Fragile Liaisons: Challenges in Cross-organizational Service Networks and the Role of Design

Jaana Hyvärinen, Jung-Joo Lee & Tuuli Mattelmäki

To cite this article: Jaana Hyvärinen, Jung-Joo Lee & Tuuli Mattelmäki (2015) Fragile Liaisons: Challenges in Cross-organizational Service Networks and the Role of Design, The Design Journal, 18:2, 249-268, DOI: 10.2752/175630615X14212498964358

To link to this article: https://doi.org/10.2752/175630615X14212498964358

Published online: 07 May 2015.
Fragile Liaisons: Challenges in Cross-organizational Service Networks and the Role of Design

Jaana Hyvärinen,¹ Jung-Joo Lee² and Tuuli Mattelmäki¹
¹Aalto University, Finland
²National University of Singapore, Singapore

ABSTRACT  This paper portrays cross-organizational collaboration in service networks as a new challenging context for service design. The paper reflects on the role of cross-organizational service networks in a Finnish municipality-initiated research and development project. The project sought to develop new practices for supporting independent living for the elderly involving diverse organizations across public, private and third sectors. The intent was to apply collaborative and customer-centred service development.
For this paper, interviews were reviewed from 16 project participants to find out how they perceived cross-organizational collaboration and the role of service design in this project. From these findings, we identified barriers to collaborations that originated in tensions between different organizations and structural and situational barriers that sometimes could be traced to specific mindsets on an organizational level. Based on the insights from these interviews, we explain how service design may contribute to enhancing collaborative developments within and across cross-organizational service networks.

KEYWORDS: service networks, organizational change, design for services

Introduction

Public organizations have recently recognized that isolated work structures are no longer suitable and sufficient for developing and operating appropriate public services in traditional welfare societies, for example, Finland. Finnish public organizations currently seek alternative approaches to effectively address new types of societal challenges. In particular, they are looking for how to better provide the increased service needs of an ageing population. One alternative is to enhance the collaboration among multiple departments within the public sector as well as across public, private and third sectors (e.g. Gallouj et al., 2013). In this approach, public organizations aim to build cross-sector service networks and new collaborative models. This presents a significant change in focus for the public organizations involved. It is a move away from developing service offerings and processes within organizations and a move towards developing cross-organizational service networks. This move requires the identification of common or compatible goals to motivate the collaboration as well as an acknowledgement of all organizations involved. Furthermore, to achieve these shared goals, the involved organizations have to undergo continuous adaptation and transformation.

While public-private service innovation networks have been studied from an organizational perspective (e.g. Gallouj et al., 2013), design has recently been recognized as a potential perspective for creating collaborative platforms for diverse organizations cultivating on its human-centred and collaborative nature (Kimbell 2011; Steen et al., 2011; Sangiorgi, 2011). The application of design tools has been shown to provide means for understanding and elaborating human perspectives in complex settings (Halse et al., 2010; Mattelmäki et al., 2014). In addition, design has been studied as
Fragile Liaisons: Challenges in Cross-organizational Service Networks and the Role of Design

an approach and a process that can enhance an organizational transformation while developing new services (e.g. Junginger and Sangiorgi, 2009; Junginger, 2009; Sangiorgi, 2011). Recent studies also identify new roles of design in infrastructuring collaborative platforms for human-centred innovation to happen (Björgvinsson et al., 2010; Hillgren et al., 2011). In the context of cross-organizational service networks, service design efforts can turn customer experiences into a shared ground and an aim for collaboration (Kimbell, 2011). Moreover, service design may help diverse actors within the network to better understand each other’s situations and concerns. As Kimbell (2010: 51) states, ‘understanding value and the nature of relations between people and other people, between people and things, between people and organizations, and between organizations of different kinds, are now understood to be central to designing services’.

