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The Barriers and Enablers of Co-design for Services

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As interest towards co-design for services in the public sector and in companies is growing, the benefits and challenges of applying it in organisations have become a topical issue. This article opens up factors that influence the success of co-design activities in the development of services among cross-disciplinary networks. It presents the findings from follow-up interviews assessing the impacts of six service co-design projects realised by a university with partners from healthcare, education and technology. The focus is on the barriers and enablers of co-design that the participants had encountered. The central findings are that a university-led service co-design project remains a superimposed activity with low impact on actual design decisions or core activities in the client organisations and that the utilisation of co-design greatly relies on individual, committed participants. Based on the empirical material, 20 barrier-enabler couples related to collaboration, the organisation, processes, implementation and methods are identified and described, the consideration of which can lead to more impactful service co-design practice.

Keywords – Co-design, Collaboration, Design for Services, Organisational Change.

Relevance to Design Practice – The study provides empirically grounded guidelines for developing the methods and practices of service co-design towards greater leverage and viability. The results can be utilised by practitioners when designing for services in complex real-life contexts.

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Introduction

The growing scale and complexity of design problems has engendered a move towards more open and collective design activity where multiple stakeholders, particularly the end users but also professionals from other fields, are included as equal partners in the design process. Co-design, defined by Sanders and Stappers (2008) as the “creativity of designers and people not trained in design working together in the design development process” (p. 2), reflects a shift of focus from products to broader human goals and propagates the ability of design to tackle complex societal problems.

At the same time, Western societies are moving into service-based economies. To improve their competitiveness in conditions characterised by diversification of customer needs, immaterialisation of products, flexible manufacturing methods and co-creation of value, businesses are shifting from goods-dominant to service-dominant logic, where services offered to customers in continuous interaction with them become the means of value creation (Lusch & Vargo, 2006).

In this situation, service design has emerged as a new area of design practice and research that brings the user into the centre of the development of services (Kimbrell, 2009; Mager, 2008). From its early focus on service touchpoints, service design has expanded towards ‘designing for services’ in broader multi-actor service systems where it can have more profound, transformative effects to organisations and people’s lives (Meroni & Sangiorgi, 2011; Stickdorn & Schneider, 2010).

The public sector, such as healthcare and social services providers, has begun to adopt approaches from (collaborative) design for services (e.g. Design Commission, 2013; Keinonen,

Vaajakallio, & Honkonen, 2013). Thus, service design and co-design are gaining importance as part of the public innovation system. They can be applied for public policy making and implementation (Bason, 2014; Junginger, 2013) or in cities for addressing topics related to the urban environment and its services that are beyond the scope of the urban planning process (Design Driven City, 2015; Fuad-Luke, 2012).

As co-design for services is increasingly utilised by public and private organisations, more knowledge is needed on the method-related, practical, organisational and other factors that impact its effectiveness and play a part in its diffusion.

Focus and Objectives

This paper aims at shedding light on the prerequisites of co-design for services by identifying empirically grounded barriers and enablers that hinder or support co-design activities in cross-organisational networks that are developing services. The focus is on co-design as facilitation of collaboration rather than on participatory design with users. The paper is based on follow-up interviews that assess the course and impacts of six

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publicly funded, research-driven co-design projects in which designerly methods were used for supporting collaborative service development. The main objectives are:

- To gain a more structured and comprehensive understanding about the barriers and enablers experienced in cross-organisational service co-design endeavours.
- To increase the knowledge on the role, advantages/disadvantages and effectiveness of specific methods and skills in facilitating co-design for services.

The study seeks to contribute to research and practice. It complements previous research through a cross-project analysis, with a focus on service co-design methods and skills. As a practical outcome, learnings from the case projects are brought to a broader audience, providing guidelines for developing the methods and practices of service co-design towards more leverage and viability.

The paper begins with an overview of previous research from the fields of organisation studies and design, after which the case projects and the analysis method are opened up. The main findings are presented as 20 barrier-enabler couples, explained with the help of the data. The implications to design research and practice are discussed in the conclusion chapter.

Boundary-crossing Collaboration and Organisational Change

The nature and prerequisites of collaboration are a widely researched topic in organisation and management studies (e.g., Gray, 1989; Huxham, 1996; Kanter, 1994). It is acknowledged that a combination of viewpoints enables the parties to see beyond their own limited vision, increasing the potential for innovation and creativity in what Kanter (1994) calls ‘collaborative advantage’. However, it has also been recognised that organisations and their members resist change and external impacts—individuals because of habit, need for security or fear, and organisations due to structural inertia and threats to expertise, the power hierarchy and resource allocation (Robbins, 1991, p. 639-643). Collaboration requires a change of organisational culture, which is slow and difficult, especially on a level which addresses underlying values and assumptions (Gagliardi, 1986; Schein, 1985). Collaboration is typically realised by temporary multidisciplinary teams (“adhocracies”, Mintzberg & Mintzberg, 1988, p. 182), which are fragile and need a lot of management support to survive (Axelsson & Axelsson, 2006).

Co-design for services necessitates working across organisational, sectoral and jurisdictional boundaries and divergent realms of knowledge or “thought worlds” (Carlile, 2002; O’Flynn, 2014). The ability to build new “boundary-spanning” practices that draw on diverse bases of expertise has been identified as a key competence in organisations. It requires “boundary

spanners-in-practice”, agents who engage in negotiating the boundaries of diverse fields to create new joint fields of practice (Levina & Vaast, 2005). Carlile (2002) and O’Flynn (2014) also stress the role of shared ‘boundary objects’ (see Star & Griesemer, 1989), such as diagrams or other simplified visual representations in aligning of interests, transfer of knowledge and learning across boundaries. Boundary objects are plastic enough to be perceived and used differently by different actors, yet commonly understandable across social worlds.

Previous research lists a number of obstacles to inter-organisational, intra-organisational and inter-disciplinary collaboration in the public and private sector as well as means to overcome them (Axelsson & Axelsson, 2006; Huxham, 1996; Kanter, 1994; O’Flynn, 2014; Widmark, Sandahl, Piuva, & Bergman, 2011). The impediments include rigid hierarchies, prejudices and mistrust, conflicts of interest, a lack of clarity about common goals, differences in organisational culture, poor allocation of responsibilities, a lack of resources and management, a lack of commitment or incentive, and discontinuity. Correspondingly, equality, trust, common interests and goals, facilitation, accountability and budgeting, managerial support, formalised support structures and continuity can promote collaboration.

The “power and politics” aspect of collaboration (O’Flynn, 2014), somewhat overlooked in the management field, is evident in the public realm, especially in healthcare and participatory urban planning (e.g. Till, 2005). A Swedish study on the obstacles of collaboration between healthcare, social services and schools in an urban district identified lack of confidence and problems in the way the professionals encounter each other, such as inequality and territorial thinking, as major barriers (Widmark et al., 2011). The authors stress the value of creating a “holding environment”, an open and equal social context that reduces disturbing affect and facilitates common sense making. This resonates with the goals of co-design events and empathic design.

In university-industry collaboration, the different incentive systems and nature of knowledge create a barrier that can be mitigated by experience, using a variety of formal and informal interaction channels and building trust (Bruneel, D’Este, & Salter, 2010). As for internal obstacles, inter-unit collaboration in large companies in a study by Hansen and Nohria (2004) was hampered by unwillingness or inability of people to seek input and learn from others or to transfer knowledge. To avoid this, management should integrate collaboration into leadership, values and goals, hire people with collaborative tendencies and offer ways for best-practice transfer and for the cross-pollination of ideas.

