED & SEIJA TIAINEN, LAUREA UNIVERSITY OF APPLIED SCIENCES
SATU LAUKKANEN, CITY OF ESPOO, MAYOR’S OFFICE

Safety is an important competitive factor for the City of Espoo. The city emphasises safety in various ways, one example being its safety walks, which have a long tradition in Espoo. The problem, however, is that the walks only reach inhabitants who are active already. Laurea University of Applied Sciences and the City of Espoo have carried out a joint project, “Feeling of safety in suburban areas in Espoo”. The project’s goal was to reach out to more passive groups of inhabitants, who had not yet participated in the walks, and engage them in safety planning. The project was organised in connection with the Service Design study unit offered in autumn 2018, where 38 students of safety, security and risk management worked under the guidance of two senior lecturers as well as representatives of the City of Espoo. The students also had the chance to employ their broad competence and experience in safety and security matters, gained through their work as, for example, police and security officers.

During the project, students learned about the concerns and feelings of safety of people living in the vicinity of the new and future stations along the West Metro. They examined factors contributing to feelings of insecurity

among seniors, young people and marginalised groups. Services were developed in cooperation with Espoo residents in an open atmosphere, also making use of openly available material. Among other things, the project provided Espoo with concrete suggestions for ways to organise safety walks for different target groups and came up with brand new concepts, such as a popup model for safety and security planning.

The multi-actor co-creation model benefited all parties. In line with the LbD action model, the development project “Feeling of safety in suburban areas in Espoo”, which was integrated into the study unit, brought together education, regional development and research, development and innovation activities. By collaborating with students and senior lecturers, the City of Espoo put into practice its strategy, the Espoo Story, which paints Espoo as a resident- and customer-oriented, responsible pioneer. This article discusses the application of the service design process and methods as well as different forms of co-creation in the design of new services from the perspective of Laurea University of Applied Sciences and the City of Espoo.

KEYWORDS:

- Safety collaboration
- Security collaboration
- Co-creation
- Service design
- RDI

Co-creation in the development of an internationally recognised digital service platform for seniors

PIIA KIVIHARJU

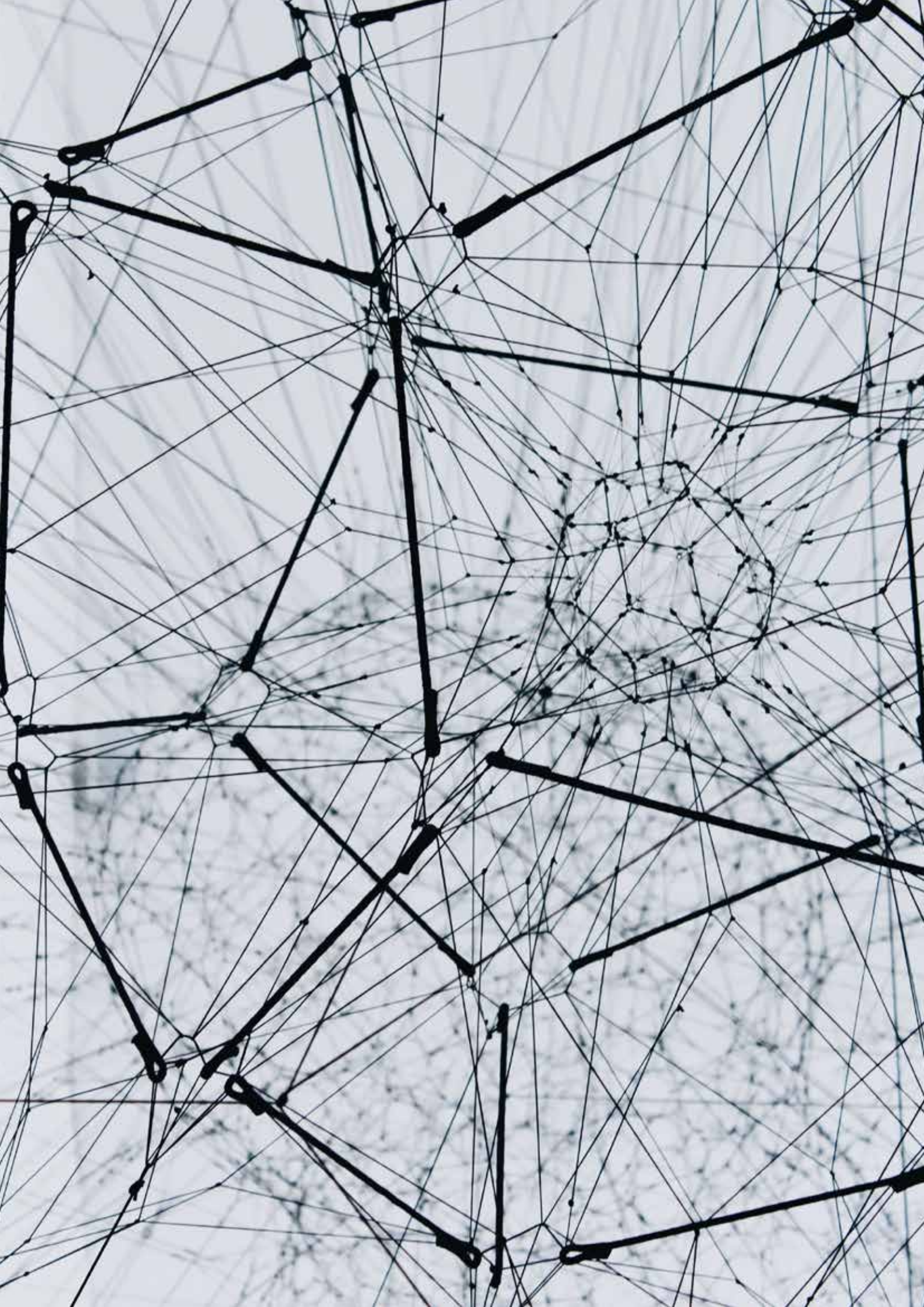
LAUREA UNIVERSITY OF APPLIED SCIENCES

Senior citizens need new digital services, well-being technology and physical assistance in daily activities to ensure that they can lead an active and safe life in their home environment for as long as possible. Senioriz65.fi is a digital service platform that answers this precise challenge. It has been developed jointly by seniors, experts, companies and Laurea's students and lecturers using service design methods and innovation theories. The platform provides relief and assistance for daily challenges faced by seniors by distributing information about health and well-being, leisure activities and companies providing products and services. It also encourages an active lifestyle by offering exercise videos, among other things. The platform also serves as a multidisciplinary learning environment where students from

different fields can apply their competence to produce new service ideas and service content, employing co-creation methods with different target groups. The multitude of service presentations, user tests, workshops and user surveys that students have carried out in cooperation with the target groups have produced useful information and experiences that have benefited service development and content production. Hundreds of students from different fields have participated in co-creation and jointly completed over 3,000 credits and 15 theses. The platform also supports entrepreneurs by offering them an environment where they can present their services. Senioriz65.fi is a social service innovation that has been awarded international praise and recognition five times.