This paper aims to highlight the development of collaborative relationships among various organizations as a new challenging context for service design. We investigate a municipality-initiated research and development project in Finland, which aimed at developing new practices for supporting independent living for the elderly by involving diverse service organizations across the public, private and third sectors. Service design was one of the approaches applied for developing the practices and services involved. During the project, the experiences of different network actors were gathered through 16 semi-structured interviews. The critical review of this interview data was our attempt to understand how organizations perceive the cross-organizational collaboration and the role of service design in the project. However, the interviews also revealed the tensions and barriers that hindered the collaboration. This is what we have come to term ‘the fragile liaisons’. The purpose of this paper is to deepen our understanding of these tensions and barriers and discuss the role of design in overcoming them. We thereby expand the discussion on tensions and barriers related to the cross-organizational collaboration and organizational change that have been traditionally part of organizational and management studies (e.g. McEvily et al., 2003; Möller and Halinen, 1999; Ritter et al., 2004). Exploring the contribution service design can make to these issues, we seek to support the further development of cross-sector and cross-organizational service networks that eventually help these networks to provide better services for their customers. Since transformation is a key issue here, we first review how existing literature discusses the new roles of service design in organizational transformation and cross-organizational collaboration. Next, we introduce the example project from which the interviews are collected. We then present our findings on tensions and barriers to the development of cross-organizational and cross-sector service networks. We conclude with a speculative discussion of what service design might contribute to overcoming the identified tensions and barriers.
New Roles of Design in Cross-organizational Collaboration

Organizational change is relevant for understanding cross-organizational service networks since the formation of new kinds of collaborative models and practices, we argue, requires transformations in all interrelated organizations. Design in general, with the concepts of ‘design thinking’ (e.g. Brown, 2009) and ‘design doing’ as discussed recently by Deserti and Rizzo (2014: 56), has been considered as a potential catalyst for change in organizations. Junginger (2008, 2009) argued for the potential of product development process as a strategy for internal organizational change. Human-centred product development aims to create products that work for people ‘outside’ and ‘inside’, thus bringing perspectives and experiences of ‘other people’ into the organization through the practices of designing. She asserts that embedding this mindset and practice into the organizational process can enable a change in an organization, from hierarchical, standardized, expert-oriented culture, inside out, to human experience-oriented one, outside in (Junginger, 2009: 235). The recognition of design for organizational change is more salient in service design. Junginger and Sangiorgi (2009) use the notion of organizational transformation, when the service concept requires deeper transformations that touch on the fundamental assumptions of the organization. They discuss the role of design in that context suggesting that designers should use the design enquiry as a conversation with an organization to unveil organization’s deeper assumptions and showing how such assumptions frame its current situation and actions. According to Junginger and Sangiorgi (2009), designers should work together toward a commonly shared vision for what the service should achieve and co-create an agenda for change. However, this requires a long-term collaboration and a strong commitment from the organization (Junginger and Sangiorgi, 2009: 8).

Moreover, the aim of collaborative projects for services has shifted from delivering solutions to specific problems to co-creating tools and capabilities for organizations to achieve customer-centred service innovation by themselves (Sangiorgi, 2011). Such new design tasks have encouraged designers to adjust design methods and tools for facilitating the collaboration among various actors. For example, the empathic design approach, which was originally used to enhance designers’ understanding of user experiences, has been applied to help service providers’ understanding of customers’ experiences and facilitate a mutual understanding among diverse actors, including managers, service partners, front-line staff and end users (e.g. Mattelmäki et al, 2014). Service visualization tools, such as service blueprints, stakeholder maps and customer journey maps, have been combined with co-design methods, such as design games or participatory prototyping, to facilitate collaboration (e.g. Buur et al, 2013; Vaajakallio et al, 2013). However, experimental, generative
and collaborative ways of working that are characteristic to design are still foreign to many service organizations, especially to those in the public sector that are used to expert-oriented, hierarchical and ‘silod’ ways of working (Bailey, 2012; Bason, 2010). The fear of novelty and avoidance of risk-taking by public managers and civil servants have been identified as barriers to cross-organizational collaboration (Bason, 2010).

Finally Björkvinsson et al (2010) have pointed out that innovation, especially when it concerns societal challenges, requires extensive long-term collaborations with a number of stakeholders and a shift from short-term projects towards ongoing processes. Design activities here can support the creation of settings in which collaboration, experimentation and development can happen (‘infrastructuring’). Björkvinsson et al observe that these settings bring forward conflicts and tensions that are not easy to solve and problems to which there are no right or wrong solutions (2010: 49). This draws a wider view on what design is about and what it can be applied for, or, as pointed out by Bason (2013: ix), ‘design has not one but many shapes’ when dealing with societal challenges.