To sum up, in the light of organisation and management studies, collaboration is a transformative capability that necessitates the crossing of the structural, cultural and other boundaries of individuals, organisations and networks and can be supported by strategic, operational and cultural integration, by the creation of trust and through the recognition of mutual value among the actors. Next, these insights are brought into focus by illustrating them using more method-specific experiences drawn from design research and practice.

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Co-design for Services in Cross-organisational Networks

Co-design for services among multi-disciplinary networks of stakeholders constitutes a particular case of cross-organisational collaboration that is characterised by human-centredness and utilisation of designerly methods and tools to acquire contextual knowledge, to bring the actors together and to create and visualise new viable solution ideas. There is a considerable amount of literature about the characteristics as well as the benefits and hindering factors of applying design in organisations.

Junginger and Sangiorgi (2009, see also Sangiorgi, 2011) emphasise that design is inseparable from organisational change and can operate in an organisation in many ways and depths. Similarly, Meroni and Sangiorgi (2011, p. 202-204) note that service designers can work on different levels (from operational to strategic) and with varied methods and aims, ranging from designing interactions to exploring new service models and imagining future directions for service systems.

Within service systems and networks, co-design can facilitate the identification of user needs and shared innovation processes (e.g., Cottam & Leadbeter, 2004). However, companies have been slow in adopting co-design because it threatens existing professional hierarchies, is antithetical to consumerism and is considered an academic effort with little business relevance (Sanders & Stappers, 2008). In the public sector, fear of novelty, avoidance of risks and prejudices towards unconventional methods may hamper service design experiments (Bason, 2014; Kurronen, 2014).

When aiming at embedding co-design for services in organisations, building design capability over time and sustainable co-design practices would be more beneficial than short-term interventions (Bailey, 2012). It should also be recognised that organisations are on a different maturity level regarding the utilisation of design (Brown, 2009). Moreover, each organisation has its individual “design legacy” that determines present solutions. This needs to be understood for new solutions created through the collaborative process to be adopted (Junginger, 2014).

Steen, Manschot, and De Koning (2011) identify three types of benefits of co-design in service design projects: co-design can benefit the *design project* itself by increasing knowledge relating to user needs and by triggering better design ideas, can benefit the service’s *customers* by leading to services that match better their needs, or co-design can benefit the *participating organisation(s)* by improving cooperation between people and disciplines or by enhancing innovation practices. Aside from practice, co-design can affect the actors’ *thinking* (mindset) e.g. by making them understand the value of co-creation and the importance of empowering external stakeholders and customers (Suominen & Pöyry-Lassila, 2013).

Methods play a crucial role in crossing design boundaries and reconciling differences in cross-organisational service networks. In contrast to traditional development work, co-design for services is supported by inspirational visual methods and tools, design games, graphic representations and artefacts that facilitate the sharing of user knowledge, the negotiation of controversies, the generation of new solutions and rapid experimentation (Ehn,

1988). The representations by designers (personas, scenarios, concepts, process maps, etc.) can become effective boundary objects (Carlile, 2002).

Vaajakallio, Lee, Kronqvist, and Mattelmäki (2013, p. 8) state that explorative, provocative “design thinking and making” can challenge established viewpoints and practices and reveal unrecognised solution opportunities. The co-design approach provides “a platform for public sector representatives and citizens to physically meet, share and negotiate their perspectives” and supports the creation of trust. Empathic methods bring the citizens into the centre of service development and help non-designers in articulating their ideas. As prerequisites of co-design, Vaajakallio et al. stress the design maturity of the organisation and the importance of committed “change agents” who spread the outcomes in the organisation and build co-design skills internally (as also suggested by Levina & Vaast, 2005).

Regarding practical barriers and enablers of co-design, Dutch researchers (Kleinsmann, Valkenburg, & Buijs, 2007; Kleinsmann & Valkenburg, 2008) have studied the factors that support or hamper the creation of a shared understanding in co-design. Their cases are from the automotive industry and are limited to the perspective of the design team. They identify factors that influence the effectiveness and quality of co-design on three levels. On the *actor level*, the most important factors are the actors’ ability to transfer knowledge and the equality of the language, on the *project level* the efficiency with which information is processed and the quality of project documentation, and on the *company level* the organisation of resources and the allocation of tasks and responsibilities.

Analysing one of the case projects in this article, Hyvärinen, Lee, and Mattelmäki (2015) identified the complexity and fragmentation of services, top-down thinking and a lack of organisational support for building new networks as main barriers to cross-organisational collaboration in developing services for the elderly in an urban area. They pinpoint that aside from customer-centredness, it is crucial to develop methods and practices for facilitating actual collaboration between actors in a particular context.

In summary, research on cross-organisational (service) co-design, largely in line with the research on collaboration in general, highlights organisational hierarchy and culture as the main barriers to co-design, and shared user focus, openness and inspirational, experimental methods as the main enablers of co-design. The existing research, however, is rather general in its outcomes or limited in scope. A more systematic “typology” of hindering and supporting factors across cases has been missing. This article seeks to fill in the gap through an analysis of empirical data covering an array of different types of service co-design projects in the fields of technology, healthcare and education.

The Case Projects

The study material derives from a trans-disciplinary research project called “ATLAS: Map for Future Service Co-development” (2012–2014). The project aimed at developing a “big picture” of service co-development methods through an analysis of 13

university-led applied research projects in Finland with different theoretical starting points and in different service contexts. The selection criteria used for focusing on these particular studies included their focus on cross-organisational service development, their use of designerly methods and access by the researchers to the project data. The follow-up interviews used as material in this paper focus on six of the case projects, carried out between 2006 and 2012 by two research units from the fields of industrial design and industrial engineering and management (see also Table 1).

- *The School Project* (interviews 1–8) studied the collaborative public-private service innovations in the “extended teaching processes” of comprehensive schools, developing new, networked service concepts and business models of the “extended school”. The project had several cases focusing on different schools. The interviews mostly deal with a case that focused on the merger of two schools in Helsinki. The project was conducted by a research unit in industrial engineering and management. The partners included several schools, the city and companies. The methods that were used included *process simulation*, *future recall*, *personas* and *scenarios*.
- *The Virtual Innovation Project* (interviews 9–12) was designed to develop innovation processes and practices and new ways of co-creating ideas. It focused on the internal service development of a pilot company’s innovation processes and related digital tools. The process of introducing a new software for submitting ideas was studied and ways to improve its adoption were sought in collaboration with employees. The project was led by a global technology manufacturing corporation and was overseen by a research unit in industrial engineering and management. The methods included *process simulation*, *future recall*, *personas* and *scenarios*.
- *The Service Design Project* (interviews 12–13) explored service co-design as a strategic means for building novel business partnerships, for promoting the pilot company’s willingness to understand their end users, and for communicating its new user-centred slogan within the organisation. The interviews focus to a case concerning the recognition of novel partnership possibilities between three companies in senior housing. The project was led by the same technology corporation that was involved in the Virtual Innovation Project and was overseen by a research unit in industrial design. The methods included *design games*, *personas* and *acting and drama*.
- *The City Services Project* (interviews 14–16) looked at the application of human-centred co-design and service design methods in the development of public services provided by the city. The partners included the city (who also funded the work), healthcare service providers and a consulting firm. The interviews deal with a pilot focusing on the development of customer-centred networked service models for carer families within an urban neighbourhood. The co-creation part in the project was realised by a research unit in industrial design. The principal methods were *design probes*, *design games*, *storytelling* and *scenarios*.

