

Co-creating Well-being Services in Ecosystems: Two Case Studies

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This paper explores how the co-creation of well-being services can be implemented in a specific context of a well-being service ecosystem consisting of multiple actors in different roles and positions. We analyse, with the help of two case studies, how the ecosystem challenge the co-creation processes and what kinds of prerequisites need to be taken into account. Our findings indicate that co-creation in the context of well-being ecosystem demands methods enabling multivoicedness and making it visible. Instead of traditional problem-based view the well-being services should rely on empowerment-based orientation.

1. Introduction

Ecosystems have become a central concept in studying services in various fields, and the concept of ecosystem has become widely used in non-biological contexts. During recent years, business ecosystems have been a widely discussed topic. In our paper we focus on *well-being service ecosystems* that can be seen as closely related to business ecosystems. A well-being service ecosystem, the way we understand it, is quite a wide environment containing public, private, third sector and volunteer organizations. However, it needs to be observed as a system of collective value creation, as a network of participants, a governance system, and a shared logic as Thomas and Autio (2014) have defined ecosystems. In an ecosystem, participants co-create customer-centered services. The ecosystem should enable value co-creation by providing structures, methods and tools for participants to coordinate their collaboration. When the research object is facilitation of multi-professional collaboration in the well-being service ecosystem it is essential to understand how the system functions, its structures, processes, actors and their relations. Facilitating tools and methods should be developed based on this understanding. Facilitation is on the other hand also one tool to examine and to understand ecosystems and their actors in different roles, as our work with Case HUS and Case Porvoo (Meristö et al., 2016b) has shown.

The ultimate goal of our research is to enable the co-creation of customer-centered services in multi-professional well-being service ecosystems. The evolvement of these social ecosystems is based on choices the participants make. James F. Moore (1993) introduced a systematic approach to strategy by using the term “business ecosystem”. In a business ecosystem, companies form a social system and coevolve capabilities cooperatively and competitively, aiming at fulfilling customer needs and

creating innovations. Correspondingly, the well-being service ecosystem is here seen as a community, which aims to co-create services to fit the needs of the clients. To behave intelligently in an ecosystem, its actors, their relations, their needs and obligations, need to be distinguished. Information and knowledge sharing are essential in a multi-actor collaboration network like well-being service ecosystems. In addition, based on the Case Porvoo, the shared vision of the future direction as well as clear roles of different actors in the ecosystem are essential for a successful co-creation (Meristö et al., 2016b).

However, not enough is known about the co-creation taking place within the ecosystems, as a collaboration between the participants or stakeholders of the ecosystem. Co-creation between multiple stakeholders with various interests and backgrounds is a complex phenomenon, and new knowledge needs to be produced about the specific characteristics and prerequisites of co-creation in service ecosystems.

In this paper we explore how the co-creation of services can be implemented in a specific context of a service ecosystem consisting of multiple actors in different roles and positions. In this paper we report two case studies carried out in the context of well-being services. We analyse how the ecosystem potentially challenge the co-creation processes and what kinds of prerequisites need to be taken into account. As our research approach was action research (see e.g. Kemmis & Wilkinson, 1998), the ultimate goal of our research was to enable the co-creation of customer-centred services in the multi-professional well-being ecosystems in question.

The objective of this paper is twofold:

- 1) to present two case studies targeting user-centered co-development of well-being services, and
- 2) to analyse and discuss the use of participatory methods such as service design (Sanders, 2002; Sanders & Tappers, 2008) and scenario based concept design (Leppimäki et al., 2008) methods in the specific context of a service ecosystem.

Our research is cross-disciplinary, bringing together several perspectives on service co-creation and co-design, including the perspective to the future, too. We analyse the process of co-creating well-being services with the help of concepts and theories developed in the fields of user-centred and participatory design. As a theoretical framework we use a combination of the following concepts and theories: service ecosystems, co-creation and co-design of services, action scenario approach, multi-voiced collaboration, and practice research.

Based on the analysis of our empirical cases we will answer three research questions in the context of the paradigm shift in the well-being services:

- 1) How co-creation was organized in the context of a well-being service ecosystems?
- 2) What kinds of challenges were faced when carrying out co-creation in the well-being ecosystems?
- 3) How were the end-users' authentic voices heard in the co-creation process?

Our paper is structured as follows: The central theoretical concepts are introduced in the next section, followed by a description of the case context and the two case stud-

ies. Next, the findings of the studies are presented, followed by conclusions and discussion.