**Example: Designing for a Customer-centred Service Network**

To illustrate the challenges network actors face in the development of a collaborative service network and to understand the implications for service designers, we will now turn to a municipality-initiated three-year (2010–13) research and development project. The ‘Customer-centred service network in the L area project’ (the L project) focused on developing new practices for supporting independent living for the elderly in the L area by enhancing collaboration among public, private and third sector organizations. The new practices included two service concepts that were collaboratively developed during the project with the aim of providing more personalized services for the elderly. The first one prototyped how a service manager as a service network coordinator could help customers to find the best possible service combinations from what is available in the services offered by the local providers. The second one prototyped how to realize a personalized budgeting practice, in which a specific sum of money is allocated to a given customer based on the assessment of her service needs. Personalized budgeting aims at encouraging the customers to take more responsibilities and choose services for themselves. In the current practice, experts decide and fix services for customers. That is, experts make decisions from a limited number of predefined service offerings according to their own expert assumptions on what is best for the customer. The new concepts aimed at widening the service offerings across the local service network. Prototyping of these two new concepts required cross-sector collaboration among various service actors. The project thus aimed at creating a collaborative platform for different organizations’ representatives to meet
and the network to evolve. To achieve that aim, service design was applied in different stages of the project. The service design competence brought to this project came from external consultancies, design students and researchers from the university (where the third author of this paper was involved as their supervisor). The service design experts applied tools like customer journeys and stakeholder maps to visualize the complexity of the service networks; they used design probes to foster empathic dialogues with customers; and they employed co-designing techniques for different organizations’ representatives to understand their customers and each other. Co-designing techniques were also used to generate and evaluate service ideas together with the service network representatives and with the elderly.

Figure 1 depicts an overview of the L project process before, during and after, and also lists the service design methods applied during the project. The project preparation was based on the strategies of the municipality, the outcomes of the previous research projects and the experiences acquired from the innovation networks the municipality was part of. The use of service design was emphasized in the project plan. After the actual L project ended, the personal budgeting and the design probes were continued in the municipality in follow-up projects. The service network, too, continued its collaboration through network meetings, although the meetings are taking place infrequently. One of the aims of the ongoing evaluation
project (2013–14) this paper reports on is to support the further collaboration in this network.

The L project started in 2010 and ended in 2013. About halfway through the L project, one of the participating design researchers interviewed some of the participants in order to get insights into the project’s influences and the role of design in it. These participants were selected because of their key roles in the project. Originally, it was hoped to have another set of interviews done by the end of the project to compare responses and to detect changes, but changes in resources cut off this opportunity. Though this leaves these 16 semi-structured interviews with participants from different organizations somewhat unbalanced, they still produce a range of valuable insights relevant to service design practitioners. The interviewees included 12 members from the public sector (e.g. social services department, healthcare department, and city’s central administration), two members from the private sector, and another two participants from the third sector. The selection of the interviewees was based on a snowball sampling, a method in which interviewees are asked to assist researchers in identifying other potential interviewees. Snowball sampling selection was here used in particular to identify the most meaningful players in the project based on the participants’ opinions, although it risked excluding the more invisible ones.

The first part of the interviews encouraged interviewees to reflect on the ongoing project. For example, they were asked about their understanding of the project’s aim, motivations and about their thoughts on the project’s approaches. They were also asked to provide suggestions for future improvements. The second part of the interview focused on the interviewees’ understanding and evaluation of service design in general and then specifically in the context of the L project. These interviews were conducted by a design researcher who had been part of the project at the beginning, in order to document how the service design activities were perceived in the project by the participants. However, we found it necessary and valuable to review these interviews and the responses to look for clues and insights into how the L project unfolded, what cross-organizational network questions it involved (if any) and what role, if any, service design had in all this. This review and its findings will be fed back into the ongoing evaluation project. As part of the review, the interview data was transcribed and interpreted following the thematic analysis process (Aronson, 1994). Our review of the interview data revealed tensions within the organizations and the network that hint at challenges in the development of the cross-sector networks and the opportunities for design for tackling the challenges.

**Challenges in Cross-organizational and Cross-sector Service Networks**

Through our interview review, several themes on the challenges in creating cross-organizational and cross-sector service networks...
emerged as perceived by service actors. These themes were clustered as:

- Needs for customer-centred information sharing
- The bureaucratic inertia of the public sector
- Lack of trust and commitment
- Lack of resources and sustainable support

In the following, we discuss our findings under each theme, embedding quotes from the interviewees to be true to the original source. Since the original interviews were conducted in Finnish, the quotes we present in this paper have been translated into English by the authors.