Table 1. Comparison of the case projects.

		<i>School project</i>	<i>Virtual innov. Project</i>	<i>Service design project</i>	<i>City services project</i>	<i>Wellbeing project</i>	<i>Hospital project</i>
Participants	Public Sector	●			●	●	●
	Private Sector	●	●	●	●		
	Employees	●		●	●	●	●
	Users, Customers				●		●
Focus	Product, Service, Tool		●	●	●	●	●
	Space, Facility	●		●			●
	Process, Practice	●	●		●	●	●
	Network, Partnership	●		●	●		
Methods	Workshops	●	●	●	●	●	●
	Process Simulation	●	●				
	Future Recall	●	●				
	Personas	●	●	●			
	Scenarios	●	●		●		●
	Design Probes				●	●	●
	Design Games			●	●		●
	Acting and Drama			●			
	Storytelling				●		
	Customer Journey						●
	Prototyping						●

- *The Wellbeing Project* (interviews 17–18) dealt with the co-design of human-centred wellbeing and healthcare services together with municipalities. The interviews are from a case focusing on the development of psychiatric treatment environments and services in public healthcare. The case was realised as a study project by a multi-national group of students of industrial design. *Design probes* and *co-design workshops* were the main methods.
- *The Hospital Project* (interviews 19–23) aimed at bringing forth the needs of the patients for improving and designing patient-centred healthcare services in a university hospital. The first phase aimed at improving the patient service and patient experience of sarcoma-type cancer patients through design research. The second phase focused on prototyping the future work, care and recreation spaces in the hospital with the help of a cardboard model. The project was realised by researchers in industrial design with personnel in the pilot hospital. *Design games*, *customer journey*, *scenarios* and *prototyping* as well as a *design probes* type task were utilised.

As seen, the case projects represent a broad array of topics, objectives, actors and approaches. Four projects were situated in the public sector, either education (the School Project) or healthcare services (the City Services Project, the Wellbeing Project and the Hospital Project). Two projects were industry-led, incidentally by the same large technology company. Regarding the facilitator side, the projects divide into those grounded in industrial engineering and management (the School Project and the Virtual Innovation Project) and those driven by the design discipline (the Service Design Project, the City Services Project, the Wellbeing Project and the Hospital Project).

The participants to the collaborative activities were representatives of the client organisations, typically people in managerial and development roles (see Table 2). Also other personnel, such as teachers in the School Project and nurses in the Hospital Project, were involved. External users participated in the City Services Project (seniors and home carers) and in the Hospital Project (patients). However, in most projects some methods for bringing in the user perspective were used.

Importantly, the focus and scale of development also varied, ranging from the improvement of a web-based tool (Virtual Innovation Project) to the development of the spatial solution and operations of a new hospital unit (Hospital Project), and to the creation of a new service model and network of actors supporting home care (City Services Project). Some of the projects focused more on the physical space while in others the intangible service or the network was emphasised.

The wealth of foci in the projects necessitates a broad definition of service. The School Project approached the school as a service. The Virtual Innovation Project developed a digital service. The Service Design project targeted services for senior housing. The City Services Project, the Wellbeing Project and the Hospital Project focused on healthcare and related services. Along the lines of Meroni and Sangiorgi (2011), all can be described as *design for services*. All projects included what can be called *service co-design interventions* (Suominen & Pöyry-Lassila, 2013), that is, short-term

collaborative development activities led by researchers where the object of development was conceptualised broadly as a service and where creative and collaborative methods were utilised.

The methods are summarised in Table 1. As a general distinction, the two projects led by the industrial engineering research unit relied on specific methods for creating visualised process models (*business process simulation*) and common visions of the future (*future recall*). The future recall method was originally developed for facilitating network dialogue in social services (Seikkula, Arnkil, & Eriksson, 2003). It is based on imagining a desired future and “reconstructing” the path to it from the present. The design-led projects utilised more experimental and user-centred methods, including *design probes* for gathering contextual user knowledge (see Mattelmäki, 2006), *design games* (see Vaajakallio, 2012) and *storytelling/acting*. Actual service design methods (*customer journey mapping* and elementary service *prototyping*) were only used in the Hospital Project.

The concrete outcomes of the projects varied. The researchers mostly contributed to the overall goal indirectly by providing user knowledge, design guidelines, development ideas, concepts and scenarios. Implementation and real-life design decisions were left to the clients. During the projects, the researchers produced reports, presentations, diagrams, other visual material and tangible artefacts such as rapid prototypes or mock-ups, design games and other co-design tools.

Various terms were used in the projects for describing the collaborative activities, namely *co-design*, *co-creation* and *co-development*. The interpretations of the two first notions have been discussed by Mattelmäki and Sleeswijk Visser (2011), who conclude that from within the design field, co-design can be seen as the overall approach within which specific co-creation activities take place to harness the collective creativity of the actors. In line with them and to anchor the work to design studies, the term *co-design for services* is used here regardless of variation in the sources.

Co-design in the projects was not primarily participatory design, even if users or customers were involved, but rather designers working as facilitators in cross-organisational networks, enabling people from different backgrounds to work together towards a common goal.

The Data and Analysis Method

The aim of the follow-up interviews conducted in the ATLAS project was to evaluate the methods, processes and impacts of co-design in the case projects and to gather the participants' experiences to benefit academic research. The framework for the semi-structured interviews was devised by the research team. The interviewees, recruited among key project members, were asked to reminisce about the co-design project in which they had participated and to assess it critically. The main themes were:

- *The co-design project and its impacts*: Own role and role of others; the goals of the project; outcomes and development ideas based on the project; implementation of the results.

- *The methods, tools and artefacts used in co-design*: Experiences of using specific methods; their advantages and disadvantages; later adoption of methods in own work or organisation.
- *Present utilisation of co-design*: More general discussion on the nature and challenges of co-design and other development activities from the interviewee's perspective.

In total, 23 interviews were conducted by four researchers. They lasted from about one to two hours. One interview was with a group of three persons (1, 2, 3) and one with two persons (20, 21). Written transcripts of the interview recordings have been used as primary sources in the analysis.

The distribution of the interviewees according to project, their occupation and organisation is shown in Table 2. There were eight interviewees from the School Project, three from the Virtual Innovation Project, two from the Service Design Project (of whom one had also participated in the Virtual Innovation Project), three from the City Services Project, two from the Wellbeing Project and five from the Hospital Project. Among the participants were 14 public sector employees (five teachers, five healthcare professionals and four city development officers), five company representatives and four researchers or students who had worked as facilitators in the projects.

For this paper, the complete collection of interview data were analysed by the author with the aim of identifying barriers and enablers. The starting point was a hypothesis based on existing research about the role of supporting and hindering factors in co-design. The analysis method was mainly content-driven. The aim was to look for occurrences of perceived barriers and enablers in the data without a preconceived framework. The results could then be reflected against previous research.