2. Theory

Our research is cross-disciplinary, bringing together several perspectives such as service ecosystems, co-creation and co-design of services, action scenario approach, multi-voiced collaboration, and practice research.

Systems (e.g. Senge, 1990) and ecosystems (e.g. Moore, 1993) thinking emphasize the understanding of cause-and-effect chains in the system in question, the need for awareness of one's own influence in the system. When we observe well-being services as an ecosystem, activities appear as a whole: they influence and are influenced by the system in its entirety. Business ecosystems aim at fulfilling customer needs and creating innovations. The same should apply to well-being service ecosystems. The focus in systems thinking is to empower actors to achieve the goals they desire when operating in a particular system and to enhance their ability to self-direction.

The research object of the MORFEUS¹ project is facilitation of multi-professional collaboration in well-being service ecosystems. Digitalization offers novel options to create tools to realize the facilitation and new kind of governance. Digital platforms allow co-creation and knowledge sharing as well as illustration of the whole ecosystem. The public sector, which has the legal responsibility to enhance the well-being of citizens, could put into operation new kinds of management tools by forming digital well-being service platforms. By creating interfaces for different user-groups like customers, well-being service professionals and public sector decision makers, digital information can be modelled for individual needs. If all data is on the same data exchange layer, like in Estonia, connections between different databases is fluent. The case studies produce understanding for the creation of these tools.

The framework of *co-creation* (e.g. Sanders & Tappers, 2008) and *co-configuration* (Victor & Boynton, 1998) and the idea of multivoiced developmental forums for it were seen as *enablers and mediators* (Jyrämä & Äyväri, 2007; Kantola, Lassila, & Mäntylä, et al., 2010) for perceiving the existing ecosystem as an entity with its strengths and weaknesses and the future of it, from the perspective of information modelling.

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MORFEUS is a joint cross-disciplinary research project of Aalto University (SimLab) and Laurea University of Applied Sciences (01/01/2015–30/6/2017) and funded by Tekes – the Finnish Funding Agency for Innovation. The ultimate goal of MORFEUS is to enable the co-creation of customer-centered services in multi-professional well-being service ecosystems. The services in focus are mental health, pupil service, child protection and substance abuse related services. The partners of the research project comprehensively represent well-being service actors in Uusimaa from the municipality sector, the producers of well-being services and the producers of digital tools and consulting services.

For example in Case HUS we explore multiple perspectives with specialist interviews and service probe -method. A workshop and online service design are fostering dialogue between different actors and we also map the processes in existing networks.

On the other hand, in Case Porvoo we combine futures research methodology to service design approaches (Leppimäki et al., 2008). We produced various service concepts based on alternative scenarios for the case family in child protection mode. In Case Porvoo well-being services needed not only today but in the future were designed in the series of futures workshops in the participatory co-creation process with the real-life members of the child protection ecosystem in Porvoo region and more widely as well (Meristö et al., 2016b).

In addition, our research is rooted in the *practice-based perspective on studying knowledge and organizations* (e.g. Carlile, 2002; Orlikowski, 2002; Nicolini, 2011). In our case study we adopted a 'practice lens' (Orlikowski, 2000) for studying the inter-organisational processes of co-creation. In addition, in our research we found interesting Carlile's (2002, 2004) model for analysing the boundary-crossing or boundary-spanning knowledge processes. With the term boundary-spanning we refer to the activities needed to navigate and negotiate the meanings and practices across boundaries (Levina & Vaast, 2005; Ratcheva, 2009), that in our case are interorganisational and inter-disciplinary. The boundary spanners are people that engage in spanning the boundaries in question. Both the boundary spanners and *boundary objects/objects of collaboration* are crucial for crossing the different boundaries successfully. (Levina & Vaast, 2005) Boundary spanning is expected to enable the emergence of interorganisational creation of practices and boundary spanning activities as complex innovations (Dougherty & Dunne, 2011). In Case Porvoo the boundary objects were represented by various practical tools developed for action scenario process and for its progressive phases (Meristö, 1989, 1991). One specific feature in Case Porvoo was the use of time frame as a boundary object in the form of steps towards the vision, where the time frame is divided into past, present, near future and longer future (Meristö, 1990). Different time frames can cause conflicts between different actors if not specifying the concrete steps on co-creation process towards citizen-centric services in the course of time.