KEYWORDS:

- Senioriz65.fi
- Digital service concept for senior citizens
- Digital multidisciplinary learning environment



IV

CO-CREATION ALLOWING FOR AND BENEFITING FROM OPENING UP RESEARCH, INNOVATION AND EDUCATIONAL PROCESSES

Openness in learning integrated into research, development and innovation (RDI) activities in the Learning by Developing (LbD) model

MINNA FRED & AINO HELARIUTTA
LAUREA UNIVERSITY OF APPLIED SCIENCES

Laurea's new strategy defines openness as a key value guiding our operations and work. As a higher education institution focused on competence development, Laurea follows the Learning by Developing (LbD) model in its teaching. This develops the competence of students, but also that of teachers and workplace partners. One of the goals is for Laurea's students to gain the ability to use open data repositories and open data in accordance with the principles of open science and research.

Open education has been studied and promoted both within Laurea and through national cooperation involving higher education institutions in the context of a project, funded by the Ministry of Education and Culture, that focuses on the open RDI activities, learning and innovation ecosystem of universities of applied sciences, as well as in

its work package dealing with open RDI-integrated learning. This article discusses the framework for open, RDI-integrated learning devised in the project and its potential uses in Laurea's Learning by Developing (LbD) model, which in itself is a pedagogic innovation. The dynamic model for open, RDI-integrated learning comprises four main concepts: open knowledge, open education, an open operating environment and open cooperation involving different players.

This article links LbD to the conceptual world of openness in learning and open RDI through research literature and examples of LbD projects. The goal is to increase understanding of the diversity and possibilities of openness in the context of everyday studies at universities of applied sciences.

KEYWORDS:

- Open educational practices
- Open education
- Learning by developing

Reorganizing the right to learn and teach – understanding the education commons

VILLE SAARIKOSKI
LAUREA UNIVERSITY OF APPLIED SCIENCES

During the summer, anybody in Finland can go into a forest and pick berries. This is true even if a private person owns the land. Picking berries is tough work and perhaps for this particular reason this common right is not abused. In most cases, physical common rights tend to get abused (e.g. the right to fish) and access to the physical commons will end up being regulated.

The virtual context is completely different. The number of transistors in a silicon chip is growing at a rate of 80% annually (Moore's law) and has been doing so for almost half a century. This exponential growth means also that computing and communication capacity are growing exponentially. The Internet has emerged as a huge and ever-expanding global virtual commons.

We tend to take our examples from the physical world and expect that the virtual world will work in a similar way. This is a grave mistake. We also need to understand some of the underlying characteristics of the virtual (Internet) world.

One of the interesting things that happens when a large enough commons emerges is that the need to regulate access ceases. This allows for the reorganisation of rights. A case in point is the emergence of the creative commons licensing system. Instead of regulating who can copy (the traditional copyright system), the creative commons licensing system allows, for example, anybody to copy and reuse as long as the original producer is referred to. The logic in the emerging Internet commons is simple: if you want, your creation to spread, you should allow access.

The Internet is changing the way we learn. When faced with an uncertain future, the fundamental and underlying logic of which you do not understand, the only possible solution is to go out there, explore and try to understand what it is that you are working with.

This paper will look into the experiment we have been doing during a period of several years. The first case will look at what happened in one particular case to traditional campus-based teaching once online classes, courses and, finally, complete online programmes were introduced. The second case looks at a case we did for three consecutive years in which students from different countries studied online and then some of these students travelled to a joint destination for a joint intensive week to further develop their ideas and understanding. The third case will look at education from the teacher perspective: What happens when the teacher is no longer constrained by the physical walls of the class and the campus? What happens when a teacher can have their global (virtual) classroom readily available (in the cloud)? Is this the beginning of a cultural revolution also in teaching and not only in learning?

New education commons are emerging and universities are finding that the reorganisation of rights is not an easy question and, most definitely, it is not just a question of copyrights.

KEYWORDS:

- Digital commons
- Exploration
- Reorganization of rights

Open action model for co-creation – solutions for data protection, data security and data management

TINO GRAUBNER, MINNA MARJAMAA & MARJO VALJAKKA
LAUREA UNIVERSITY OF APPLIED SCIENCES

Co-creation with businesses, public organisations and third-sector operators places emphasis on information sharing. Co-creation is based on tools and operating models that enable a flexible and safe foundation for activities. Laurea has created an operating model for co-creation that takes into account data protection legislation, data security, data management and any requirements set by funders.

In many contexts, information continues to be shared on familiar platforms without a second thought to the data security of the platform or its appropriateness for the project. There are a few basic questions that need to be addressed regarding co-creation. What, under the General Data Protection Regulation, must be taken into account before launching research? What platform is flexibly suited to collaboration? Where and how will material be distributed to the participants and partners? Projects and developers need clear instructions.

Laurea's open action model for co-creation categorises information into public, internal, confidential and classified. It helps create, use and share information appropriately. The entire lifecycle of information is taken into account through data management planning, from the generation of ideas to possible further use and the opening of information.

The model applies the EU's General Data Protection Regulation, the Finnish Data Protection Act and the EU's open science strategies. It is part of the national research infrastructure. The goal is to make information open and boost new innovations through the accumulation of information. This article describes the operating model, its technical background and the legislative foundation. It also aims to inspire developers to engage in safe and open activities.

KEYWORDS:

- Data management
- Data protection
- Research information management services

Co-creating value: multi-stakeholder co-design of work life-oriented education

LAURA ERKKILÄ & MARILLA KORTESALMI
LAUREA UNIVERSITY OF APPLIED SCIENCES

Co-creation is an established way to create value in cooperation between customers and companies (Prahalad & Ramaswamy, 2004). In education design, the added value from co-creation is most clearly seen in the quality and impact of education. In the context of educational organisations, studies have been conducted on the impact that the increased cooperation between administration and students can have on the design of education and on the organisation's service processes (Chemi & Krogh, 2017; Wardley, et al. 2017). The added value from co-creation is anticipated to take the form of e.g. successful service experiences, increased personalization and the students' positive relationship to their institution (Dollinger et al., 2018).

The concept of continuous learning shifts the focus of education and its provision increasingly towards working life and to non-degree education. Impactful work life-oriented

education must be directly linked to the competence needs of working life, and education must be accessible alongside work.