The method for eliciting the barriers and enablers can be described as factoring (Miles & Huberman, 1994). In the first phase, the interview transcripts were read closely by the author and all instances that could be interpreted as a barrier or enabler were marked in the text. Some of the barriers and enablers were explicitly mentioned by the informants while others were more implicit in the material. At this point, all articulated or implied barriers/enablers were considered.

In the second phase, the large number of identified barriers/enablers were categorised according to affinity. This led to the emergence of broader categories dealing with certain themes or aspects of co-design. In general, a category was included if there was evidence for it from multiple informants. Marginal or weak categories were left out or combined into others.

Table 2. The interviewees.

ID	Project	Occupation	Organisation
1	School Project	Principal	Comprehensive School, Lower Stage
2	School Project	Principal	Comprehensive School
3	School Project	Principal	Comprehensive School
4	School Project	Communications Manager	City, Education and Cultural Services
5	School Project	Administration Manager	City, Education and Cultural Services
6	School Project	Development Director	City, Education and Cultural Services
7	School Project	Lecturer	Comprehensive School, Upper Stage
8	School Project	Special Education Teacher	Comprehensive School, Upper Stage
9	Virtual Innovation Project	Research Director	Technology Corporation
10	Virtual Innovation Project	Senior Usability Specialist	Technology Corporation
11	Virtual Innovation Project	Development Director	Technology Corporation
12	Virtual Innovation Project and Service Design Project	Product Release Manager	Technology Corporation
13	Service Design Project	Project Manager	Technology Corporation
14	City Services Project	Special Advisor	City, Economic Development
15	City Services Project	Doctoral Candidate in Design	University
16	City Services Project	MA Student in Design	University
17	Wellbeing Project	Chief Physician	Psychiatric Clinic
18	Wellbeing Project	MA Student in Design	University
19	Hospital Project	Orthopediatrician and Traumatologist	University Hospital
20	Hospital Project	Service Planner	University Hospital
21	Hospital Project	Nurse	University Hospital
22	Hospital Project	Customer Services Development Manager	University Hospital
23	Hospital Project	Doctoral Candidate in Design	University

In the third phase, the categories, each comprising many singular examples of barriers/enablers from the material, were further reduced and generalised into more abstract factors. The resulting higher-level barriers and enablers were described and named to crystallise their core content. To test accuracy, they were also discussed with the researchers who initially conducted the interviews.

During the analysis, it became evident that many of the identified barriers and enablers seemed to mirror each other. An enabler could be seen as the solution to a barrier. This led to the forming of barrier–enabler couples. However, the correspondence between a particular barrier and enabler may sometimes be a bit forced. More research would be needed on their interconnections. Moreover, the results mainly reflect the participants' subjective experience. Many of the participants were also proponents of co-design in their organisation, which may have induced a bias towards overt positivity.

Several articles making use of some parts of the interview data have been published previously (Hyvärinen et al., 2015; Suominen & Pöyry-Lassila, 2013; Vaajakallio et al., 2013). This paper is the first to provide a comprehensive cross-case analysis. The main results are presented in the following two sections.

The Tension in Co-Design for Services

A tension concerning the impacts and outcomes of co-design emerged in the interviews (see Figure 1). In terms of outcomes, it seems that a service co-design project conducted by a university easily remains a superimposed one-off activity with weak connection to actual end solutions and with relatively little value or impact on the participating organisations' core activities, aside from a change of mindset towards more user orientation or some incremental development ideas. More sustained co-design that would truly add value for the organisations seemed difficult to attain. The perceived impacts of the co-design projects would be the topic of another paper. Here, the tension provides a starting point for understanding the barriers and enablers in co-design that influence effectiveness of the projects.

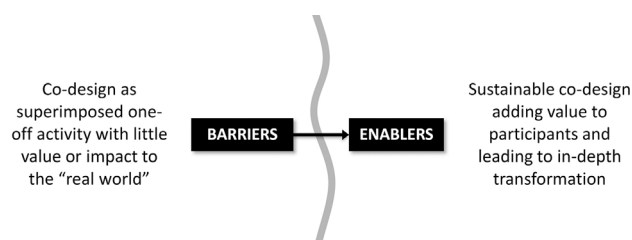


Figure 1. The tension in co-design for services.

The Barriers and Enablers of Co-design for Services

In the material, the participants brought up some barriers, that is, constraining factors that hindered the success of co-design for services and eroded collaboration in the projects. They also discussed various enablers that contributed to making the project succeed. 20 barrier–enabler couples could be deduced from the

interviews (see Figure 2). They relate to the broader themes of *collaboration*, the *organisation*, *processes*, the *implementation* of outcomes and the *co-design methods*. The barriers and enablers offer an overview of some of the critical issues and challenges faced by professionals undertaking service co-design (see also Kleinsmann et al., 2007; Hyvärinen et al., 2015).

The barrier–enabler couples are described in greater detail below. There is a short description of each complemented by examples and quotes. The first chapter describes the barrier and the second chapter the corresponding enabler. The numbers in brackets refer to the interviews in which the particular barrier/enabler came up (see Table 2). They are included for reasons of transparency and to allow the reader to go into more detail regarding the experiences of specific actors. The term *facilitator* refers to the researchers or students who planned and realised the co-design activities.

Collaboration: Finding a Common Ground

The first six barrier–enabler couples (1–6) describe the general prerequisites of cross-organisational collaboration: the creation of trust, overcoming cultural differences, finding shared value, dealing with hierarchy and complexity and taking responsibility for collaboration.

1. Prejudices and misconceptions → Trust through making together

There were prejudices among the organisations that required time and social interaction to overcome. Design and particularly service design were unfamiliar to many. The partners typically were suspicious about the co-design approach in the beginning. They had misconceptions about the leverage of design and questioned the relevance of the methods and the return on investment. Prejudices could exist on both sides: in the Wellbeing Project, the hospital staff understood design as superficial decoration whereas the students had prejudices about mental healthcare patients, doubting for example their ability to use digital services. Co-design was basically seen as something positive but it also required a lot of justification to the client. In many other fields, people are used to finished solutions. Prototyping and experimentation with unfinished, open solutions could be hard to accept. (7, 12, 15, 17, 18, 19)

Starting to make things together created commitment and trust. Embarking on the co-design events typically gradually changed the participants' attitude towards design, diminished opposition and created trust. The mindset and atmosphere among the participants influenced how the collaboration ended up. Setting the stage and overcoming prejudices was an important task for the facilitators. Their confidence was especially important when using unconventional methods, such as the design probes in the hospital context or the design game in the City Services Project. They needed to overlook initial objections and prime the client well beforehand. Importantly, getting to know people personally lowered the threshold of opposition to collaboration. Personal chemistry and unofficial networks were deemed important in sustaining the collaboration. (7, 8, 15, 16, 17, 18, 20, 21, 22)

2. Differences in language and culture → Credible, responsive communication

The participants experienced major differences in language and vocabulary in cross-disciplinary collaboration. Unfamiliar words and terms created misunderstandings and it took time to find a common ground. The administrative language of the city, the language in healthcare, the business language, the laypeople's language and the researchers' language each have their own terminology and way of speaking. Many field specific things also seemed self-evident, and tacitly known. Truly being listened to and getting the message through was a challenge. The nurses in the Hospital Project for instance were concerned that the designers didn't comprehend their needs. The organisational culture differed even between sectors or units. Some were more open to collaboration than others. A "wrong" message by the facilitators could also hamper collaboration. For instance, the users should not be given too positive promises on their ability to influence. (6, 14, 17, 19)