We analyse the process of co-creating well-being services with the help of concepts and theories developed in the fields of *user-centered and participatory design* (e.g. Sanders, 2002; Robertson & Simonsen, 2013). Further, we found essential the concepts of co-creation and co-design (Sanders & Stappers, 2008) and especially in Case Porvoo futures research methodology in the form of *action scenario approach* (Meristö, 1989, 1991).

At the core of the co-creation process the participants use boundary objects (Star, 2010) and triological objects (Hakkarainen & Paavola, 2009). First, the boundary objects facilitate the sharing of information and knowledge between the participants of co-creation. Boundary objects enable transferring, translating, and transforming knowledge between people across different knowledge boundaries (Carlile, 2004). The boundary objects 'reside between social worlds' and enables people with diverse backgrounds to collaborate (Star, 2010). In our research we also found important Nicolini, Mengis & Swan's (2012) synthesis describing the use of objects in boundary-crossing collaboration (see also Salmi, Pöyry-Lassila, & Kronqvist, 2012). Second, the triological objects mediate the collaborative creation of new knowledge and services within the innovating community, group, or ecosystem. When new knowl-

edge is created in the collaborative process, the actions are oriented towards generating shared objects, called triological objects. They are concrete epistemic artefacts that are created, shared and elaborated by the group's participants, often facilitated or mediated by technology. The triological objects may be both epistemic entities and physically embodied, conceptual or material, or they may be practices that are collectively transformed (Hakkarainen & Paavola, 2009).

The knowledge concerning the future development and directions is by definition uncertain (Bell, 1997; Masini, 1993). That is why in Case Porvoo we decided to use multiple scenarios in the form of action scenario approach to cover this uncertainty (Meristö, 1991). Scenarios as possible descriptions of the future have opened this uncertainty in the form of development paths to the future for the workshop participants from the child protection ecosystem in Porvoo region. This approach has helped the ecosystem members to focus on services relevant to the citizens not only today, but in long run in the future, too. This visionary knowledge creation process has been multi-voiced process including interviews, web-surveys and participatory futures workshops to reach the whole range of possible, probable and/or desirable futures (Meristö et al., 2016b).

In MORFEUS we have found essential to try to construct the shared forums for co-creation as multivoiced (Kantola, Lassila, & Sipilä, 2011) as possible. E.g. in Porvoo's child protection case the participatory workshops consists of participants of different actors representing public, private and NGO actors in child protection. The voice of family was heard in the workshops mediated by the experience expert. Also the interview of the real case family was done for strengthening the voice of customers.

These aspects are considered together in order to create different endpoint scenarios and imagine the digital and other services that could be needed/created to fulfil the gap between current and predicted future.

3. Implementation of the research

We implemented our research as a two case studies. In the two cases we used a combination of user-centred and participatory service design (e.g. Brandt, Binder, & Sanders, 2013), action scenario approach (Meristö, 1989) and research methods. These methods included several data collection techniques, such as, thematic interviews, stimulated interview (Cicourel et al., 1974; Jokinen & Pelkonen, 1996; Kantola, 2010), service design probes, and facilitated workshops, including future scenario workshops.

As a part of the workshops, various kinds of artefacts were utilised as boundary objects for sharing knowledge (Star, 2010) and triological objects for promoting new knowledge creation (Hakkarainen & Paavola, 2009) facilitating and mediating the collaboration.

We adopted the action research approach (see e.g. Kemmis & Wilkinson, 1998) and we both facilitated the development of the services and at the same time collected empirical data from the cases. Our role as both researchers and facilitators of co-creation was however a neutral one, and the participants of the ecosystem were responsible for the goals and results of the co-creation. We as researchers and facilitators

tors tried not to affect the goals and results, but to help the ecosystem to collaborate and to advance the co-creation activities. We did not provide the actors with ready-made solutions, but offered research-based information and methodological support for the actors to create the solutions themselves.

From the two cases we collected a rich set of empirical data to form a comprehensive picture of co-creation taking place in these two contexts. Our data includes transcribed interviews, stimulated interviews, artefacts, video-recordings and memos of workshops, and mobile app -messages and pictures of the service users and the ecosystems.

We analysed the data with qualitative methods, such as content analysis (Krippendorff, 2004) and artefact analysis (Reischauer, 2015). In the interpretation phase we combined the various data sources in order to form a holistic view of the case. The two cases were first analysed separately (within-case analysis) and then considered together to produce insights about the differences and similarities between the cases.