**Needs for customer-centred information sharing**

The initiative of the L project was driven by the municipality’s recognition on the need for more customer-centred attention and the aim of improving the accessibility and cost-efficiency of the current services. As the L project proceeded, the needs for the customer-centred network became even more visible and recognized among the service actors. The interviewees pointed out that the organization-driven, siloed way of providing services caused complex service combinations. The reported problem was that none of the organizations seemed to have a holistic understanding of individual customers’ service needs. Neither did they seem to have established practices for sharing their knowledge on the available services with the customers or other organizations. This fragmented uncoordinated system seemed to cause ineffective service provisions. In this situation though, customers, especially elderly people, lacked means of assembling the interrelated services on their own. A manager from the public sector described this problem and the backgrounds of the L project as follows:

... the care families, when the services are customized to them, it is cheaper than the fragmented public service. Care families are in quite a service jungle to cope with ... perhaps the most applied is a kind of a mind map illustration in which all the connections are depicted ... all the instances the care family should be dealing with, or they should be in contact with. It is such an impossible network that only few can tackle with ...

The need for customer-centred information sharing and coordinating is in line with the objectives of the L project, which aimed at more personalized services. However, identifying individual customers’ needs and providing personalized support based on those needs revealed to be challenging, if even possible in the current network. While this challenge was not a novelty as such, the way it was
brought up in the interviews implied a potential for a design approach to better coordinate competences and resources when available. For instance, the interviews revealed that the organizations lacked feasible tools for identifying individual customers’ needs, and second, they lacked the tools for sharing such information within the organization and with other organizations in the network. Especially, the public sector lacked organizational conditions that support horizontal or vertical information sharing within the organization. Furthermore, even if the information was available, the existing legislation and regulations hindered public sector employees from sharing the information, for example, when recommending services from the private sector to customers or when sharing customers’ information with other stakeholders.

**The bureaucratic inertia of the public sector**

One aim of the L project was to build a local cross-sector service network, and pilot new collaborative practices. Although the public sector representatives initiated the L project, the interviewees from the private and third sector organizations pointed out that the public sector was in need of new ways of thinking, and in particular of tools to help them better understand and work together with other actors in the network. In particular, the private sector representatives highlighted the need for a cultural change in public sector organizations that would enable successful cross-sector collaboration. According to the interviews, a hierarchical structure and the bureaucratic decision-making routines in the public sector in general were identified as barriers for the fluent collaboration. In addition, it was observed that public sector employees tended to cling to their existing ways of working, although they were recognizing the need for change. Sometimes the employees even seemed to hide themselves behind ‘self-created, imaginary rules’ as one employee from the public sector stated:

> I have felt that people would like to do more but they face some self-created guideline or regulation that prohibits doing it. People would like to be involved but then you face that we cannot do this or this is not our basic objective. Or, that there are no resources.

People also had contradictory understanding of the aim and the progress of the project. Employees who had been planning the project became frustrated because the same questions and decisions were discussed over and over again in the project group meetings. For example, complex decision-making procedures hindered the possibilities to agile collaborative service development in some cases. The interviewees also said that there were only few occasions where people from all participating organizations or even different sectors were present. The stakeholders outside of the public sector
criticized the process, since they did not meet end-customers or people from the other sectors. For example, the entrepreneurs were not included in the project group or in the steering group but they were expected to network by themselves. They also said that there was too little freedom for the creativity and the network to evolve. An employee from the private sector criticized the process:

There are expectations from the city’s side that they [entrepreneurs] would network. You would expect that this kind of a large environment and project should however be very aware how networking happens. It forms, elaborates, and learns, but in what schedule, you cannot know or define that in advance. Identifying synergies happens step by step it does not happen during one project.

These findings imply that the network actors were working separately to achieve goals that were identified for them, even during the L project, which aimed specifically at enhancing the cross-sector collaboration.

**Lack of trust and commitment**

The interviewees indicated that different actors had prejudices about each other. This caused distrust among participants. Some of the public sector employees were questioning the intention of private companies participating in the project. From their point of view, private companies were profit-driven, and their aim was to take a better position on the market, rather than create something new with the prospective competitors. Interestingly, the private sector’s representatives were also assuming that the public sector would consider them as profit-driven. At the same time, the private sector representatives voiced their doubt on the current system of public sector’s procurement processes: they questioned public sector’s way of primarily evaluating services on the price and not the other qualities of the services, as well as the public sector’s way of estimating the rates of their own services.

