Service design implementation and innovation in the public sector

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ABSTRACT

The public sector faces challenges to meet the needs of the citizens in a changing world. To face these challenges they need to create and implement innovative services. Service design is a powerful innovation tool, and service designers are experts in creating services that is the right solution to the right problem. One of the main challenges in service design is the implementation. Implementation of services is complex because it combines physical, technological and human components. To implement these services demands change, both the organisation and from the people in it. For service designers to contribute to innovation in the public sector, they need to have the skills and tools to implement the services, not only to create them. The main finding in this article is that the designers need to consider implementation and plan for it from the beginning of the design project. It is also important that the organisation and people delivering the service understand what to change, how to do it, and are motivated to change. Designers are not a magical source of innovation *for* the public sector, but can innovate together *with* the public secto*r*.

KEYWORDS: Service design, implementation, public sector, innovation

1. INTRODUCTION

The field of service design is growing and the diversity in where service designers apply their skills is increasing. In the private, public and voluntary sector service designers work to improve services, with projects ranging from banking and technology to health and education.

In the public sector, the interest in service design and use designers to develop innovative services is increasing. In Norway, the government have a goal to renew, simplify and improve the public sector [1]. This is a part of their strategy to succeed in their priority areas of "An easier life for most people" and "A welfare lift for the elderly and sick" [2]. Public services is under constant pressure to improve efficiency and performance. In addition, they are now facing a deeper challenge, to take into account individual needs and treat the users with respect and dignity. To do this service innovation is the key [3].

By applying their skills of user insights, visualisation, idea generation, rapid prototyping and asking the right questions designers create public services that puts the citizens and their need at the centre [4]. However, the success of innovation is not only depending on designing a good service, it also need to be implemented. One of the most common critique of designers in the field of public and social innovation is lack of skills in implementation, resulting in too many ideas that never leave the drawing board [5]. According to Bechmann [6] "it is nothing new, that the implementation phase often is one of the greatest obstacles" [6, p. 183]. Therefore, to contribute to

service innovation in the public sector designers should improve their skills in implementation.

Research on service design have focused more on what services is and how they are designed [7], than how to implement the design. There are developed more techniques for the early stages of the design process, such as research, visualisation and idea generation, than later stages, such as prototyping and implementation [8]. There seem to be a general focus within the service design field on the early stages in the design process. The designer's role in the implementation of innovative services is not clear.

Service design in the public sector still has the advantage of being young and promising. If it is to remain relevant in a few years designers need to learn how to be better their weaknesses, if not service design risk being a short lived phenomenon in the public sector.

The goal of this article is to understand what is important for a successful service implementation in the public sector. Furthermore, it is examine the possible role for designers in public services innovation.

To do this we must understand what service design is, what service designers can do and understand how the public sector understands innovation.

1.1 Methods and terminology

The research on service design is growing, but there have been written little in academic design literature about implementation of service design. However, the books written on service design, having a holistic approach to the design process include tools and methods for implementation. Therefore, they are a valuable source of how designers think about and approach the implementation process. In addition, I will look into different service design toolboxes, to identify important tools for service implementation.

The research on service design and in public sector management use different terminology. While the design literature use service design, the public sector management literature use service innovation. Minder [14] discusses the relationship between design and service innovation. She concludes that although the design literature do not always use term "service innovation", the projects are usually service innovation projects. When there is talk of a fundamental change in an organisation, resulting in radical innovation, the design literature use the term transformative design/services/change [10], [11].

2. SERVICE DESIGN

2.1 What is service design?

There are many definitions of service design, one way to look at it is: The design of the experience of tangible and intangible touchpoints, and the journey between them, that happen over time. [6] [9] Service design is used both in the private, public and voluntary sector. It tackles complex issues, often called wicked problems, by breaking them down into smaller parts and at the same time understand the whole [12]. Service designers do not work alone, service design is interdisciplinary, it relies on skills form other design disciplines (e.g. product, interaction, graphic, information and interior design), management (e.g. strategic, change and operations management), social sciences (e.g. ethnography, anthropology, sociology and psychology) and specialists in the domain of the service [4], [6]. In public services service designers often rely on the competences of policy makers, social scientists, economists and social servants [9].