Next, the two case studies will be described in detail.

Case 1, “HUS”: participatory and user-centred development of a new service concept related to mental well-being of young males

The Case HUS was conducted by Aalto University research group in co-operation with Laurea researchers and students.

The aim of the Case HUS was to explore, how to prevent young men from social marginalization. The case started with a goal setting session with the researchers of the MORFEUS project and two leading specialists - the administrative chief physician and the medical director who had earlier worked as a chief of the department of psychiatry - at the Hospital District of Helsinki and Uusimaa. In their work with the management of psychiatric clinics, our specialists had achieved a good general impression of development needs in the field. Social marginalization is a nation-wide problem, especially among young men. Without good proactive and preventive services, those young men are psychiatric patients in some point in life. From humane as well as from economical point of view, it is significant to prevent the youth from marginalization. A lot have been done for the youth in Finland and a lot of projects are going on. In MORFEUS we wanted to research, what kind of digital tools and information modelling could help the specialists to help the youth and how to empower young men to take responsibility over their own life.

The research methods were 1) interviews of the authorities (8 organizations, 19 people), 2) the "design probe" (4 young men, sending WhatsApp-messages during one week, interviews, diaries of the parents) 3) workshop for the specialists (service ideas and solutions for the young men), 4) modelling the processes of the pupil welfare services and the adolescent psychiatry outpatient treatment (on the grounds of the interviews of the 8 staff members of the processes), 5) an experiment in "online service design".

The aim of the interviews was to achieve understanding about the world of the youth, how it looks from the perspective of the professionals, what are the root causes of the social marginalization and how to prevent young men from it. Altogether 19 professionals were interviewed from following organizations: SPO (Finnish association

of Case Management), FimFami Uusimaa (an organization helping and supporting families and relatives of people with mental health problems), HUS (The Hospital District of Helsinki and Uusimaa), Pupil welfare services of the City of Espoo (Municipal pupil welfare services foster the pupils' physical, mental and social well-being), Save the Children (a specialist in foster care and adoption. In addition, it provides municipalities throughout Finland with open and social welfare support family services related to child protection), Porvoo Vocational College, Amisto (is part of the Intermunicipal Federation in Eastern Uusimaa region in Southern Finland, offers vocational education to comprehensive school graduates in the technical and service sectors), Finnish Central Association for Mental Health (an association for people suffering and recovering from psychiatric problems) and the Finnish Blue Ribbon association (a nationwide central association of substance abuse organizations, through a basis of Christian values).

The *design probe* (e.g. Mattelmäki, 2006) was selected as a tool to get more underlying information about the everyday life of young men in addition to interviews. Almost all young people in Finland have a smartphone access. WhatsApp elected to the probe tool as it is widely used mobile application and easy to use. At first the aim was to include young men who were at the risk of exclusion from society, but it turned out to be almost impossible because of their difficult accessibility. The solution was to target the secondary schools social workers to get access to those male pupils who have problems and are at risk of dropping out from the school system. Four informants finally agreed to become involved in research and with them we carried out the whole probe and interview process. The aim was to get information about the everyday life from the young men's perspective: what aspects the young men value most in their lives at the moment, what kind of future dreams they have, how they cope with difficult situations/things in their lives, who are the most important people they rely on and where do they see themselves standing in relation to service providers (subject/object). The WhatsApp mobile application turned out to be an easy way to get photos and comments from informants about their everyday life highs and lows. After the two week research period the interviews were carried out with an encouraging and empowering twist. Also the parents were asked to fill in a diary on their thoughts and discussions with the youngster. The whole probe and diary process was an intervention to these young men's and their families' lives so the approach had to be kept very encouraging and empowering.

As a result of the interviews and design probe, we had a holistic picture about the world of the young men, their needs, causes of the social marginalization and solution ideas, how to support the young in early phases in their life. We developed further the preventive service ideas in a workshop and in an online environment. We also conducted a modelling of the existing processes of student welfare services and adolescent psychiatry outpatient treatment in order to understand, how the current processes enable and disable multi-professional information sharing and cooperation. For modelling the processes we interviewed 8 professionals working in the processes in question.

Case 2, “Porvoo”: participatory visionary concept design process based on action scenario work in the child protection ecosystem in Porvoo region.