Recognizing the complementarities between public, private and third sector services as well as the role and motivation of individual actors to be part of the network is one prerequisite for sustainable collaboration. Thus, it seems important to provide platforms and tools for defining collaboratively common or compatible goals for the development and collaboration as well as potential ways to achieve them. It appeared to be hard for the project participants to build commitment and trust when the objectives for the collaboration were given from the top to meet the organizational strategies and predefined policies.

The interviewees also reported difficulties to involve the right people in the development process, for example, those who were interested in the subject matter and had legitimate authority within
the organization. For example, employees were invited to the project meetings according to decisions made by senior managers, which clearly suggests the traditional hierarchical structure of the public organizations. At the same time, senior managers, who were in decision-making positions, seemed neither to have a thorough understanding of the subject matter of the project nor had time for participating in the meetings. On the other hand, employees whose work could be greatly influenced by the project did not have authority to join the project nor to make essential decisions. While the project particularly aimed at collaboration among the partners, the participants questioned why people keen on participating were not given the resources to fully engage to the development activities as one public sector employee states:

However, you can observe employees having a lot of ideas and willingness to be involved. Or, that s/he is just the right person to participate in this project, just the right person working in the neighbourhood to do this thing. The question is why this kind of a project was started? Why is it expected that the departments collaborate if (the collaboration) is not enabled?

**Lack of resources and sustainable support**
Lack of resources in organizations was another critical issue affecting commitment of the participants in the L project work and the network collaboration, according to the interviewees. Some employees were struggling to combine their everyday work and the R&D activities of the project, which hindered commitment to long-term development activities. For example, the public sector front-line employees and middle managers needed permission from their superiors when participating in the developmental activities. Similar problems were found in the private and third sectors. Due to the small size of the organizations, they had a very limited amount of resources to be used for developmental purpose. It was then critical for the private and third sector representatives to see practical benefits from their investment of time and resources in this kind of development projects. In the L project, some of the participants from the private sector perceived co-design workshops only as a form of ‘tinkering’ rather than a means for creating meaningful, lasting and tangible results. They also criticized the fragmented, arbitrary development projects in general. Participants from the private sector and third sector experienced that participants from the public sector, who actually initiated the project, changed during the process. This inconsistent participation resulted in feelings that the project was not advancing. This then resulted in reduced confidence in the municipality’s capability to implement and scale-up the results after the project.

Another interesting finding was that employees from all different sectors experienced as the most efficient strategy, building
collaborations upon one’s own personal networks. However, that kind of personal network development lacked organizational support to be sustainable. This was clearly observed in the care management concept that was prototyped in the L project. A care manager was hired to help customers and service providers to define best possible service combinations from the local service network for each customer. During the project this service manager created networks that encompassed various actors from different sectors. However, when the care manager left after the pilot, the network built by her started to disaggregate since there was no consolidated practice or system that could sustain its development. Furthermore, the issue of mistrust was observed in the building of these personal networks. The private sector representatives suspected in particular that the public sector employees sometimes recommended particular private service providers based on their own personal relationships.

From our observations from the review of the L project, we can argue that it is critical to first facilitate human-to-human relationships before focusing on a bureaucratic procedure when the task is to build collaborative service networks. Feelings of distrust and challenges to commitment, identified from the interviews, can hardly be resolved through a one-time design project. Nonetheless, the L project enabled people to explicitly talk about such lack of trust and commitment and made people aware that this can form a critical barrier to the creation of the cross-sector collaborative network.

**Reflections on the Role of Design**

Supporting elderly people in achieving their service goals and living at their homes was a shared goal of all stakeholders of the L project. However, the network had to offer benefits for all stakeholders involved, and the customer-centricity was only one aspect of the solution. In addition, stakeholders needed to understand each other’s goals, strengths and weaknesses to be able to collaborate efficiently. In the following, we will describe the role that design had and did not have in the L project on alleviating some of the challenges discussed in the previous section.