In line with Kleinsmann and Valkenburg (2008), the material shows that to achieve a shared understanding and to integrate knowledge, effort is needed in co-design projects to overcome the differences between professionals, each with their particular language and conceptualisation of design. Finding a common ground can be supported through personal face-to-face communication. The participants need to explain, show, make, adjust the message, and translate among disciplines. Designers also need to adjust their communication according to the context and the identity of the receiver. Especially in the process-driven and hierarchic hospital organisation, "hard" vocabulary is needed to ensure the credibility of the designers. "Soft" communication (emphasising feelings) was considered not factual and scientific enough. It should also be noted that the participants have different level of familiarity with co-design vocabulary and methods. (6, 10, 14, 19, 22)

3. Conflicting goals and expectations → Search for mutual value

According to the material, organisations have divergent goals, agendas and expectations from co-design. Conflicts between sectors can also hinder collaboration. Notably, the motivation for co-design and user-centredness in public and private sectors can differ. In companies, the driver for adopting co-design often is profitability, whereas in a hospital ethical reasons and savings due to increased efficiency justified the service design approach. In the merging of two schools in the School Project, the challenge was to combine the practices and cultures of two schools. Moreover, there were conflicts between the expectations of researchers and the expectations of the client organisations. The city officials, for example, would have wanted more concrete output from the project. (1, 4, 16, 22)

Hence, co-designers should think beyond professional sectors and individual tasks, seeking to define the bigger picture and the strategic goals. A successful co-design project requires negotiation and balancing between the goals of all participants.

Ideally, participants with divergent agendas and roles (academia vs. companies; see also Bruneel et al., 2010) can work together and yet fulfil their own goals. The conflux of expertise at best adds value to all involved. It seems to be an important enabler of co-design that there exist a shared high-level agenda that all participants see as valuable in their own way and can relate to in their everyday practice. Well-chosen methods can support the search for mutual value and the reconciliation of goals. The concrete expectations of participants from the co-design project should also be made explicit in the beginning. (1, 6, 9, 22)

4. Complexity of organisations, processes and real-life contexts → In-depth understanding of the nature and characteristics of the target system

The complexity of large organisations and networks was recognised as a barrier to co-design. The facilitators had a hard time trying to figure out the operating principles of an organisation like a city or a hospital and identify where and how co-design could add value. The informants noted that idealistic models imposed from outside do not work in complex real-life contexts. The public administration system in cities is slow and rigid. It hinders experimentation and the fast adoption of things that are novel. There were particular challenges also in the healthcare sector, for example due to the laws on privacy in healthcare that are in contrast with the openness of design. The division of responsibilities in large organisations and lack of central process management presented a barrier as well. The characteristics of the system also impact the selection of participants. Involving the end users can be difficult in cases relating to mental healthcare. (1, 3, 14, 16, 17, 18, 20, 21, 23)

For co-design to be able to make an impact, designers should properly familiarise themselves with the complex system or organisation they are working with in order to gain an understanding of its basic principles and operational logic. For instance, when working with a city, it was deemed important to understand the public decision-making process. Similarly, in healthcare, there are many particular requirements that need to be taken into consideration, such as high confidentiality. It is important to understand the historical development and roots of the organisation because they influence current practice (see Junginger, 2014). In the hospital cases, it was recommended that researchers should observe and participate in the patient work with nurses to really understand their requirements. There were doubts about the designers' ability to design hospital spaces because of their lack of everyday experience from healthcare practice. (6, 14, 18, 20, 21, 22)

5. Systemic resistance and professional power hierarchies → An informal arena for different expertises to come together as equal

Systemic resistance to change is a common barrier met by co-designers (e.g. Robbins, 1991). Again, the hospital organisation in particular was protective against the co-design approach. This was justified by the perception of the hospital as a special realm with

a clear core mission, tied by extensive regulation and committed to its refined care processes (see also Vaajakallio et al., 2013). It was not easy to persuade doctors to commit to a co-design project where the benefits were uncertain. It was difficult to introduce new roles to the strong professional power hierarchy in healthcare. Hierarchic relations affected the social dynamics and willingness to bring forth problems in the co-design sessions. The facilitators had to conquer the response that only “us experts” can understand the needs and requirements. As it was difficult to see and measure the benefits of co-design, some participants felt that it was just increasing their workload. (17, 19, 22, 23)

One of the key perceived benefits of the co-design approach was that it created an open space for exchanging experiences and ideating together in an environment where all actors could come together as equals and look at things holistically, outside from their narrow professional roles and formal hierarchy. This could induce a shift of mindset to more openness and collaboration. Special focus in service co-design should be put into facilitating this kind of informal situation. It was noted that an external facilitator can give people more courage to express problems. An important enabler for the co-design approach to break through the power hierarchy is the professionalism and credibility of the facilitators. It was emphasised that the researchers need to understand the hierarchy to avoid superimposed solutions and to overcome scepticism. Designers seeking to change a complex situation also should accept that organisational change is slow. (1, 2, 3, 8, 12, 14, 16, 17, 19, 20, 21)

6. Lack of ownership and leadership → Taking responsibility for co-design

One problem in co-design projects involving many parties was a lack of proper management and leadership of the collaboration network – who initiates the partnership and is in charge? Unclear roles and nobody “owning” the outcome results in low commitment to the project. For instance, in the School Project the commitment of companies to co-design remained superficial due to a lack of true ownership in the project. They were merely invited to the meetings in the role of external partners. Also the lack of perceived value for the organisation could prevent commitment. (3, 4)

Good leadership of the co-design process and the partner network enables commitment to it. In cross-organisational collaboration, there is a need for an actor who leads the development activities and takes responsibility for the implementation of the results. According to the material, successful co-design requires the responsibilities of the partners be spelled out clearly and that every participant has a personal interest at stake. (1, 4)

Organisation: Creating Commitment

The second theme that emerged from the data (barrier-enabler couples 7–9) addresses the commitment of organisations and individuals to co-design work, an issue also brought up in previous research (e.g., Axelsson & Axelsson, 2006; O’Flynn, 2014; Widmark et al., 2011).

7. Lack of organisational justification and commitment to co-design → Support from management, connection to strategy and everyday goals

Several respondents, particularly the pioneers of co-design in their organisation, experienced a lack of organisational support. It was often one person’s responsibility to further the co-design project. There was little understanding elsewhere in the organisation of what co-design is and no ability to utilise the outcomes. Due to poor commitment of organisations, especially on the management level, there was also a lack of continuity as changing representatives were attending the co-design sessions. In some publicly led projects, companies were “just there to look responsible”, and no real co-design was achieved. Because of lack of true interest, the ideas never took off. (3, 7, 16, 17)

Support from management as a central prerequisite of co-design came up in many interviews. Co-design requires explicit managerial support on all levels. In the School Project, the school management team was assigned to participate in the project. Inclusion of teachers plus higher-level decision-makers eased the dissemination of results. It also helps if co-design connects to the organisation’s strategic goals. The technology corporation, for example, had a strategic agenda towards customer-centredness, which justified the co-design project. However, it was stated that in the hospital, strategy works for management but does not impress clinical staff that needs more concrete motivation. The material shows that co-development activities are more easily undertaken if they connect to the participants’ everyday work. (1, 2, 3, 13, 16, 17, 19, 22, 23)