Through co-creation methods, both working life needs and the conditions for education provision can be taken into account when designing education. Co-creation can thus help increase the individuality of education and the utilisation of user experiences. In addition, education can strengthen learners' positive attitudes to the phenomenon of learning.

In this article, we lay the foundation, based on earlier research literature, for an examination of the added value resulting from multi-stakeholder co-design of work life-oriented education. It can be used to inform and guide the best practices for the designers of lifelong learning within higher education.

KEYWORDS:

- Value co-creation
- Co-design
- Higher education
- Lifelong learning

Could the use of portfolios support open RDI activities?

The “Sometaduuniin” project as a co-creation and learning environment

ANNA NYKÄNEN & SAARA GRÖHN
LAUREA UNIVERSITY OF APPLIED SCIENCES

The “Sometaduuniin” project provided students with multisectoral development challenges. All in all, the project engaged 62 students in 21 different development tasks.

In the development task focused on virtual encounters, the goal was to pilot various models for organising a career and recruitment event online and to identify a model that could be used by higher education institutions nationwide. Pilot projects were carried out using existing digital platforms. The models were developed jointly by Laurea’s students, higher education representatives and working life partners using co-creation and service design methods. The work resulted in new models for encounters between students and employers, which strengthen the employment and digital career skills of students. In this article, we describe the added value that the development tasks offered to the project and

different ways to use the project as a learning environment.

In the development task focused on portfolio practices, the participants developed and tested new operating models, making diverse use of portfolios. Based on the experiences, the development of portfolio practices may be a key factor in making visible the development work conducted by universities of applied sciences and in open RDI activities. We discuss the benefits and challenges of project portfolios shared by all participants from the perspective of project management and joint processing. We also examine the possible role of portfolios in distributing project results, making visible the competence generated during the project, guiding students and creating networks among project stakeholders.

KEYWORDS:

- Co-creation
- Learning environments
- Portfolio
- Open science

Work-oriented project learning model in the context of master's level service design education

SAMI KAUPPINEN & SATU LUOJUS
LAUREA UNIVERSITY OF APPLIED SCIENCES

The Finnish Design Academy (FDA) is a joint project of Finnish higher education institutions operating in the field of design. Its goal is to boost the role of higher education in design in the national innovation ecosystem and to develop competence related to design education to help promote the competitiveness and value creation of businesses. The project is funded by the Ministry of Education and Culture.

During the FDA project, a new operating model and platform will be created to facilitate an appropriate work distribution and cooperation with the business world. The participants can use the common platform to share their best practices, as well as to engage in the strategic development of new design competence and handle its practical implementation. In addition, the project aims to address the rapid changes affecting companies, industries

and technological development to ensure that students of design retain their competitiveness in the job market. The project will help develop new kinds of competence profiles and portfolio models to support networking and strengthen the workplace-orientation of students' competence. The goal is to ensure that the competence of students matches the continuously changing needs of workplaces.

In the FDA project, Laurea is developing a model for work-oriented project learning in the context of Master's level service design education. In work-oriented project learning, multisectoral teams of students use service design methods to co-create solutions to challenges from companies. This article presents the model for work-oriented project learning developed during the project.

KEYWORDS:

- Work-oriented project learning
- Higher education
- Service design

The Arts in Visions of Education: Laurea Learning in Art Beauty – L-A-B

KAARINA MARJANEN

LAUREA UNIVERSITY OF APPLIED SCIENCES

Today, arts, culture and creative activities can be observed as thinning or less visible phenomena in societies than in earlier times. They have wide and deep impacts on societal wellbeing and education comprehension, as well as the choices made for and in education. Open possibilities given at many education institutes, such as Laurea UAS, are guided by strategies and resources, and supported by various programmes, like Co-Creation Orchestration and other projects, and the creation of new projects. Pedagogical models and tools, such as Service Design, are also being well recognised. RDI is supported by co-creational training performances. The comprehension of arts supports creativity and innovations, and should therefore gain stronger support.

The networks of each expert at the institute need to find a pathway to serve shared interests and targets, which may be found as a challenge, if there are no ongoing models in the field of interest. Here, we find the gap in the recognition of the arts-based RDI performances, and thus the deep-level comprehension of the arts not set as a ground for curricula, education and pedagogies, with project collaboration as

support. Here, the target is set for creating a wider and deeper comprehension towards the arts as a valuable resource in education.

Currently, I am proposing a new research programme to serve these needs. The proposed research programme “Laurea Learning in Art Beauty (L-A-B)”, would aim to find the grounds for arts-based comprehension to strengthen educational institutes, starting from Laurea UAS. Multiscientific, multiprofessional, multicultural, multiartistic, multisensory, socioemotional, cognitive, psychomotor and aesthetic learning comprehension supported with the social components of learning would help us to create dialogical holistic observations towards better education contents. This would help us to better respond to the societal needs towards wellbeing. In this research programme, the power of the arts would be observed in education, with its impacts on societies. The Multisensory Musical Design (MMD), with the ontology and epistemology of music supports the current aims, explaining sounds as a holistic, complex, natural, human phenomenon (Marjanen, 2019).

KEYWORDS:

- Arts
- Co-Creation Orchestration
- Higher education
- Pedagogy
- Research

Intercultural Approach to Design Thinking (IADT)

KRISTINA HENRIKSSON, PÄIVI MANTERE & IRMA MÄNTY

LAUREA UNIVERSITY OF APPLIED SCIENCES

MARCO HARDIMAN, KIEL UNIVERSITY OF APPLIED SCIENCES

Laurea and Kiel Universities of Applied Sciences offer the international course Intercultural Approach to Design Thinking (IADT). The course has been run in many European countries, involving students, teachers and businesses co-creating new services.

IADT combines studies and activities in cultural theories, Design Thinking methods and intercultural teamwork and skills. The course is offered as a traditional course on the home campus or as a version offered jointly in one country lasting one to two weeks. University students and businesses work together during the course in different roles to generate new services with teachers' support. The course challenges participants to innovate creatively in international settings.

Businesses are committed to the process and gain networks and prototypes of new service products.

Since 2011, IADT has taken place over 30 times in Europe. These have resulted in approximately 200 service ideas in collaboration with businesses. Laurea and Kiel have IADT in their curriculum and continue to offer it. Examples of organizations previously involved in IADT are WeeGee, the City of Vantaa, Kiel Marketing, Clarion hotel, Håkansböle Manor, and the town of Laboe. New generations of teachers have joined the teaching team. In addition, the Erasmus+ project VISIT includes IADT as a process in the development of services on small European islands, including SMEs to develop their futures.