**Facilitating an understanding of customer experiences**

Designing is a process of exploration and it applies tools for making sense and sharing insights within organizations and across organizational boundaries. We can glean from the previous section that organizations, employees and customers are often in need of feasible tools for probing and sharing insights related to their current situations, needs, hopes and objectives. For example, the interviews given by front-line employees reveal that they were familiar with the elderly customers’ everyday lives through their work. However, there were no predefined ways, especially in this large public organization, to share their contextual insights and the customers’ true service needs with the back office, responsible for the overall service development.
However, the ability to communicate, coordinate and share information across the organization was recognized as an important organizational factor for utilizing bottom-up innovations and continuous development. In the beginning of the L project design tools were applied to facilitate this process of sharing insights. For example, video clips that were based on customer interviews, were used as a tool to 'wake up' the back office, as a manager from the public sector states:

... service designers who went to customers’ homes and created the video, it was terribly revealing and important for the whole project. It woke you up ... even if it was known in theory that what kind of service jungle customers are trying to cope with, the video really woke you up.

However, these were small efforts done by external service design consultants to cause wake up calls on the matter but not feasible ways to share the customer insights in a structured, coordinated and continuous way. Also, to strengthen the end user perspective, design probes (Gaver et al., 1999; Mattelmäki, 2006) were applied to enable elderly families to express their real-life situations and service needs, as well as reflect upon alternative service solutions. The design probes kit was part of the university’s contribution and it was designed and prototyped by a design student in collaboration with the people from the L project. The probing created a new kind of dialogue between the customer families and the service providers, deepening customers’ understanding even for the experienced front-line employees who knew the customers involved:

In these probes kits there have been issues from familiar customers that I did not know before, even though I have worked with them. It enables to understand better the customers’ situation. During a home visit the background of the customer might be promptly touched upon, and the time before the family care, but these issues are not really gone into. When social department offers services that the customer does not want to have, a tool like the probes can help in understanding the reasons why. More customer understanding!

The interviewees saw the design probes not only as an excellent tool to inform the development process, but also as a feasible way to build actual service combinations for specific customers. In addition, it was recognized that the design probes shifted the focus from the traditional approach of concentrating on the problems of the customers’ everyday life to the positive things that could be supported. In other words, the design probes were seen as a tool to empower the customers to be part of the service personalization.

The videos and probing results generated fresh insights to customers’ everyday life, and thus allowed people inside the organizations
to experience the organization from a customer’s perspective (see also Junginger, 2009). However, as one of the interviewees stated, it is important to understand the needs of all stakeholders in the network, not just the customers. One of her suggestions was that similar design approaches could be used to probe network collaborators for understanding their needs, relationships and challenges and share these insights across the network. Service design has the core in the customer-centred perspective, however, the attention could be shifted to look at other stakeholders in the process, too, in a human-centred way. This kind of a process could help stakeholders to identify the common or compatible goals for the collaboration and thus enhance trust, commitment and strengthen the fragile liaisons. Furthermore, customer-centred approach induces changes in the organizations and relationships between the organizations that need to be acknowledged. These kinds of approaches should be a continuous part of the organizations’ operations, and they should be facilitated by both front-line and back office practices. Furthermore, short-term or arbitrary development projects are not enough for making long-term transformation and establishing commitment in the network. The shared objectives need to be reflected and re-formulated continuously.

Creating collaboration platforms for common or compatible goals

In the L project, making sense of the current situation was one of the first goals. At the same time, the organizations and the people involved needed to envision future collaboration opportunities. In other words, they were in need of tools to identify the common or compatible objectives in order to work towards the agreed vision and to co-create the agenda for the change. Design activities were seen as a means to support the organizations to rethink themselves around the objectives shared in the network. For example, workshops were seen as informal platforms for understanding each other’s perspectives, as well as recognizing differences and similarities. Participants from the different organizations gathered together and ideated models for service management and personal budgeting in the workshops organized during the L project. The design activities also enabled the challenges and solutions to co-evolve as an employee from private sector states:

The workshop, what was talked about, I feel that the right things were discussed and quite special was that in the group work the same setting that this whole project is about was displayed in a miniature size. People talk different languages; they depict the context and the field in different ways … But extremely interesting because it represents the co-creation that takes place in the borders of different practices.
Interviewees’ comments on the role of service design suggests that co-design workshops and visualizations were experienced as valuable in bringing people together to discuss, map and rethink, producing synergies in the networks. Junginger (2009: 237) points out that it is crucial to facilitate organizational transformation horizontally, rather than top-down or bottom-up, to engage members of organizations at different levels to co-designing, and thus enable affecting the structures of the organizations.

