



Designing a customer-centred government subsidy system

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**Designing a customer-centred
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Creating new public services that provide solutions to complex societal challenges demands new ways of working. By inviting a wider spectrum of stakeholders into the process of public service creation and adding design methods into these co-creational processes, more customer-centric public services can be created, and outcomes of public sector transformation projects improved.

This study examines the needs of key stakeholders of the Finnish government subsidy system and describes the co-creation of a proposal for a new solution. Based on the learnings from the development project, this thesis aims to identify what factors need to be considered when co-creating a customer-centred public service.

The knowledge base is built on Customer-Dominant Logic (CDL), co-creation, design thinking and agile development theories. Service design was used as the primary approach in the development work, and data was gathered using a variety of qualitative research methods such as theme interviews and Design Sprints.

Analysis of the qualitative research shows that the main needs of key stakeholders relate to communication in its different forms. Based on the results, solutions were created together with a wide variety of stakeholders. As an outcome, a proposal of a new government subsidy system, an operational model and solution concepts were delivered to the Finnish Ministry of Education and Culture.

The outcomes of this thesis demonstrate the importance of renewing the Finnish government subsidy system based on the needs of its key stakeholders and provides guidance for its further development. The author argues that the criteria developed in this thesis can be used in similar projects. However, further research is needed to identify other factors that could increase the impact of such service design projects.

Keywords: Government Subsidies, Public Services, Customer-Centricity, Co-Creation, Service Design, Design Sprints

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1 Introduction

In the past decades, development in the public sector in Finland has been defined by slow change. This has provided needed stability in Finnish society and enabled trust building among citizens (Virtanen & Stenvall 2017). Nevertheless, the societal challenges facing governments have become more complex over the years. These challenges are often referred to as ‘wicked problems’ that are dynamic, networked and complex by nature. This implies that the problems constantly change and are difficult to solve with simple solutions or traditional ways of working. (Schaminée 2018)

Public service development in Finland has for a long time relied upon the expertise of public officials, which has led to decreased citizen participation in the development of services (Finnish Ministry of Finance 2010). At the same time, the public administration customers have increasingly high expectations for public services (Finnish Ministry of Finance 2019). To cope with this new operational environment, the public sector needs to include a wide spectrum of stakeholders in service development processes that base on insights gained through deep customer understanding (Schaminée 2018, Bason 2018).

In recent years, public organisations have started to see the benefits of using co-creational development methods and creating public services together with customers. These include the overcoming of organizational silos, the recognition of behavioural biases and the possibility to question rules (Bason 2018). More importantly, innovative approaches to redesigning public services can increase citizen satisfaction and create better public outcomes while yielding cost savings of up to 60 % (Gillinson et al. 2010).

The importance of understanding the needs of public administration customers has been addressed in official reports by different public organisations in Finland. For example, the Customer Strategy for Public Administration 2020 states that public service development should be based on understanding and respecting the needs of customers (Finnish Ministry of Finance 2013). Recently, official reports such as the Annual Report 2018 by the Ministry of Finance, have acknowledged the importance of including customers in activities throughout development processes and working across sectoral boundaries (Finnish Ministry of Finance 2019).

Service design is an approach that provides a way to include customer-centricity and collaboration in the development of public services. During the past decades, design has evolved from the creation of products to a mindset that can be applied to solving the most complex societal challenges and even the relationship between a government and its citizens (Schaminée 2018). Furthermore, by adding design methods into co-creational processes, more human-centric public services can be created, outcomes of public sector transformation projects can be improved and productivity increased (Bason 2018).

1.1 Research and development objectives

The objective of this thesis is to examine the needs of key stakeholders of the Finnish government subsidy system (the applicants and the grantors) and how it should be improved to better meet these needs. It aims to describe the co-creation of a proposal for a new solution using service design as the main development methodology. Furthermore, based on the learnings from the development project, this thesis aims to identify what factors need to be considered when co-creating a customer-centred public service.

The questions that guided the development work are presented below and were modified throughout the process to better meet the objectives of the thesis.

Q1: How should the Finnish government subsidy system be developed to become more customer-centred?

Q2: What factors need to be considered when designing a customer-centred public service?

The author aims to answer these questions by first examining related theories and conceptual models in academic literature, then conducting qualitative research for finding out the key stakeholders' needs of the government subsidy process and by gathering empirical findings from co-creational activities where a new solution was conceptualised.

1.2 Context of development

A key project 'Public services will be digitalised' was initiated in May 2015 as part of the Strategic Programme of Prime Minister Sipilä's Government. The Programme stated the following as the goal of the project: "Public services will be digitalised with the help of new operating methods, public services will become user-oriented and primarily digital to enable the leap in productivity necessary for the general government finances" (Finnish Prime Minister's office 2015).