KEYWORDS:

- Co-creation
- International
- Bilateral
- Intercultural
- Design Thinking

Through collaboration, conflict and compromise towards an open-source book on security management

KACI BOURDACHE

LAUREA UNIVERSITY OF APPLIED SCIENCES

In the project “Development of Society and Organisation Security Programmes 2017”, three universities (one each from Finland, Latvia and Lithuania) came together to create an open-source book on security management to fill an acknowledged gap. That gap, a lack of peer-reviewed but pedagogically sound study materials in the field, was first recognised by Turība University (LV). They took the lead with the consortium that included themselves, Laurea University of Applied Sciences (FIN) and Kazimieras Simonavicius University (LT). Nordplus Higher Education funding provided resources, but each university had to pledge resources of their own for content production. Without a doubt, this project was not about getting and using funding, but more about having a focused and collaborative way of fulfilling a need. The project began with a kick-off meeting, with English

established as the working language of the consortium as well as the final product. A simple start quickly led to back and forth discussions on very specific aspects on the scope, content and structure of the end product. Each university, of course, had its own needs and perspectives, and each university used up to half a dozen or more writers, each again with their own needs; for example, some wrote directly in English while others required translation services. The final product was a result of collaboration, conflict and compromise. Some might say that a result based on compromise satisfies no one, but that is an inherently negative view. Everyone in collaborative projects should remember from the beginning that compromises are inevitable; if expectations and risks are managed, compromises can satisfy everyone, rather than no one.

KEYWORDS:

- Co-creation
- Internationality
- Interculturality

Co-creating open digital learning material for future social services and health care

PIIA KUOSA, SANNA JUVONEN & PÄIVI PÖYRY-LASSILA
LAUREA UNIVERSITY OF APPLIED SCIENCES

SotePeda24/7 (2018–2020) is a project coordinated by Laurea University of Applied Sciences, which involves 24 higher education institutions nationwide. The goal is to define and develop the digital competence of students, teachers and employers in the field of social services and health care to better match future needs as well as to develop open, digital learning material related to the topic. The multi-actor project community engages approximately 100 experts in service design, IT and social services and health care, which makes co-creation a natural approach to development. In fact, co-creation is an essential part of the project, since the project itself came into being through co-creation. The participants formed a joint understanding about the theme during the planning phase, in accordance with the Open Innovation Camp process.

The idea of co-creation is to engage many different parties in development, the goal being to create added value

by bringing together various perspectives and different types of competence. In practice, co-creation can be carried out, for example, in workshops making use of inclusive methods. It is important to ensure that all the different perspectives are taken into account and, in view of the end result, that development work involves several key individuals.

In the SotePeda24/7 project, co-creation is used in the development of open learning materials. For example, MOOC modules are developed using the canvas approach. The MOOC canvas contains 9 items, which help divide the development work into smaller units. Work is carried out in small groups, supported by a facilitator. Various co-creation methods, such as the use of the MOOC canvas, facilitate work by providing a clear framework for it and help the small groups to progress step by step. This article describes in greater detail the use of co-creation in the SotePeda24/7 development work.

KEYWORDS:

- Co-creation
- Digital learning environments
- Social and health care education
- MOOCs



V

CO-CREATION AND LIVING LABS

Co-creation at the heart of human-centric data economy – experiences and visions from Kuopio Living Lab

TIINA ARPOLA, SAVONIA UNIVERSITY OF APPLIED SCIENCES

ARTO HOLOPAINEN, CITY OF KUOPIO

MARKO JÄNTTI, UNIVERSITY OF EASTERN FINLAND

INTRODUCTION

The EU single market is among the world's largest economies. Europe's growth potential connects to the digital and data-driven economy, innovations, new technologies and business models [1]. The EU aims to be the global leader in the digital economy. This aim has been included also in Finland's Presidency Programme during its Presidency of the Council of the European Union, 1 July – 31 December 2019 [2]. Finland's vision is a comprehensive, future-oriented single market that builds on a human-centric data economy by promoting the availability, interoperability and use of data, while also respecting the rights and privacy of individuals.

Cities and municipalities are key stakeholders in this digital revolution by adapting data and platform economy possibilities at all levels of actions. Cities can transform into open innovation Living Labs, places to experiment and co-create with creative ideas to improve people's health and wellbeing. An open innovation Living Lab is one-step for a city towards a smart and healthy society. This requires bold political choices, a strategic-level approach, open-minded governance and new operational models.

The City of Kuopio, the ninth largest city in Finland with a population of 118,000, is one of Finland's leading cities in the fields of health, wellness and safety. The City of Kuopio's strategic vision is to be the capital, where the good life lives. Digitalization, internationality and partnership are three themes integrated in all levels of the strategy. The City of Kuopio has taken the open innovation Living Lab concept,

namely Kuopio Living Lab, into action together with Kuopio University Hospital and Savonia University of Applied Sciences.

MATERIALS AND METHODS

Kuopio Living Lab makes it possible for companies and entrepreneurs to co-create and test the product in authentic customer and expert environments. This opens the opportunity for co-operation with public sector, academia, industry and citizens (Quadruple Helix Open Innovation model) for innovations [3]. This is realised through close cooperation between different stakeholders in the ecosystem. Kuopio Living Lab provides services on a one-stop-shop basis, whereby a coordinator working with a company can also contact other organizations' personnel. Living Lab environments range from Social and Health Services, Urban Environment, Growth and Learning, and Wellbeing Promotion [4].

In addition to the physical environments, Kuopio Living Lab aims to provide a channel for different data sources, such as open data, smart city data, real-life wellbeing and health data for the development of future

human-centric digital services. Kuopio Living Lab can collect data, validate solutions and act as an interface for involving end users in the co-creation and feedback process. The process supports service and technology provider's business development, innovation, co-development and co-operation activities as well as product marketing.

RESULTS

All three Kuopio Living Lab ecosystem organisations have or are planning a platform to collect different data. Savonia University of Applied Sciences has an open source platform for collecting and sharing continuous measurement data from the environment or process. The City of Kuopio has plans to create a smart city data platform that handles many types of data, such as data related to urban planning, the environment, wellbeing, sensors, finances, schools and pre-schools, culture as well as MyData from citizens. Kuopio University Hospital holds one of Finland's health data lakes that aims to connect health data from different sources, such as the National Genome Center, the National Neuro Center, the Eastern Finland Biobank, the Cancer Center, Kuopio University Hospital, the University of Eastern Finland and the City of Kuopio. Living Lab has been identified as an interface between data platforms and companies. The operational model to utilise data through Living Lab has to include not only privacy (GDPR) and legal perspectives but also the ethical use of data, especially when related to an individual person.