**Discussion**

Our review of the L project interviews and the review of the literature point to several potential barriers in the creation of cross-organizational service networks. Furthermore, our review of the interviews indicates additional points for further consideration when applying service design approaches in the creation of cross-organizational service networks. We summarize these findings in Table 1.

In our study the service actors realized that sharing of customer information within and across different organizations is one of the key factors in achieving collaborative and customer-centred service networks. However, the public sector organizations that initiated the L project lacked tools and practices for collecting and elaborating customers’ experiences. In addition, they did not have the proper tools and work processes for sharing the customer information across different departments within the organization, as well as across the different sectors. Whereas we propose the role of design for tackling these challenges in the L project, building on empathic design and collaborative design, the existing laws and regulations that hinder information sharing across different organizations still remain a critical barrier. How to encourage effective information sharing while securing ethical issues and organizational policies needs further exploration. Design experiments and iterative prototyping could also allow the public organizations to question whether the existing practice and policy is the right direction.

In a collaborative project like the L project, the participants tend to expect collaborative decision-making. However, hierarchical and bureaucracy-driven decision-making practices were still observed, especially apparently from the public sector organizations. The front-line employees in the public sector and the private company representatives emphasized the need for open discussion to build a strategy to better decide on whom to involve in different phases of the project.

We also recorded various concerns relating to ways to maintain the participants’ commitment level. Participants’ commitment level was reported to decrease when the objectives for the collaborative networks were given from the top (e.g. the managerial level in the public sector) based on the predefined strategies and organizational policies, rather than collaboratively identified. The project aims to
Table 1 Summary of the findings: Challenges in cross-organizational service networks and the role of design

<table>
<thead>
<tr>
<th>Identified barriers</th>
<th>Roles of design in the L project</th>
<th>Critical points for further consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Lack of tools and practices for understanding individual customers' needs</td>
<td>- Empathic design tools (e.g., probes) for gathering customer experiences (Mattelmäki, 2006)</td>
<td>- Empathic design tools can be applied to diverse service actors to support their own understanding of each other (beyond customer understanding).</td>
</tr>
<tr>
<td>- Lack of tools and practices for sharing customer insights within, and other organizations</td>
<td>- Visualizing and storytelling for bringing customers’ experiences alive (e.g., customer journeys, personas and video clips).</td>
<td>- How to encourage effective information sharing across different organizations when existing laws and regulations do not allow it?</td>
</tr>
<tr>
<td>- Hierarchical structure of the public sector</td>
<td>- Using customer insights as a shared starting point among different actors</td>
<td>- Whom to involve in the co-design process should be openly discussed and identified from the early phase of the project, both within the organization and across different organizations.</td>
</tr>
<tr>
<td>- Bureaucratic decision-making process</td>
<td>- Co-design workshops for enabling employees in different positions in the organization to meet and discuss face-to-face (e.g., Buur et al, 2013; Vaajakallio et al, 2013)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Co-design workshops as informal platforms for understanding each other’s perspectives, helping them recognize differences and similarities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Looking at one’s own organization from outside in (e.g. customer insights, other actors’ perspectives) and questioning existing practices (e.g. prototyping) (Junginger, 2008)</td>
<td></td>
</tr>
<tr>
<td>- Lack of trust and commitment</td>
<td>- Revealing tensions and prejudices between service actors in co-design workshops (Buur and Larsen, 2010)</td>
<td>- The aims for development and collaboration should be collaboratively defined, rather than given from the top.</td>
</tr>
<tr>
<td>- Tensions and prejudices across the different sectors</td>
<td>- Setting platforms and applying tools for defining collaboratively common or compatible goals</td>
<td>- Simulation of outcomes and benefits through iterative prototyping could increase commitment (Junginger, 2009)</td>
</tr>
<tr>
<td>- Lack of resources and sustainable support</td>
<td>- Simulating future benefits to the service actors.</td>
<td>- Human resource management for the project participation should be carefully strategized for consistent participation and sustainable development.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Identifying the key person from the organization for managing the change could support the success of the project and the implementation of the outcomes.</td>
</tr>
</tbody>
</table>
develop cross-organizational collaborative networks, thus, roles and motivations of individual actors should be carefully taken into account from the planning phase of the project, while the diverse actors should be involved to co-define the common or compatible objectives. Second, allocation of human resources for the project should be carefully strategized to enable consistent and sustainable development of the project. Having observed frequent short-term development projects as well as the changes of the project participants from the public organization, the private company representatives voiced their doubt on feasibility of the further development and implementation of the L project. This doubt affected their motivation and commitment to participation. We suggest that identifying the key persons, who are passionate about the subject matter and facilitate consistent and sustainable development of the project, could be a crucial factor for dealing with this challenge.