Case Porvoo was run by Laurea UAS research group, conducted by two researchers. In Case Porvoo the objective was to recognize the existing actors, their positions and roles in the ecosystem of child protection in Porvoo region, as well as, the need for changes in the various situations in alternative futures (Meristö et al., 2016b). The methodological approach used in Case Porvoo and its workshops was *action scenario approach* developed by Tarja Meristö during last decades in 1979-2016 (e.g. Meristö, 1989). It has its background in futures studies (Masini, 1993; Bell, 1997) with the focus on possible, not necessarily on probable or on desirable futures (Amara, 1981). The participants in Case Porvoo represented public and private organizations as well as NGOs and experience experts from the field of child protection.

The *multi-voiced* participatory workshops were run according to the participatory action scenario approach during one year 5/2015-5/2016. The action scenario approach (Meristö, 1991) consists of six consecutive stages, from which the three first were run in Case Porvoo during the process.

- I. Who and where are we?**
- II. What are the possible worlds?**
- III. Where can we go and how?**
- (IV. Where do we decide to go?)
- (V. Choice of strategy).
- (VI. Action plan).

The workshops consisted of multiple actors of child protection services in Porvoo City including the Manager of Child Family Work in Porvoo City, the Planner of the Competence Center of Social and Welfare in Porvoo area, the Experience Expert and the various workers from the Substance Abuse Treatment Unit, the Manager of Maternity Clinic, the School Social Worker, the Specialist Psychiatric Nurse from Porvoo Hospital of HUS (The Hospital District of Helsinki and Uusimaa) and the researchers and students from Laurea UAS. In the final session one student from Aalto University participated to the workshop as well.

The timetable for the action scenario workshops in Case Porvoo was as follows:

- An Orientative Workshop, focus on the shared vision: 11th May 2015 (three hours)
- The First Future Workshop, focus on the present situation: 8th September 2015 (three hours)
- The Second Future Workshop, focus on the alternative scenarios: 6th October 2015 (three hours)
- The Third Future Workshop, focus on action alternatives in each scenario: 24th November 2015 (three hours)

- Two Conclusive Workshops: One with MORFEUS Steering Group, focus on information modelling, 1st December 2015 (one hour), another one with preventive child protection actor from Porvoo city, 15th April 2016 (two hours).
- The Thematic workshop 13th May 2016 in Porvoo – focusing on service opportunities from different viewpoints and from various customer groups (three hours)

The scenario work was supported by the complementary interviews conducted by the researchers and students of Laurea UAS:

- Group theme interview of the Director of Social and Health Care at the City of Porvoo and the Development Manager of Social and Welfare at the City of Porvoo, 5th March 2015
- Theme interview of the Manager of Child Family Work at the City of Porvoo, 29th April 2015
- Theme interview of the Planner of the Competence Center of Social and Welfare in Porvoo area, 6th May 2015.
- Thematic workshop 13th May 2016 in Porvoo – focusing on service opportunities from different viewpoints and from various customer groups.
- An interview of the child protection family, focus on a child protection service ecosystem from their own viewpoint, Spring 2016. The data analysis includes different methods depending on the nature of the collected information, including qualitative and quantitative approaches as well as facts and visionary knowledge that were e.g. used as a basis for the visionary concept design when developing new concepts and services for proactive child protection in Porvoo ecosystem.

The primary data collection comprises the well-documented discussions of the future-oriented workshops based on documented work in small groups and written memos from the facilitated sessions. Also the web-based surveys to the participants between every future-oriented workshop will form a part of the primary data. Background data for the work will consist of well-documented interviews among the actors in the Porvoo region before the series of intensive future workshops. Complementary data collected from the Steering Group of the entire research project MORFEUS both through web-surveys and in one mini workshop was used, too.

An interview of the child protection family, focus on a child protection service ecosystem from their own viewpoint, Spring 2016. The data analysis includes different methods depending on the nature of the collected information, including qualitative and quantitative approaches as well as facts and visionary knowledge that were e.g. used as a basis for the visionary concept design when developing new concepts and services for proactive child protection in Porvoo ecosystem.

The participants from different parts of the child protection ecosystem did not yet estimate the most preferable future among alternative scenarios but they developed visionary concepts for well-being services and service opportunities in alternative scenarios, which will later on form the basis for the strategy work in Porvoo region.

Also, the shared vision constructed in the very beginning of the process gives some guidelines to continue the work in this field there (Meristö et al., 2016b).