8. Lack of time, resources and funding for doing anything out of the ordinary → Allocation of time, resources and funding for co-design

Lack of working time allocated for the co-design project was a major barrier for the participants. People in most cases were so busy with their regular work that they had a hard time doing anything out of the ordinary unless they could expect high benefits from it. Lack of time and resources led to a fluctuating degree of commitment, breaks, inefficiency and “loosing the thread”. There also were many ongoing renewal projects in the organisations. It was hard to find time and energy for continuous development. Several participants realised during the projects that their organisation would not have the resources to realise co-design with such a broad agenda and so many stakeholders, but would need external facilitation and funding. (6, 9, 12, 17, 19, 20, 21, 22)

Organisations must allocate time, person resources and funding to co-design activities for them to have an impact. It should be acknowledged that co-design requires concrete dedication. In the School Project, project funding enabled common trips and other activities that started collaboration between the schools beyond the official meetings. The city also recognised the need to allocate time and budget specifically for the co-design project and for collaboration with academia. An organisation can also support co-design by creating special positions. In the hospital, a Customer Services Development Manager was the advocate for service design. (1, 2, 3, 8, 10, 14)

9. Lack of personal motivation and incentive to participate → Meaningful personal role in co-design and benefit to one's own work

The informants emphasised that a personal incentive is needed for people (especially laypeople) to commit to co-design. For example, parents, in their leisure time, are more likely to commit to their own child's issues than to the development of the school of the future. Lack of personal motivation is also a challenge for professionals. If they do not see some value in the project from the perspective of their own everyday work they either avoid participation or are not really committed. Moreover, people are different and have different skills, which should be better recognised and balanced in co-design. People also have different attitudes to development. For instance, there is a broad range in teachers' skills and in the adoption rate of ICT in teaching. (1, 3, 6, 7, 8, 16, 20, 21)

It was deemed important that everyone should have a role in co-design that benefits his or her own work. Individuals should be attached to the projects concretely by clarifying to them, "what am I in the whole, what is expected from me and how can I contribute". In the case projects, the workshops in particular boosted the work of the participants. More involvement led to more learning. The role of participants could also vary: in one project a person could be planning the methods, in another a person could be a mere participant. Also, people could be given individually sized and focused "burdens" in co-design depending on their personality and skills. It was brought up that there are individuals in all organisations who tend to support or turn down new approaches. For instance, the Wellbeing Project could not have been realised without the chief physician's enthusiasm. (2, 3, 6, 12, 17, 19)

Processes: Being Integrated

The third set of barriers and enablers (10–13) deals with the targeting and coordination of service co-design activities in relation to other processes in the participating organisations.

10. Misfocused co-design → Finding where co-design truly adds value

Because of the unfamiliarity of the co-design approach, organisations utilising it often realised only in retrospect that the focus of co-design should have been other than it was. A very broad or vague focus easily led to outcomes that were too generic to provide input useful for actual development. It seems that the results of projects with a clearly defined and limited focus (such as the Virtual Innovation Project or the Hospital Project) yielded better results. In the Wellbeing Project, the actual needs of the organisation would have been input to help with spatial design or with the administrative functions in the clinic. Instead, the design students concentrated on the patient's process. There were many elements in the School Project that eroded efficiency. It was felt that the project was just scratching the surface of many areas. Better focus could have enabled a change of practices. (3, 17)

To increase the usefulness and return of investment from a co-design project, the client organisation should invest time to clarify for themselves what they expect from the intervention. The organisation should investigate its own processes to identify the critical points where co-design could truly add value. The brief for researchers is an important aspect of co-design that should be thought out beforehand and made explicit. In the Virtual Innovation Project, the technology corporation had carefully defined goals for co-design that was connected to the development of an innovation service. The research project was used as a source of insight and findings were developed for the practical use of the development team. The researchers provided a temporary resource for the company and were required to work on a topic where the approach was anticipated to have value. (3, 5, 11, 15)

11. Disconnection from other development activities → Integration of co-design to the core

A typical problem with the co-design research projects was that they were not well integrated with other development activities in the client organisations but existed as isolated efforts on the fringes of "real" development, the outcomes of which were not even realistically expected to be implemented. In the City Services Project, the co-design activities remained marginal in the consultant-run process. The complexity of the project made it difficult to incorporate service design methods and to develop the idea of user-centredness. It would have taken some time to see where these could be beneficial and to apply them appropriately, but the project was already fixed and planned. (6, 15, 16)

In light of the data, service co-design and its methods should be brought closer to the core operations of organisations and integrated with other development work. This would mean rethinking the whole co-design chain from its goals to the actors, resources, methods, outcomes and implementation to better benefit the whole organisation. At best, inputs from different directions come together in the right time. The Hospital Project was made possible by public funding directed to the topic. That coincided with the trend in the field towards multi-professional development and patient-centredness. Hospital management at the same time began to see co-design as a promising approach. Yet, a lot of work was needed to convince the doctors and managers. (6, 16, 19, 22)

12. Asynchrony of the development processes → Coordination and timing of co-design

Co-design can take place too early or too late to make an impact on the "real world". Also it seemed that the many development streams in organisations rarely were integrated, resulting in gaps between separate projects and cycles of development. This was made evident in the School Project, where there was a break between the visionary research project and the school building project, which in the end was diluted due to the economic situation and political decisions. The research project failed to have an impact on the design of the school because it was too late. Moreover, different actors were operating on different time scales. The goal of a new school building stretches out so far (5–8 years) that third sector organisations cannot commit to its development.

Also the goal is too far for companies because they want rapid outcomes. The citizens' needs also only extend for the next few years. (4, 5, 6, 19)

Right timing of co-design work in relation to other development projects is crucial if the objective is to implement the results. The right moment and place for co-design to make an impact needs to be recognised. This is crucial if novelty is to get through and be incorporated into the general stream of activities. Wrongly placed co-design can wane to nothing. The more complex the project and the actor network are, the more effort is needed in timing and coordinating the various streams correctly. Different time scales as well as different amounts of available resources need to be considered. The slow, democratic processes of urban development need to be matched with the fast processes of business. It is also important to continuously monitor the process. (6, 10, 11, 12, 17)

13. One-off, short-lived development spurts → Continuity beyond singular projects

The interviews showed that one-off co-design workshops or short-term projects were more typical than the construction of continuous co-design practices. It is difficult to disseminate the results of small experiments to the broader organisation. They do not easily become a standard practice or policy. It takes time to incorporate new things into the everyday life of an organisation and without that time they are just forgotten. Continuous changes in project organisation also disrupt the continuity of development. (8, 13, 20, 22)

In order to have a more long-lasting and deep impact, collaborative service development needs to be a continuous activity on many fronts and levels. The outcomes of service co-design need to be processed further within the organisation and connected to other types of knowledge. Assigning more permanent service developer positions as was done in the hospital can enable this. (22)

Implementation: Making an Impact

The implementation of the results of university-led service co-design efforts by service development networks and organisations presents the fourth theme (barrier-enabler couples 14–16).