A general trend in design, that is an important principle in service design, is co-creation. Co-creation, or co-design, means designing *with* the users and not only *for* them. All kind of stakeholders, (end-users, frontline employees, maintenance, management etc.) can be involved in co-creation. Designers often use workshops to

facilitate co-creation [4], [8], [10]. Services is part of an organisational system, the service design project often starts at the periphery of the organisation, and sometimes only demands incremental change. However, it can also reach deep into the organisational structures and require fundamental changes [11]. Many designers see the need for fundamental change and transformative design/ radical innovations to meet the challenges of our society [12]. They see services less as design objects and more as a means for society transformative aims. Designing truly transformative services have a great influence on the organisations that provide them and the communities they serve, which carries huge responsibilities [13]. Designers want to be part of the solution and "see a role for service design in addressing key issues that the public services face" [12, p. 176].

2.1 The service design process

There are many frameworks describing the design process in general and the service design process in particular, both from literature and practice. They typically have three to seven steps, the names of the steps varies, but they all share the same mind set [4]. In short, you have to find the right problem, create a solution, test it, implement it, evaluate and measure it [4], [6].

The approach is iterative and nonlinear, and at every stage, it might be necessary to take one or more steps back. Because each project is different, the process needs to be adapted to the individual project. "In fact, the very first step of a service design process is to design the process itself, since the process ultimately depends on the context of the service being designed and thus varies from project to project" [4, p. 126].

The first part of a design project is often referred to as the fuzzy front end, because of its ambiguity and chaotic nature [10]. The fuzziness can make it challenging to plan and design the process. At The Oslo School of architecture and design, they have developed an approach called AT-ONE, to assist project teams in the early phase of the service design process [15]. The process is a series of workshops with focus on actors, touchpoints, offerings, needs and experience.

Services need to adapt to a changing environment, and there is always room for improvement. Design of services on principle never stops [6]. Many models of the service design process is a circular and iterative one. However, the process in a service design project will have a defined beginning and end.

3. THE PUBLIC SERVICE SECTOR

The public sector is facing the challenging task of providing quality services in fast changing world. "'One size fits all' services – if they ever existed – are not suited to an ever-more diverse and heterogeneous society with rising expectations of 24-hour/seven-days'-a-week access, tailored provision and service quality." [3, p. 51]

3.1 Innovation in the public sector

Contrary to what many believe, the history of the public sector is rich in innovation. Innovation comes in many forms, it can happen "top-down" and "bottom-up", it can be radical innovation, which require fundamental change, or incremental innovation, which require only minor changes in existing services. All these types of innovation is valuable.

The key to innovation is the relation between the innovator and end user and between elements in the supply-chain, as well as a senior-level champion that supports through in the hard times nearly all innovation goes through during development. Some of the barriers to innovation in the public sector is short-term budgets and planning, few incentives to innovate or implement innovations, a culture of risk aversion and poor skills in risk and change management [3].

3.2 Framework for innovation in public services

Albury [3] presents a framework for thinking and action to foster innovation in the public sector. The framework consists of four parts:

The generation of possibilities*: Given the opportunity, employees on all levels of the organisation can be a source of ideas for improvements, especially new ones. Tools of creative thinking, a license to break the rules and a leadership who provides clear goals without detailed control can be necessary to tap into this source of possibilities.

The trailing and prototyping of promising ideas: It can be difficult to select which ideas to develop, there is never a guarantee for success and all innovation carries risk. An effective tool to create a safe space to try to develop ideas is pilots.

Replication and scaling up: Publishing best practice can be a way of disseminating of innovative ideas, however it is not always efficient to universalise "best" practice because the success often depends on the context. Mechanisms for incentives used for system-wide innovation can increasing learning from others, without copying.

Analysis and learning: Learning is not the last step in innovation but an element of a cyclical process. It is important to find out what works in what context and why, but it can be equally valuable to learn from unsuccessful innovation.