Also the voice of child protection family was heard mediated by the experience expert participating the workshops and by interviewing the real child protection family (stimulated interview, using the picture of the child protection ecosystem constructed in the action scenario workshops).

Child protection families were difficult to get into the trial for several reasons. The social worker of the child protection asked families to participate to the study but only three volunteered. One of the three families refused when the interview was to take place and did not want to participate. The baby of another family became ill at the agreed time of the interview and the meeting had to be cancelled. New appointment with the family could not be agreed due to mother's refusal to answer calls or text messages. The third client family was successfully interviewed and the same illustrative tools as in the action scenario workshops were used as a stimulus in the interview (stimulated interview). With the tool the role of the various players in relation to the family was visualized and discussed with family members. The results of the family interview and illustrative tool usage were used to map the intervention, support and empowering possibilities and furthermore, experiences of the family members of current practices. Also the understanding of the family as a subject and independent operator in the ecosystem of service providers was discussed further.

As a conclusion, based on the analysis of our empirical cases, we will answer three research questions in the context of the paradigm shift in the well-being services:

- 1) How co-creation was organized in the context of a well-being service ecosystems?
- 2) What kinds of challenges were faced when carrying out co-creation in the well-being ecosystems?
- 3) How were the end-users' authentic voices heard in the co-creation process?

Major findings from both cases will be described separately in the next section and will be considered then together.

4. Findings from the research

The results of our research indicate that collaboration within an ecosystem first requires identifying the existing actors and their positions in the ecosystem. The both cases enriched each other's perceptions of the ecosystems and the critical bottlenecks and success factors in the information flow. Even organizing the cases in practice made it visible, that the ecosystems of the child protection and the pupil welfare tangled in many ways and will challenge the information modelling developed in the research project.

The major findings of the Case HUS:

For the young, as for anybody, meaningful doing is central for well-being. People without hobbies, studies or job are at risk of social marginalization. Also the meaningful others like families and friends play a central role in the life of young. Today's life is complicated, there is much information available and the young have opportunities to choose. That is inspiring and confusing at the same time. The results of the Case HUS show, that there is need for supporting the development of self-reflective abilities of the youth. The young need help with their life management.

The current social and health care system sees clients/patients through their problems. Evidently a digital tool, based on an empowerment-based view (instead of problem-based view) would help the young perceive their own life, reflect their needs, wishes and expectations and to build a safety net consisted of friends, relatives and professionals.

In the Case HUS the voice of the service user (end customer) was heard by means of our research collection methods. The interviews of the authorities, workshop for the specialists, interviews of the staff of pupil welfare services and the adolescent psychiatry outpatient treatment and online service design experiment were mediating the end customers' perspective through the professionals working with them. Authentic customer voice was achieved through the service probe method. Both direct and indirect perspectives to the customer's needs completed each other.

The major finding of the Case Porvoo

In Case Porvoo the main results based on the scenario based approach were as follows. The answers will follow each question presented in the beginning of this paper.

First, how co-creation was organized in the context of a well-being service ecosystems in this specific case?

In Case Porvoo we organized a series of futures workshops in co-operation with all the actor groups from the child protection ecosystem. We facilitators were working in pair, one researcher having the responsibility of methodology and running the practical sessions, while another researcher communicated, contacted and invited the actors from the region, while other two research team members carried their responsibilities of reporting (memos and taping). In addition, the research group organized several web-surveys to the participants during the process before and between the sessions to improve the participation rate also to those, who could not attend the sessions (Meristö et al., 2016b).

In Case Porvoo the action scenario approach enabled to pick up worries as a weak signal and to understand *worry as a knowledge* based on the futures research paradigm concerning dealing with uncertainty (Meristö et al., 2016b; Kantola & Meristö, 2016; Meristö, Kantola & Lankinen-Lifländer, 2016). *Worry management* (Meristö et al., 2016b, Meristö & Kantola, 2016) in the context of social and health care sector is one of the key findings in the field of future oriented leadership and management research field, which earlier has focused more on business cases (e.g. Nanus, 1992). In Case Porvoo four alternative future scenarios for the child protection were formulated for the next 20 years: 1. Promo (proactive, virtual), 2. Primary (preventive, face to face), 3. Secondary (reactive, face to face), 4. Tertiary (reactive, virtual). These

scenarios were used as wind tunnels for ecosystem evaluation and what if -questions for the continuous development were presented. These scenarios were used also as mediators for information modelling in the form of what if this scenario will happen to find the bottlenecks and success factors in the information flow between actors in the ecosystem (Meristö et al., 2016b).