14. Poor ability to utilise the outcomes → Skilful “translation” of the outcomes

The fundamental “difference” between the service co-design intervention and the organisations' regular processes made it difficult for the outcomes to be used in any meaningful way. The participants did not always see the value of the results of co-design for their own services or products. It was also recognised that the organisations' ability to select useful ideas from the rich material available and to consider them in the light of their own needs were underdeveloped. It was stressed that the client needs to be able to utilise the outcomes of academic collaboration and that there must be added value. Often new ideas, practices and methods were short-lived in organisations. (9, 10, 19)

Several interviewees stated that it is a special skill to be able to utilise the outcomes of design research. Usually a “translation process” is required for the implementation where the most promising results are picked up and translated into the organisation's own “language” (see also O'Flynn, 2014). In the technology firm in the Service Design Project, images and other findings from project workshops were presented to the virtual tool project steering group and via them to upper management, after which they were transformed into “the language of roadmaps, action points, project budgets, Outlook and Excel”. In this way, the results “swam into” the system. Implementation required further sorting, modification and an iteration of results by managers. (9, 11, 16)

15. Reliance of the implementation on a few insiders → Becoming an agent of co-design

Dissemination of the results of service co-design projects seemed to primarily depend on the few individuals who participated to the project, especially on the persons who were responsible for producing the project material and presenting it to management and other employees. The acceptance and utilisation of co-design were affected by the personal skills, communication style and commitment of the individual participants. (6, 7, 8, 9, 13, 15)

Experts participating to co-design events can become distillers of ideas into practice, reflecting the outcomes with their own professional knowledge and complementing it with their expertise (Levina & Vaast, 2005, and Vaajakallio et al., 2013). Two of the participants had become agents of co-design in their own organisation or network. They acted as messengers, making people more responsive for new methods. They were convincing colleagues, interpreting the organisational culture to researchers and acting as “softening buffers”. After the School Project, the schools had begun to use teachers as trainers for disseminating the results. They were familiar with the methods but had “school credibility” unlike external consultants. In this way, implementation can make use of the knowledge and skills existing among personnel. An agent with insider knowledge is more influential than an external facilitator with mere method expertise. (2, 4, 10, 12, 13, 15, 22)

16. Systemic barriers to dissemination → Pilots as seeds of broader transformation

In large organisations, the outcomes of co-design competed with many other types of knowledge and ideas coming from different sources that needed to be incorporated into the overall development. Such intra-organisational barriers seemed difficult to overcome. The developer-agents had met resistance when trying to take the results of co-design further. They needed to “sell” the novel ideas internally to management and other units or sectors. For example, there was resistance towards the user personas created in one project from the more technical R&D people. (8, 11, 13)

Gradual transformation of the broader system through pilot projects and good examples building on what exists was seen as the most realistic way of implementation (cf. the notion

of incremental change by Gagliardi, 1986, and Junginger & Sangiorgi, 2009). As put by one participant, “someone changes first and others learn from her one by one”. It was also stated that it is easier to co-design among an already existing network. The implementation of the concept of the extended learning environment in the School Project, for instance, was seen as a stepwise process that demands cultural change, new practices, changes to management and new tools. In the hospital, service co-design would require a shift of attitudes, a turn towards the patients and a reconfiguration of the resources. In the technology corporation, designerly prototyping with an “eye-candy aspect” was seen as important part of the internal sales of new ideas. (5, 6, 8, 13, 20, 21, 22, 23)

Methods: *Becoming a Practice*

Finally, four barrier-enabler couples (17–20) could be detected that relate to the viability of the specific methods used in the service co-design interventions. Consideration of them could support the diffusion of co-design in organisations and its development into a sustained practice.

17. Superimposed methods with weak connection to implementation → Integration of co-design methods into project planning

The co-design methods in several of the case projects remained rather superimposed, with weak connection to actual implementation. They were not allowed to interfere with the “hard” world of implementation, nor were they capable of doing that because of their detachment from tangible implementation design. On the other hand, the designer-facilitators in some projects felt that their input was reduced to mere illustration with no real impact to the core development project. The potential of design was not fully utilised in the projects. However, several other participants emphasised the value of visualisations in creating a shared understanding. (5, 15)

Designers should be involved already in the planning stage for their methods to be influential and incorporated into the whole. The methods should be thought as a sequence where all parts support each other and the common goal, and not as separate tasks. The methods should be targeted according to the audience and purpose and connected to the existing workflows and tools. (15, 16)

18. Poor leverage of the methods, unconvincing outcomes → Effective, well-focused and well-prepared methods, facilitation and reporting

The quality and scope of the outcomes of co-design methods did not always meet the expected standards. The documentation and other outcomes from workshops were too generic or distant from the reality of the participants. Lack of confidence and training also hindered the acceptance of the methods. The shift from “talking to doing” through the methods was seen as crucial. The limitations of workshops in innovation was also pointed out: “Nowadays we are focusing so much on workshops and trying to find new ideas and innovations that it is really rare to come up with something totally new which hasn’t been invented already twice or three times before.” (13, 23)

Co-design methods should be effective, well focused and well prepared and deliver outcomes in a format that is useful for the client organisation. Some methods in the case projects were more credible than others. Design probes and customer journey mapping for example proved to be useful in the healthcare sector and visualised user personas in the technology company. Design games and visual material facilitated collaboration and acted as sources of inspiration. It was stated that visualisations “carry through thick piles of paper”, make visible key issues and act as points of discussion. Level of realism and connection to design solutions in methods were deemed beneficial.

Facilitation of co-design was recognised as a special area of expertise. The co-design event can be designed to inspire experimentation and to shift mindsets. Good preparation and “owning the method” conquers resistance. The facilitator can break cliques and encourage participation. Actively participating to the situation, seizing the ideas and building the outcome on the spot was also deemed beneficial. The facilitator also needs to take flexible roles during the project, alternating between user orientation, solution orientation and systems thinking. (4, 10, 12, 13, 15, 16, 18, 23)

19. Rigid, strenuous methods → Open and flexible methods

Too rigid and fixed, pre-planned methods and overt use of written material can impinge on free discussion, and on the exchange and iteration of ideas in co-design events. Some interviewees criticised too much emphasis on process diagrams in the projects using the process simulation method. As further example, the presence of a designer-facilitator in their table discouraged the laypeople carers in engaging in the co-design task of ideating a service tray in the City Services Project. The participants should feel comfortable and be able to express their opinion regardless of the methods used. The slowness and work-intensiveness of the methods hindered the application of co-design in organisations after the externally funded projects with facilitator resources were over. (9, 14, 15)

Openness and flexibility of methods would enable their wider adoption. Co-design methods should be adaptable and scalable to different situations ranging from fast, small-scale experiments to long-term, large-scale service development. The co-design processes led by a university were seen as heavy and slow. “Light” versions of the methods could be made available as well, such as a fast and easy design probes type application for gaining customer insight. (13, 15, 22)

20. Reliance of the methods on an external facilitator → Portable method toolkits and facilitator training

The uniqueness of co-design methods and the reliance of their application on the design researchers present a barrier for co-design to develop into a more widespread practice in organisations. Researchers can use more time for planning the methods, for facilitation and for compiling the results than a client organisation usually can. In general, there was poor ability in the organisations to realise co-design due to a lack of experience on the practical application of the methods. The principals in the School Project

stated that collaboration nowadays is increasingly expected from the school but that there are no models or tools available for realising it. In the multi-national technology corporation, adapting the co-design methods to different cultures was a challenge. (1, 10, 11, 12)

To be disseminated, co-design methods would need to work also without the design researchers present. Developing portable co-design toolkits and facilitator training could make this possible. The participants stressed easy availability of the methods without the need to hire an external co-design consultant. As a solution, they suggested facilitator training plus a toolbox for running the methods, including systematic processing tools. In the education sector, there was a need for generic ways for facilitating collaboration that could be adopted in many schools. The participants were wondering how to make the methods portable so that they could be used by (ever new) teachers lacking excellent technical or drawing skills. (1, 2, 3, 7, 9, 12, 13, 14, 15, 22)

Conclusion: Towards Impactful Co-design for Services

The 20 barriers and corresponding enablers of co-design for services elicited from the data (Figure 2) consolidate the findings of previous research but also add some detail to the picture. The interviews showed obstacles in cross-organisational collaboration and in implementation of project ideas, misuse of co-design methods, and problems in integrating co-design projects with other projects. The results highlight the importance of well-chosen methods and professional facilitation as well as the role of “change agent” participants as success factors in co-design for services.