3.2 New, useful and utilised

The vision of The Norwegian Association of Local and Regional Authorities (KS) is "An independent and innovative local government sector" [16]. As a part have developed an innovation tool. The name translates to "New, useful and utilised" and is designed to help municipalities be more innovative, and create and apply new and useful solutions. The fundaments in this tool is needs, solutions, driving force, team and anchoring, this is to be understood as factors in a multiplication and if one of them is zero, so is the product [17].

4.   IMPLEMENTATION OF SERVICE DESIGN

4.1 The service concept and the role of the designer

The goal with implementation is to put ideas into action through the organisation delivering the service, and ultimately for the organisation execute the design independently. To what degree the organisation need to change depend on the service concept. How much the designer is involved in this process also influences the implementation. Both these factors varies from project to project.

Service design projects begins in the periphery of the organisation, but the project can reach deep into the organisation and change more than a few touchpoint. The change required to implement the service concept depends on the level of depth the service design project reaches into the organisation [11].

The involvement of designers in the implementation often depends on financial resources. In one end of the spectrum, the designer is an active participant, taking part of the design of physical and digital touchpoint, training of staff and evaluating the progress. In the other end of the spectrum, the designer hands the project over to the organisation. The designer's role is to communicate the design to the ones managing the implementation by making guidelines and task descriptions and maybe train the trainers [6].

4.2 The implementation process

The Implementation process is often challenging, because it demand a process of change. According to Stickdorn [4] the key to implement the changes, is a few basic principles of change management. The implementation process involves planning change, implementing change and measure change [4], [6], [9]. At this stage in the design process, the whole organisation, frontline employees, managers and decision-makers are important actors.

It is important that the frontline employees understands the service concept and is motivated to implement it. To do this it is important that the employees clearly understands their task and do not feel forced to change [18]. Especially when the employees is relatively high educated and used to autonomy in their work (e.g. in healthcare and education), it can be crucial that they understand the goals and see the possibility to reach the goal before asking them to change how they work [19]. One way to do this is by involving the employees form the beginning of the service design process and use co-design workshop to give frontline employees power and a collective ownership across all stakeholders [20].

The more resources invested in earlier stages the more likely a successful implementation. However, there will always be some problems and friction when implementing change, therefor it is important that management is on-board and know how to deal with problems quickly and creatively [4]. In transformation design, they "seek to leave behind not only the shape of a new solution, but the tools, skills and organisational capacity for ongoing change." [10, p. 21], which will empower the management to continuously improve the service after implementation.

If the project is not anchored the right places in the organisation, the chances for a successful implementation decreases, therefore decision-makers on all levels of the organisation also need to be involved [6]. Designers can support decisions by measuring the results. To prove the results a baseline and a goal is needed. At the beginning of the design project, it is therefore smart to make some key goals and decide how to measure them, whether they are economic, social or environmental goals. A good rule of thumb for what to measure is what feedback will increase the probability of frontline employees and management to improve the service, and create a culture of improvement [9].

4.3 Implementation tools

As part of a project carried out jointly with this article, six service design toolboxes have been analysed. Two toolboxes from books on service design [6, pp. 134-135, 173-187], [4, pp. 148-213], two online service design toolboxes [21], [22], and two toolboxes from service design firms [23], [24]. The toolboxes divides the tools into three or four phases of the design process, the tools in the last phase are regarded as tools for implementation. Table 1 gives an overview of the different tools designers use in the implementation process.

The tools overlap to some degree and but most tools (12) are mentioned in only one of the toolboxes. There is one tool mentioned in all six toolboxes, "service blueprint" which is used to get a visual overview of both front and back stage processes in the service, see e.g. [21] or [23]. Almost all the toolboxes mention service prototype, however in some toolboxes testing and prototyping is not an implementation tool, but rather a tool to develop the service concept.

One of the toolboxes [4] divides the tools into three phases, Explore (17 tools), Create & Reflect (18 tools), Implement (11 tools), however tools can be placed in more than one phase, see Table 2. Around half of the tools is in more than one phase, mostly the implementation tools. None of the tools in the implement phase is only in this group, and all but two is in all three groups.