The use of the combined data in, for example, health promotion and prediction has raised new questions: How can it be ensured that the data is reliable? What kind of data is mostly needed to make available? How can meaningful outcomes from the combined data be made? At best, Living Lab can help identify the needs and find solutions. Related to health data, Finland has passed the Act on the Secondary Use of Health and Social Data [5]. The legislation will make it possible to use health and social data not only in research and the compilation of statistics but also in development and innovation activities, teaching, knowledge management, supervision and steering in the social welfare and healthcare sector, and in official planning tasks. The legislation has created a new Data Permit Authority Findata (www.findata.fi) that will be a one-stop shop for the secondary use of social and health data. Findata starts its operations at the beginning of 2020. This provides interesting opportunities for health data usage when data is collected from multiple healthcare organisations.

Living Labs are real test beds and experimentation environments where users and companies can co-create innovations for the real needs of society. Living Labs can

improve individual and human-centric understanding and the use of data resources. Organisations in the Living Lab ecosystem can also collect data to improve their own services and offer better data for customers as well as learn how other organisations operate and share their best practices with others.

In the Kuopio Living Lab ecosystem, all three organisations have their own coordinator whose responsibility is to orchestrate the whole Living Lab process in co-operation with other participants. All the coordinators meet on a weekly basis to go through new contacts and cases with a service promise to reply within one week. After that, a meeting is arranged with co-creation partners and the planning of the needed services begins, which includes the definition of the concrete goal of collaboration as well as each participant's responsibilities during planning, implementation and evaluation. [6]

DISCUSSION

Collaboration between all ecosystem stakeholders has made it possible to provide better products and services that can improve the health and wellbeing of the community in all sectors of life. This also promotes citizens' participation and supports the co-creation of new ideas arising from the community and the growth of a healthy city.

However, Kuopio Living Lab needs to evolve with its stakeholders to keep its customers at the cutting edge. Living lab should be a demonstrator of best practices on how to collect, manage and utilise the available information on product or service development. Living Lab should also be an influencer concerning open data and generate knowledge of the possibilities related to data usage.

To support local companies in their digital transformation journeys, Savonia University of Applied Sciences and the University of Eastern Finland have established DigiCenter North Savo [7]. This Digital Innovation Hub [8] monitors and maintains up-to-date information on digital technologies and their maturity levels, performs research and development projects on digitalization and solves demanding business problems together with customers by means of digitalization. DigiCenterNS is a growing ecosystem that builds relationships between start-ups, SMEs, large companies and other stakeholders such as other Digital Innovation Hubs.

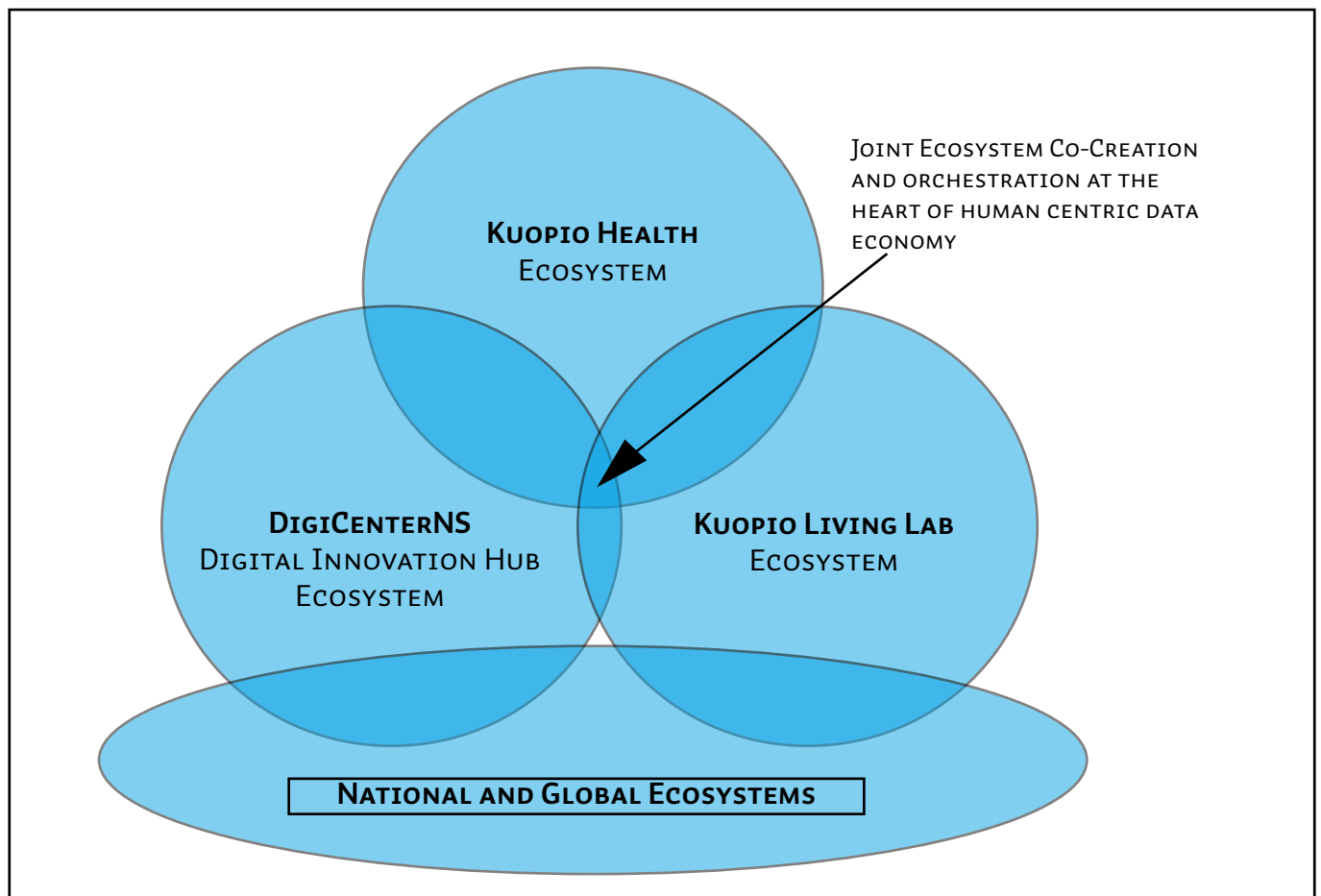


Figure 1. Joint ecosystem orchestration and co-creation at the heart of human-centric data economy.

Kuopio Living lab creates an ecosystem for co-creation that connects to other ecosystems and acts as a bridge between them. For example, Kuopio Living Lab connects to the Kuopio Health ecosystem [9] that is a network committed to promoting well-being, food industry and health care technology competence, research and business life as well as health care industry awareness locally, nationally and internationally. Again, Kuopio Health connects to Finland's nationwide Health Testbed ecosystem. Kuopio Living Lab also connects to the DigiCenter North Savo Digital Innovation Hub ecosystem, which connects to a national- and European-level Digital Innovation Hub ecosystem network.