In the light of the study, co-design for services across organisations and disciplines requires the building of trust, the reconciliation of divergent goals and a search for mutual value. The participating organisations’ core purpose and operations, history, design maturity, organisational structure, power hierarchy

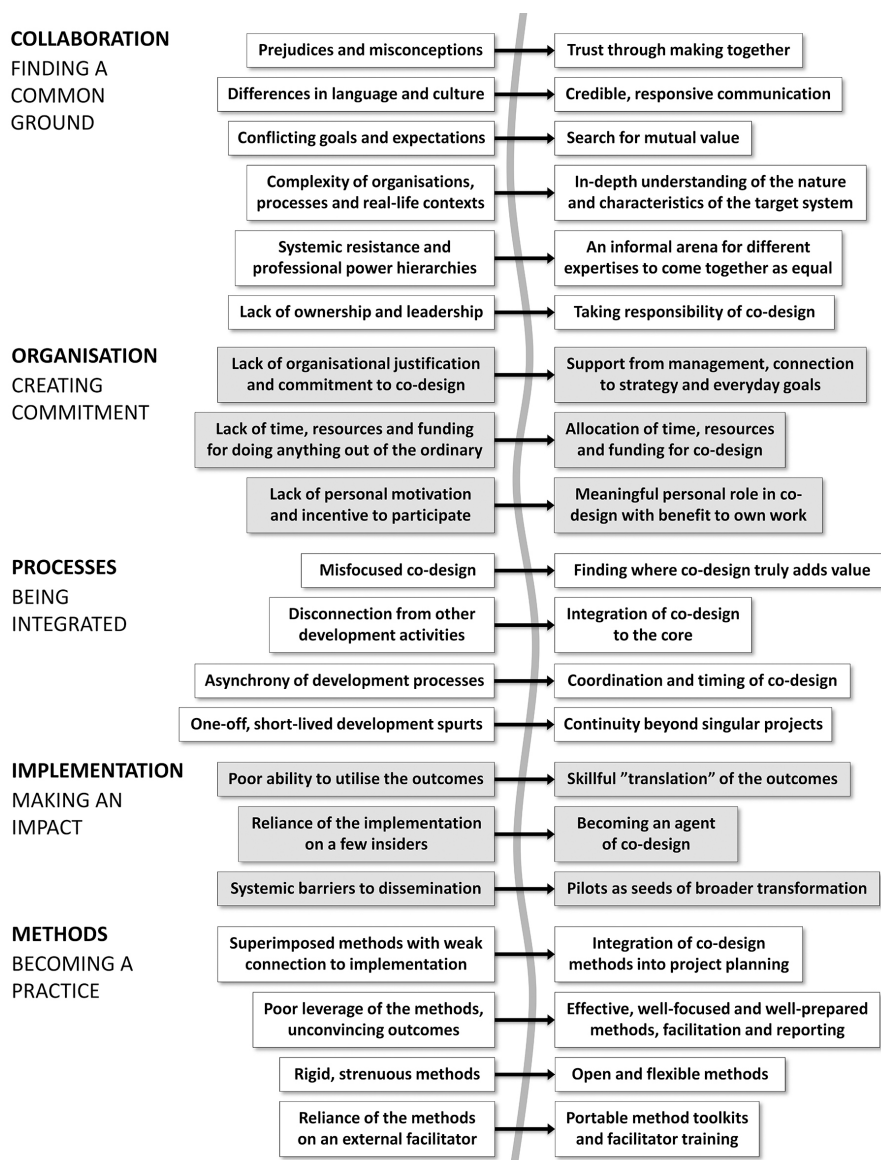


Figure 2. The barriers and enablers of co-design for services.

and culture and the responsibilities, skills and interests of the participants affect how co-design is realised. Its benefits can be lost through poor management, a lack of resources or incentives, conflicts, a wrong focus or timing, discontinuity, or the inability to utilise the outcomes. An unfamiliarity with co-design can create resistance and weak methods lead to disappointment. It also seems that designers are not always capable of articulating the potential of their methods.

As a limitation, the study relies on the subjective experiences of relatively few persons, many of whom were advocates of co-design in their organisation or were themselves researcher-facilitators in the projects. On the other hand, the study can also be considered valuable because it opened up the perspectives of both the clients and those who planned and executed co-design activities. The results also remain on a rather practical level. They should be validated further in reflection with theory. For instance, many of the barriers and enablers could arguably be found in any design project or cross-organisational collaboration. Their design for specific service aspects should be investigated further. The reliability and validity of the study could have benefited from data triangulation and an analysis by more than one person. However, the findings were assessed with other researchers in the project and in the light of existing research.

How then could designer-facilitators and organisations move towards more impactful practice of co-design for services? As a summary of the results, the following factors can be highlighted:

- Finding a common ground for co-design requires mutual communication to create trust, facilitation of collaboration, and making things with others. Providing an informal arena for people to come together as equals can support this. To make an impact, the designer-facilitators should command the process confidently and know their target system.
- Creating commitment to co-design in organisations and among individuals can be enabled by management, e.g. through allocation of time, resources and funding for co-design activities and recognition of co-design as an integral part of the operation. Employees should also be helped in finding themselves a meaningful role and incentives to commit to the project.
- To enhance the integration of service co-design activities with other development processes, organisations should find where co-design truly adds value, embed co-design activity closer with their core operations, put effort into the coordination and timing of all development processes, and seek for ways to ensure the continuity of development beyond one-off projects.
- For service co-design projects to succeed, their outcomes need to be translated to the language and needs of the client organisation. In line with previous research, it seems that committed individuals acting as “agents of co-design” have a key role in implementing the results, bringing the message further and working for the diffusion of methods in their own organisation or network. Moreover, tangible, designerly pilots and rapid prototypes can act as vehicles of transformation.

- Service co-design methods should be integrated already in the project planning phase and be well focused and effective, yet open to respond to unexpected situations in real-life contexts. Wider adoption of the methods could be supported by portable method toolkits and training.

The barriers and enablers described in this paper offer some insights for making the practice of co-design for services more viable. As described in this paper, the major challenge in research-driven service co-design projects was a disconnection from “real” development and implementation. However, despite initial doubts, the professionals in city administration, healthcare, education and technology came to value the co-design approach because of its holisticity. It made possible the sharing of experiences across boundaries where the users were also given a voice.

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