Tools:	This is service design thinking	Servicedesign, Bechmann	Servicedesigntools.org	Servicedesigntoolkit.org	Live work	Engine
Storytelling	x					
Service blueprint	x	x	X	x	x	x
Service role play	x					
Costumer lifecycle	x			x		
Business model canvas	x					
Co-creation	x			x		
Agile development	x					
Service staging	x					
Storyboard/use cases/scenario	x	x	X		x	
Personas	x					
Costumer journey maps	x					
Stakeholder maps	x					
Service prototype		x	X	x	x	
Role script/behaviour guideline		x	X			x
Heuristic evaluation		x				
Task analysis grid			X			
Specification/high level design			X		x	x
Roadmap				x		
Organisational impact analysis				x		
Guide for implementation						x

Table 1. Overview of service design implementation tools from six toolboxes

4.3 Service implementation in the public sector

The work by Warwick, Young and Lievesley [25] suggests four features of an organisation that influence transformational change in a service design project: The first one is the understanding of the service design approach, what designers can do. The second is an attitude towards change. What can or should change and what cannot or should not change. The third is the value of process as well as outcome, willingness to engage in the process and not only wait for the solution. The fourth is the compatibility between the organisational culture and the design approach. These four features can help indicate to what degree a radical innovation is possible, or if the organisation just want to optimise their current practice [25].

As already mentioned there is a culture of risk aversion in the public sector. Pilot projects is therefore a powerful tool to implement the service in real, but small scale, document the results and see if it is better than current practise, before scaling up [3]. One of the reasons that service design projects is not implemented in the public sector is that projects is subsidised and started without security for funds to implement the (whole) solution [6].

5. DISCUSSION

5.1 Service design as an innovation tool

In Albury's [3] framework for innovation in the public sector, three of the four parts, *the generation of possibilities*, *the trailing and prototyping of promising ideas* and *analysis and learning,* describes approaches service designers would be very good at. The same goes for the need and solution part of KS's innovation tool [17]. Finding out what works and not, what the

Explore	x	x	x	x	x	x	x	x	X	x	x						x	x	x		x	X	x	17
Create & Reflect	x			x				x	x	X	x	x	x	x	x	x	x	x	x	X	x	X	x	18
Implement			x						x				x			x	x	x	x	X	x	X	x	11

Table 2. Tools sorted on phase in the design process

needs are, generating ideas to solve it and selecting ideas and develop and test is a part of the design process. The public sector could probably benefit a lot form letting design professionals work with this, either directly or by facilitating and giving the employees in the organisation tools to do it. However if the goal is that the public sector can do this themselves, it would require more than just some workshops and tools.

The service designer would not have any obvious tools or skills for r*eplication and scaling up*, as this requires more than a tool, this is not implementing a service concept in the context it was designed. It requires a whole system and changes in the organisation, maybe of the whole public sector. However, even though service designers do not have the solution, they could probably contribute to designing a solution.

Regarding the three last parts of the innovation tool from KS, *driving force*, *team* and *anchoring* [17], designers should contribute, but cannot do it by themselves. The *driving force* is the person that ensures progress in the work. To ensure the progress after the implementation the *driving force* should be a person inside the organisation, and in most cases, the designers are not. The designer can of course contribute to the progress; one way to do that is by being part of the *team*. Service designers can contribute a lot to innovation by being part of, or collaborate closely with, the *team*. Regarding *anchoring*, co-design could be a powerful tool.

5.2 Implementation throughout the service design process

Sections 2.1 and 4.2 describe the service design process in general and the implementation process in particular. Seeing these processes in light of each other, the success of the implementation does not only rely on the last part of the design process. The resources invested in earlier stages influence the likelihood of a successful implementation.

Designers need to take into account the constraints that will influence the implementation from the beginning of the project. It can be key persons, formal constrains in the form of rules or cultural norms in the organisation. Frontline employees, managers and decision-makers are important actors in the implementation. Considering their needs, as well as the needs of the end user from the beginning of the process should make the implementation easier.

An important aspect of the implementation is to measure the performance. To evaluate the performance there need to be a baseline, which need to be measured, at the beginning of the project. can also be a good tool to make the problem definition more precise.