While Kuopio Living Lab concentrates on supporting the city as a capital, where the good life lives, it also empowers its residents to develop the new products and services they need. Kuopio Living Lab also co- operates with regional

development projects in order to get new ideas and needs from residents. These fast prototyping experiments, such as Hackathons or Placemaking pilots, open the community to developing knowledge and expertise but also challenge Living Labs to think outside the box and generate new services to meet the community's needs.

In the future, our living environment, cities, will be self-aware and able to reconfigure services based on what is happening, and what might happen, in the immediate future. The information surrounding us and flowing from the city will be a huge asset for the human-centric data economy, which enables more personalised services and a strong foundation for management and business growth. A critical success factor is to involve all stakeholders to co-create together with a seamless and open management chain.

KEYWORDS:

- Co-creation
- Data economy
- Living Lab

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Co-creation in living lab networks: A multilevel network perspective on labour market innovation in the Metropolitan Region Amsterdam

ANNA DE ZEEUW, ELKE VAN DER HEIJDEN, JULIE FERGUSON

AMSTERDAM UNIVERSITY OF APPLIED SCIENCES, URBAN MANAGEMENT RESEARCH GROUP

This paper analyzes co-creation in urban living labs through a multilevel network perspective on system innovation. We draw on the case House of Skills, a large, multistakeholder living lab aimed at developing a 'skills-based' approach toward labor market innovation of the Metropolitan Region Amsterdam. Our analysis helps understand stakeholder dynamics toward system innovation, drawing on an

innovative living lab example and taking into consideration the multilayered structures that the collaboration comprises. Our conceptual framework comprises an important theoretical contribution to innovation studies and offers a practical repertoire that can help practitioners improve co-creation of shared value in living labs, toward strengthening the impact of their initiatives.

KEYWORDS:

- System innovation
- Social networks
- Co-creation
- Skills-based labor market
- Living labs

Bythos Biotechnologies Living Lab for Human Health and Blue Growth

VINCENZO ARIZZA, STEBICEF, UNIVERSITY OF PALERMO

ALAN DEIDUN, UNIVERSITY OF MALTA

L BRANWEN HORNSBY, UNIVERSITY OF PALERMO

A strong reliance on the fisheries sector (the fish processing industry, tuna penning or marine aquaculture) and on tourism; this is the picture in many Mediterranean coastal towns and islands. Now imagine a very uncertain future regarding fish stocks, the inevitable prospect of increased reliance on aquaculture, an ageing fisheries sector, some of the highest unemployment rates in Europe, especially amongst young people, and, in the words of one local producer, "*mountains of fish waste to deal with*", and we find an extremely worrying situation.

Fish waste is regarded as 'special waste' and subject not only to legal obligations towards expensive recovery and disposal but also to severe restrictions on the landing of 'waste' from trawlers and factory boats. Islands, the smaller islands in particular, are experiencing insurmountable problems concerning waste disposal at a financially and environmentally unsustainable cost to local towns.

Then we have local communities and the environment crying out for a more decisive move towards the circular economy and, in our case, the Blue Economy, with its inherent sustainability and circularity. In the words of Gunter Pauli, "*in ecosystems, there is no waste because the by-products of one process are inputs to another process*".

At the other end of the spectrum, however, we have local researchers working on the creation of products of incredible value derived from fish waste, such as bioactive molecules (BAMs) with antibacterial, antimicrobial and anti-tumour activity, marine collagen and fatty acids. We have other research teams working on fish feed formulation specifically adapted and tested for the various species farmed locally. We have a research company carrying out stability and compatibility tests for new collagen products for the big cosmetics and pharmaceuticals companies in Europe.

And they are all working separately. No feedback loops, no transfer.

The answer seemed to lie in a Biotechnologies and Blue Economy Living Lab. So that is what we created: Bythos LL - Biotechnologies for Human Health and Blue Growth.

At the time, there was no model to follow because the living labs we studied were based on people as end users, thus in more social or digital technologies domains. It was also a mammoth task to get fishermen, local fisheries enterprises and public bodies around the same table in the Mediterranean. However, times have been changing and the response has been extremely encouraging.

A BIT ABOUT THE LIVING LAB

Bythos in Classical Greek iconography was an ichthyocentaur or sea centaur: a creature with the body of a man, forelegs and body of a horse and the tail of a fish. This was clearly a great fit for what we were trying to achieve with the lab: the intelligence of man, science and entrepreneurship with the force of technology and the will to make change ... and fish!

The concept is based around a living lab and its quadruple helix, or rather, the innovation process which necessarily includes the four main stakeholders: **companies, users, public bodies and researchers**.

The lab has created various spaces in Sicily and the smaller islands, and in Malta. We have a **Biotechnology Space** and a **Business space**, which operate between the two countries. Each country has its own space, whilst working in collaboration.

The **Biotechnology space** has two main functions: to create enterprise-friendly procedures for the extraction of high-value-added products and to transfer those procedures to industry.

In very simple terms, an enterprise brings a small sample

of its waste to the biotechnology labs. The waste is assessed and a number of products which could be made from that specific waste are defined. On a more industry-wide level, waste samples are used for research on protocols and extraction methods for marine collagen and BAMs. These are then sent for quality testing. Here is our first feedback loop: if the collagen or BAMs need to be refined or extraction procedures are not in line with industry requirements regarding, for example, complete traceability or medical-grade collagen, they then go back to the lab for fine-tuning.

The other function of the lab regards transfer to industry. The labs are open specifically to train local enterprises. A short aside to explain who we expect to engage from local enterprise: a fundamental part of the Bythos LL is to explore the various stakeholders who could take up the gauntlet of achieving *zero fish waste*. This could be an individual fish processor with large quantities of fish waste to dispose of. It could be an organic waste disposal company hoping to diversify or it could be a local cosmetics company which wishes to branch out and is keen to oversee extraction techniques. It could be a mix of any of these with fish processing companies



carrying out initial transformation of their waste and then selling the collagen or fatty acids on to a biotechnology lab.

Coming back to the Bythos lab, it is populated by expert researchers who do *hands-on skills transfer* training sessions, workshops, presentations, vlogs on the website and educational videos to allow our local companies *to test how it could work for them*. This is our next major feedback loop: if the businesses find extraction procedures

too complex, too time-consuming or not in line with seasonal fluctuations in the availability of raw materials, the procedures then go back to the researchers for fine-tuning.