Ensuring possibilities of the future implementation of the project is also important to keep the commitment level of private companies. This is because the participating private companies were rather small and do not have sufficient resources for continuously participating in the research and development project. Design tools can help with this, applying iterative prototyping approaches to simulate impacts and values of their participation. In the case of complex service networks as in the L project, what should be prototyped would be possibilities of *infrastructuring* for collaboration (Björvinsson et al., 2010), not just new service concepts.

**Conclusions and Future Directions**

In this paper we reviewed interviews about participants’ experiences gathered during the L project. Our review paid attention to the needs and barriers that exist in cross-organizational and cross-sector collaboration in service networks, and to the opportunities service design might provide in tackling these challenges. In general, the L project succeeded in strengthening customers’ perspective in the service development. However, our review of the networking issues indicated that, in addition to customer-centredness, enhancing development of cross-organizational collaboration practices is vital between different service network actors. The collaboration in the network is based on fragile connections between different stakeholders.

The L project enabled all participating organizations to realize their different, sometimes conflicting viewpoints. This affirms that co-designing practices can have a role in organizational transformation, as they allow conflicts within collaborative units to become visible and thereby promote a shared understanding that is required for framing solutions (see e.g. Buur and Larsen, 2010). This also resonates with Junginger’s (2008, 2009) explanation on the role of design as an enquiry into the organization. Design methods can contribute to the ways organizations learn about themselves and about
each other. Thus, some of the identified needs and challenges can be tackled with design approaches and competences. Design can potentially offer new tools and different mindsets for human-centred practices, iterative prototyping and speculation with the future collaboration and service opportunities.

The L project represented the beginning of processes of networking and collaboration. This paper is part of our ongoing work to explore the role of design in a complex setting of cross-organizational and cross-sector service networks. Based on the interviews we have been able to document how design’s role had positive influences in the process, but clearly it did not address many of the critical concerns expressed by the participants. The development of the network continues and we aim to longitudinally follow the implications of this specific experiment and nurture the fragile liaisons formed during the L project.

References
Gallouj, F., Rubalcaba, L. and Windrum, P. (2013). ‘Public–private innovation networks in services (ServPPINs)’. In Gallouj, F.,


Biographies

Jaana Hyvärinen, MSc (Architecture), MA (New Media), is a service designer and a doctoral candidate at the Aalto University School of Arts, Design and Architecture. Her research focuses on the role of design in the development of and collaboration within service networks.

Jung-Joo Lee, Doctor of Arts (design), is an assistant professor in Division of Industrial Design in National University of Singapore. She holds her doctoral degree from Aalto University in Finland and worked in various multidisciplinary projects on service design, co-design and creative interaction design. Her current research explores how to create collaborative platforms between citizens and public organizations through co-design experiments and social technologies.

Tuuli Mattelmäki, Doctor of Arts (design), is an associate professor and the leader of Encore-research team at the Department of Design in Aalto University School of Arts, Design and Architecture. Her research interests cover empathic design, co-design and service design and she is inspired by exploring co-creative practices in new application fields of design.

Addresses for Correspondence

Jaana Hyvärinen, Aalto University, School of Arts, Design and Architecture, Department of Design, Hämeentie 135C, Helsinki, Finland.
Tel.: +358 9 47001
Email: jaana.hyvarinen@aalto.fi

Jung-Joo Lee, Division of Industrial Design, School of Design and Environment, National University of Singapore, 4 Architecture Drive, Singapore.
Tel.: +65 6601 3981
Email: jjlee@nus.edu.sg

Tuuli Mattelmäki, Aalto University, School of Arts, Design and Architecture, Department of Design, Hämeentie 135C, Helsinki, Finland.
Tel.: + 358 50 3724428
Email: tuuli.mattelmaki@aalto.fi

Acknowledgements

The authors wish to thank the Innovative City® Programme for funding this research project, Kirsi Hakio for her contribution in the project, and all interviewees who participated in the study. We would like to thank the anonymous reviewers and the editors of this special issue for their valuable comments during the finalising phase.