Co-creation is used inn all stages of the design process. Co-creating with the organisation, not only the end user can, to some degree, leave behind the mind-set and tools of the designer and create ownership and anchoring across the organisation. Being aware of this when co-creating in the early stages of the process can maximise the effects to make the implementation easier.

The AT-ONE method, made to assist designers in the early stages in the design process, uses co-creation and includes mapping of actors. However, it does not consider other important aspects for the implementation (e.g. only focus on end-users' needs). Therefore, it should not be the only method used in the first part of the design project.

5.3 Service design tools for implementation

Section 4.3 and Table 1 shows that different service design toolboxes have different implementation tools. There are some tools that are agreed upon by most toolboxes: Service blueprint, scenario and prototype. However, this is the minority of the tools. There is no clear consensus across the toolboxes of tools for implementation.

All the toolboxes include prototyping, but not always in the implementation phase, indicates that the definitions are not clear. Either, where the implementation phase starts, or service prototyping as a tool, is unclear, probably both. In [9] four levels of prototyping is described, ranging from discussion to pilots, indicating that it can probably be used both before and in the implementation phase. Table 2 (se section 4.3) shows that service design tools often can be used in different phases, and particularly implementation tools.

The fact that the tools in the implementation phase also is tools in earlier phases can be a good sign. If designers use these tools throughout the design process, then maybe they plan for the implementation in the beginning. On the other side, it could be a sign that designers have no specific tools for implementation, and they mostly use tools they know from earlier phases.

5.5 Recommendations for the public sector

The success on service design as a tool for innovation in the public sector relies both on the designers' success in providing design services and on the public sector's success in being a good client. One of the reasons for the lack of implementation in the public sector is the lack of resources and commitment. The public sector needs to prioritise innovation.

Project funding is a good place to start but a terrible place to stop for funding innovation, because projects per definition will have an end, and so will the funding for it. Therefore, there must be founding, as a part of the normal budgets, before the project ends. Some would argue that the resources for innovations should come from ordinary budgets from the start to ensure sustainable resources.

If the public sector want to use service design for radical innovation then they need to be receptive for change and the design approach and value the process as much as the result, this is easier said than done if the current organisational structure,

culture and mind-set differs a lot form the one of service design.

5. CONCLUTION

In this article, I have reviewed literature on service design, service design implementation and on innovation in the public sectors. I have analysed service design toolboxes and a public innovation tool. The goal has been to understand what is important to implement services in the public sector and how designers can contribute to innovation in public services.

Implementation in service design is challenging and complex. It not only involves products and technology, but also people and organisation. To implement a service, people and organisations need to change, that is not always easy to facilitate but not impossible either. A service blueprint gives a clear overview of the service, and can help visualise what need to change. Service prototypes in various forms throughout the process optimises the solution, and a good alternative motivate to change to the new solution.

Implementation is not the end of the design process because the design process on principle never ends, and because implementation need to Planning for implementation in the beginning of the design process and ensuring anchoring in all levels of the organisation is very important for the success of the implementation.

Analysing the innovation frameworks from Albury and KS it is clear that there are many possibilities for service design to contribute to innovation in the public sector. Service design can be a powerful tool for innovation, "but it is important to emphasize that we are not saying that service designers are going to take over and solve everything as some kind of design superheroes. The issues that service design uncovers and the solutions that it offers involve significant change management on organisational as well as political and cultural levels, and it is important that we work with professionals in those areas, as well as

policy makers and advisors, to make sure the change actually happens. These kinds of partnerships only work when there is a climate of professional humility on all sides." [12, p. 179]

Designers cannot be innovative *for* the public sector but can innovate *with* the public secto*r*. The public sector and designers need to learn from each other and understand each other's strengths and weaknesses in order to establish a fruitful innovative partnership. Designers offer the public sector competences to help tackle their challenges through innovative solutions, and the public sector offers designers an opportunity to work on projects that directly contribute to the society.

Further work should include looking at all service design tools, not only the one for implementing and find tools that is important for the implementation in the earlier stages. This can be used to make a holistic framework for implementation throughout the design process.

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