In this part of the space, we also include eco-innovation fish feed formulation using fishmeal produced from fish waste. Testing will shortly begin on a fishmeal processing machine designed to use fish waste produced from local industry. This fishmeal will then be given to our fish feed formulation experts to use in waste in/fish out trials. The lab offers the service of formulating and testing eco-innovation fish feed in collaboration with local fish farmers. Fish used in feed trials are then sent back to the biotechnology experts to check health and growth parameters. Formulation will then be tweaked, perhaps enriched with fatty acids or other nutrients found in the fish waste. Recent results from our biotechnology labs concern the use of fish BAM extracts with antibacterial properties to enrich fish feed, for use in packaging to extend the shelf life of products and replace/reduce the **use of antibiotics** in fish farming. We are careful to include a number of feedback loops in the process.

The other major space is the **Business space**. This is the space which fosters the quadruple helix so often lacking in science and technology projects: co-creation of user-driven products and market involvement. The business space comprises target market identification and analysis, investigation of the pharmaceuticals, cosmetics and nutraceuticals market segments, exploration of the local economic with a special focus on the smaller islands of Sicily and Maltese tuna penning, and the development of tailored business plans showing exactly what costs are involved. The space works side-by-side the enterprise to demonstrate savings and possible additional income from diversification. Once again, if the numbers do not add up, our business experts go back to the biotechnology labs to see how procedures can be simplified to reduce costs or they pull in other stakeholders to change the business formula.



The spaces organise B2B meetings with end-user industries (fish farmers for the fish feed and cosmetics/pharmaceutical and nutraceutical companies for the high-value-added products).

To ensure a 4-helix, we have two public body partners for policy change. The first is the Maltese Ministry for the Environment, Sustainable Development and Climate Change – Department of Fisheries and Aquaculture, which is working on issues connected to special waste definitions and landing restrictions in Malta. The DFA also hosts the Bythos labs at its premises at Fort San Lucjan.

The other public body is the Aeolian Islands Council of Lipari, where one of the Bythos labs is situated. Their involvement is a huge push towards providing a model to cascade down to other small islands, especially given the 500,000 tourist overnight-stays on the island and fish waste produced every year by the catering industry.

We work with local fish processing enterprises which are keen to invite us to the factories to collect sample fish waste for evaluation. We have had meetings with key stakeholders, such as the Federation of Maltese Aquaculture Producers,

who are interested in many of the activities, and, of course, our researchers already have the biotechnologies side of things at an advanced stage, in readiness for transfer to industry.

There is also exciting work ahead. We are systematically contacting projects, researchers and enterprises working on synergic activities in order to promote feedback, collaboration and potential smart start-ups in the making. The next major step is to collaborate with a local plastics producer on bioplastic and biofilm from fish waste, which our researchers are working on.

Funding for the Living lab is provided by the Interreg V-A Italia-Malta programme and the lead partner is the University of Palermo, Department of Biological, Chemical and Pharmaceutical Sciences and Technologies. Other partners are the University of Malta, Physical Oceanography Research Group, Department of Geosciences; the Malta Ministry for the Environment, Sustainable Development and Climate Change, Department of Fisheries and Aquaculture; AquaBioTech Group; the Comune di Lipari and the Distretto Pescaturismo e Cultura del Mare.



KEYWORDS:

- Fish waste
- Value-added products
- Marine collagen
- Co-creation
- Eco-innovation fish feed

Could Living Lab be a tool for staging experiences of emotional wellbeing?

SAKARIINA HEIKKANEN

HAAGA-HELIA UNIVERSITY OF APPLIED SCIENCES

Living Lab is widely recognised as a tool for developing better products and services. It is less used, however, in the experience economy sector and used as a tool for wellbeing. Living Lab's main function is to solve real-life problems by engaging end users in a Living Lab setting. The concept is based on open-innovation and co-creation with end users and other stakeholders in business, society and academia. Living Lab can be an excellent platform to not only co-create better services but also to stage meaningful experiences. With a brilliant experience-service, which has been developed by its end user, based on authentic needs, the restorative experience-model already has a foothold in the relevant market.

This research aims to clarify the best processes to set up Living Labs regarding emotional, meaningful and restorative experiences in order to increase users' wellbeing. The meaningful experiences have positive effects for the mind: they can increase motivation, provide a restorative and refreshing break and deliver a foundation to improve skills and habits to create happiness. The goal of this paper is to research good practices to co-create stages for restorative experiences. This paper evaluates useful methods for setting up rapid co-creative experiences for different end-user groups.

KEYWORDS:

- Living Lab
- Open-innovation
- Co-creation
- Experience economy
- Meaningful experience
- Restorative experience
- Emotional experience

How can local authorities plan for urban resilience? Co-creation and multi-stakeholders' involvement in the Municipality of Potenza (Italy)

MARIA CARLA LOSTRANGIO

ERASMUS MUNDUS IN SUSTAINABLE TERRITORIAL DEVELOPMENT, UNIVERSITY OF PADOVA (ITALY), KU LEUVEN (BELGIUM), PARIS 1 SORBONNE (FRANCE), UCDB (BRAZIL).

Strains and shocks affect any type of system. The capacity of such a system to cope, adapt and transform (resilience) their structure and functioning with these events has a crucial role in preventing collapse and moving towards a more desirable state of equilibrium. From the perspective of resilience studies, urban ecosystems are particularly relevant for two main reasons. First, cities often produce several vulnerabilities at the local/global level and, at the same time, they are strongly affected by them. Second, they are highly complex systems and so it is extremely difficult to design and implement an effective resilience strategy. In previous decades, urban resilience plans have mostly been developed in response to climate change and disaster and risk reduction (specific resilience), while they have failed to combine the entire set of strains and shocks (general resilience). Focusing too much on specific resilience might increase the exposure of the system to other sources of danger. Therefore, several scholars argue for the urgency to re-shape resilience more holistically.

A literature analysis shows that planning for resilience should begin by questioning the type of governance, the planning form and the urban agenda's priorities. Indeed, resilience is a multi-disciplinary and transversal matter, therefore it requires different know-how and capacities. Resilience planning should emphasise the role of co-creation and multi-stakeholders' involvement based on the idea that diverse expertise is needed to build a holistic and comprehensive resilience plan. Know-how and experiences should come simultaneously from different parts of local and international stakeholders and merge into a new shared form of knowledge and experimentation. In this frame, local authorities should not be kept apart but assume the role of facilitator and coordinator to turn stakeholders' interaction into tangible results. Co-creation and multi-stakeholders' produce long-term results, which increases the sense of

identity and belonging to a community, pride, engagement, and allows stakeholders to learn from each other. It hinges on the capacity of the facilitator to organise, coordinate and deal with multiple stakeholders and it is more likely to last longer in the future.