Second, what kinds of challenges were faced when carrying out co-creation in the well-being ecosystem in this specific case?

In Case Porvoo we discovered that well-being service ecosystems thinking emphasizes that individual services do not occur in a vacuum but interconnect with other services, processes and structures as well as with the everyday life of customers. Thus, co-creation of services requires perception of the multiple realities in the ecosystem. The perceptions of the existing actors and their positions in the ecosystem of child protection are still confusing and the views even from the present situation vary a lot. Before the co-creation of well-being services with the ecosystem can happen fruitfully and fluently, the perceptions of the ecosystem itself have to be defined with the shared vision (Meristö et al., 2016b). Also, the information flows and the systems enabling the knowledge sharing have to be safe and secure. Without trust the multi-actor co-creation work does not work.

Third, were the end-users' authentic voices heard in this specific co-creation process?

In Case Porvoo we got the customers' voice as end-users' voice involved in three different ways: First, one experience expert took part in the sessions and web-surveys during the whole process. Second, the real-life case family from the region was interviewed by one of the Laurea UAS students preparing her thesis in this field. The student also participated the futures workshops and sessions. Third, the web-survey to the group of experience experts were sent before starting the case.

The professionals and service providers of well-being services can be perceived as end-users of knowledge and information modelling, as well. They were diversely represented in workshops and in data collection (interviews), as well. Also decision makers were investigated through interviews and web-surveys and they were participated in some of the workshops.

More research work in the MORFEUS-project is still needed in the near future to get the end-users authentic voice for testing and evaluating the information modellings created in the project.

The both cases enriched each other's perceptions of the ecosystems and the critical bottlenecks and success factors in the information flow. Even organizing the cases in practice made it visible, that the ecosystems of the child protection and e.g. the pupil welfare could not be separated, but they tangled in many ways and will challenge the information modelling in MORFEUS.

5. Conclusions and discussion

The objective of this paper was twofold: 1) to present two case studies related to user-centred co-development of well-being services, and 2) to analyse and discuss the use of participatory service design methods in the specific context of a service ecosystem. In order to meet these objectives, we collected and analysed empirical data from two cases where a service ecosystem was collected to co-create around a well-being service.

In the ecosystem of various services, channels and providers the individual is brought closer and to interact with business and producers. New technologies challenge the former customer - provider -thinking and create easier but at the same time more challenging access to individuals' lives.

In the world of complex networks and system of services the customer insight is easily forgotten. Also interfaces between services are critical when transferring information or customers to one service provider to another. Current economic-challenges require streamlining the structures and in some cases easily lead to partial optimization of services.

It has become apparent in workshops and interviews that self-directed, comprehensive multi-task job descriptions are needed. Self-direction requires good support structures. Another discovery, which has surfaced, is the importance of focusing on the resources – and not only on the problems – of customers as well as offering tools for self-reflection and self-governing. Enabling the actors in the ecosystem to act in a self-directed way requires suitable working methods and tools. This means a paradigm shift from the hierarchical and siloed organization viewpoint to empowering both employees and customers. Instead of defining tasks for employees in detail, they need to be allowed to make their own decisions to arrange their tasks. To be able to do this in a proper way, they need to understand the premises for their work, the big picture as well as have an easy access to information and support. Correspondingly, customers need to be taken as subjects in their own life instead of objects of care. We study what kind of tools and practices would be suitable to enable self-directed work and empowered customers.

In social and health care services the customer is traditionally seen through his/her problems. In both of our research cases, in student welfare services as well as in child protection services, the empowerment-based view (instead of problem based) can be seen as one of the key issues for developing meaningful services.

Based on Case Porvoo, the future-orientation and the new definition of information in the futures research paradigm context will lead to the concept, how to deal with uncertainty in the field of child protection and more broadly, in the field of well-being services. The ecosystem of different actors will face the question: how to treat the data still being more or less like early warning signal by nature? The word used in the field instead of a weak signal is a worry and we decided to call this approach needed in the context of ecosystem as *worry management* (Kantola & Meristö, 2016) instead of visionary leadership used usually in business context (e.g. by Nanus, 1992). These findings were supported by Case HUS as well.

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