The Municipality of Potenza certainly represents good practice in the overall landscape of resilience case studies and multi-stakeholders' involvement. Leveraging collaborative practices to build a new city vision and urban community, the local government managed to re-connect a wide variety of urban stakeholders affected by strong physical and territorial exposures (earthquakes, overbuilding, soil consumption) as well as socio- economic vulnerabilities (unemployment, regular corruption scandals, lack of institutional and social trust, ghettoization of the urban periphery, limited services to the citizenship). On a local level, Potenza's governance is grounded prevalently on a hierarchical type of governance, with few examples of self- governance initiatives carried out by volunteers and NGOs to cover the deficiencies of public institutions. Over the past few years, the municipality attempted to introduce some forms of co-governance such as "comitati di quartiere" (neighborhood committees) and to get interested in the topic of resilience. Both of these were not successful. Collaborative processes brought about very limited results, while the engagement in urban resilience has pertained only to the physical sphere and it never became the mainstream concern of the municipality. After only two years of the Resilient Europe project, the Municipality of Potenza demonstrated masterfully how it facilitated local meetings by applying collaborative techniques and producing successfully a final action plan looking at urban resilience in holistic terms. What were the enabling conditions of this change?

In a nutshell, Potenza's success is due to the leadership, cooperation, and commitment of local actors. Leadership

refers to the existence of a dedicated team that had the intuition to commit to Resilient Europe's project and which had a good knowledge of existing tools (especially about financial tools to provide monetary support for the activities to build resilience and about collaborative processes). Cooperation with international and local actors, the Consortium's partners and the Province of Potenza, respectively, increased institutional capacity in the matter of urban resilience. In particular, the municipality could benefit from the experience and the multi-stakeholders' governance model elaborated by the Province of Potenza. Finally, Resilient Europe's project in Potenza represents a continuation rather than a breakpoint. Territorial actors were already promoting many activities to offset the state of decay currently experienced by the city and its citizenship. As a result, their willingness to cooperate with the municipality in this project was mostly favourable (commitment of local actors).

One further variable – in this case, an exogenous one – that played a role in the success of the project has been the size of the city. Being a small-size city (i.e. lower degree of complexity), this has enormously facilitated the interaction across actors, the possibility to understand the system's interdependencies and, as a result, to derive a final action plan.

Resilient Europe's process followed the methodological guidelines of DRIFT University based on the notion of 'transitional management'. Conversely to the usual stakeholders' mapping, in this case study actors are not identified in terms of their functions in the city (e.g. academic sector, private, public, citizens) but in terms of their commitment to lead transition to a more resilient city, as expressed by the three categories: agents of change, supporters of change and connectors of change. This

categorisation brings with it two added values. On the one hand, it demands actors reflect first and define later, in which measure and how they would like to be the protagonist in the process of change. On the other hand, it enormously facilitates the role of institutions in relation and communication with different actors. Participants are engaged from the very early moments of the process until the very end, passing through three stages: co-design, co-creation and co-management.

In the case of Potenza, qualitative analysis has shown four main difficulties. First, stakeholders take their motivation from different "springs". The Province of Potenza distinguishes stakeholders between "institutions" and "communities". Institutions are obligated by their mission to bring forward certain measures, but they might lack the motivation to do such. Indeed, communities engage in causes voluntarily and they represent their interests. This distinction was confirmed by respondents during Resilient Europe's project. While the Departments of the Municipality had to take part in the activities because the municipality was the main implementer of the project, some of them were far from being devoted to the cause and/or from understanding its real impact. Conversely, local associations, citizens and professionals voluntarily took part in the meetings because they look at it as an opportunity to raise their voice and coordinate their actions with those of the local authorities. Hence, the facilitator of the process should carefully and diversely deal with different stakeholders. Second, it is not easy to engage stakeholders and keep their interest high.

Second, co-creation should promote the active participation of stakeholders throughout all stages of the process. The aim is that stakeholders perceive co-creation as a value-added process and not a waste of time. Indeed, in the case of Potenza, some stakeholders gradually lost their enthusiasm because they could take part in all events, they

perceived that the project was not bringing operative results but just good theoretical practices (i.e. vision, pathways, action plan).

This links with the third point: communication is fundamental but hard to put into practice. On the one hand, communication is central to explaining clearly the objectives, methodology, activity of the process and how this is going to fit into the expected results. This stage is important because not all actors are that experienced with the co-creation process and they might not understand how it works as it happens in Potenza. On the other hand, communication allows keeping the attention of participants high and widening the audience to younger generations and other branches of the local/regional/national/international population by providing simple, transparent and fast updates on activities, mid-term results, results, feedback and so on.

Currently, this role is associated with social networks. From this perspective, some respondents argue that the high potential of social networks should be implemented further in an educated and organised manner.

Fourth, if the facilitator is the local authorities, we often need to produce an institutional change. As for the case of Potenza, most Italian and other authorities mainly practise hierarchical governance and are completely extraneous to co-creation. Institutional change implies that local implementers understand and embrace co-creation as a leading approach for resilience building and do not look at it as a source of more bureaucracy, loss of energy and a once-in-a-while experiment.

KEYWORDS:

- Urban resilience
- Co-creation
- Local authorities
- Stakeholders engagement

Adoption of Living Lab concept in emerging economy: Case Tanzania

EVARISTE HABİYAKARE & SAKARIINA HEIKKANEN
HAAGA-HELIA UNIVERSITY OF APPLIED SCIENCES

The Living Lab concept is a widely used tool especially in developed countries. Meanwhile, developing countries are struggling to find the best methods for their own economic development. Therefore, the concept of co-creation and service design is appealing.

The aim of this paper is to find out how the Living Lab concept is applied in Tanzania and how the concept of co-creation and service design is perceived by the local actors. The data was collected in rural Tanzania over a period of three years. We engaged with the end users and other stakeholders from the municipality, district and academia to

find out sustainable ways of co-creating new solutions within the community.

Five Living Labs were established, challenges and opportunities were outlined. New businesses were created and sustainable processes were established.

The results indicate that even if the regions are still developing, citizens are eager to co-create better community-driven solutions. Meanwhile, the role of different educational institutions has been emphasised to orchestrate co-creation processes.

KEYWORDS:

- Living Lab
- Co-creation
- Service design
- Educational institutions
- Emerging economy



Laurea University of Applied Sciences is making a publication that is handling multi-stakeholder co-creation, citizen science, open innovation, open science, and open education. The aim of the symposium is to make apparent and promote benefits of co-creation, relevant skills and know-how, best practices, and challenges it may meet.

Co-creation Orchestration and UAS's Open RDI, Learning, and Open Innovation Ecosystems projects are supporting the symposium. Both of the projects are funded by Laurea and the Ministry of Education and Culture, Finland.



AMMATTIKORKEAKOULU
University of Applied Sciences

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