In March 2017, a Preliminary Study of the Digitalisation of Government Subsidies ('VAdigi') was initiated and led by the Ministry of Education and Culture. According to the study, key facts about the Finnish government subsidy system include the following:

- Government subsidies amount to some EUR 3 billion per year
- There are about 40,000 applications and about 350 government subsidy application processes carried out each year by different public organisations
- These organisations use an estimated 400 person-years for administrating the processes

The preliminary study researched the government subsidy practices as a whole and as a result, a preliminary vision of an optimal future government subsidy process was created. As one of the most important changes, the study suggested improving the effectiveness and efficiency of the system from the perspective of both applicants and grantors. In addition, it advocated for more transparency and openness towards applicants, public officials and tax payers.

The study stated that digitalising the government subsidy systems implies a reform of the whole process in order for it to promote good governance, ensure fairness in decisions, improve the social impact and reduce the amount of administrative work related to government subsidies. As a conclusion in the report, the study's steering group recommended the launch of a project to renew the government subsidy system (Ministry of Education and Culture, 2017).

1.3 Description of the development project

Soon after the publication of the 'VAdigi' pre-study, a service design project ('DIVA') was initiated to support the Ministry of Education and Culture in the preparation of applying for funding for the large-scale reform of the government subsidy system. Creating "a customer-centred digital operating model for the process of applying for and granting government subsidies" was stated as the goal of the service design project in the initial brief by the steering group of the project. The steering group consisted of experts from the Ministry of Education and Culture and other public organisations.

The brief defined several other goals for the project, including finding out to what extent the state aid process could be harmonized throughout the state administration as well as supporting in the ideation of a digital solution with the help of service design methods and stakeholder participation. In addition, the steering group emphasized the importance of involving a vast network of stakeholders during the development work as the future solution would directly affect the 12 ministries in Finland, all governmental organisations under them, as well as hundreds of external parties applying for governmental funding.

The Ministry of Education and Culture chose Gofore as a partner for the service design project. The development work was assigned to a team of designers at Gofore where the author of this thesis was one of the four members. Further requirements for the development work were discussed during the presentation of an offer by the design team and agreed upon together with the steering group of the project.

The duration of the service design project was four months (June to September 2018) during which several designers worked with researching the topic of governmental subsidy processes and co-creating ideas for a future solution that would best meet the stakeholders' needs. The

author of the thesis worked in the project as a service designer in all the project phases and facilitated the co-creational activities.

The author has visualised the development project process in figure 2 where the different phases of the design process can be seen in the top, the main activities in the middle and the time it took to run the phases in the bottom of the figure. The circles represent activities that included stakeholders and the quadrants represent activities that were completed by the design team.

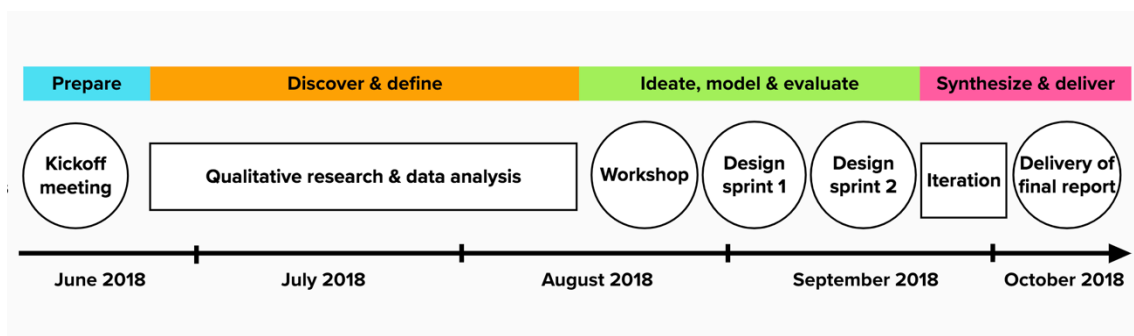


Figure 1: An overview of the development work timeline

Data for the development project was gathered during June, July and August 2018 in stakeholder interviews, via desktop research, benchmarking and a stakeholder workshop. Also, additional data was gathered within both Design Sprints. These are described in detail in Chapter 3. The project started with a kick-off meeting in mid-June 2018 and the final report was delivered and presented to the client in the beginning of October 2018.

1.4 Delimitations of the thesis

The focus of this thesis is on presenting the findings from and outcomes of a four-month development project, from the kick-off of the project until the delivery of an end report to the Ministry of Education and Culture. The scope of the thesis is limited to presenting an overview of the solutions that were created during the project without going into detailed contents of those solutions.

Furthermore, the thesis is limited to looking at the phenomenon from the point of view of two key stakeholder groups: the applicants and the grantors. However, as there are hundreds of very different organisations and even more individual applicants involved in the different government subsidy processes, the qualitative research was restricted to selected organisations working in the fields of a) sustainable development and b) free time activities for children and young people.

1.5 Structure of the thesis

The structure of the thesis is pictured in figure 2. The first chapter introduced the topic and the reasoning behind why the author chose to research it. It then presented the questions that guided the development work and discussed the delimitations of the study. Finally, the chapter defines the key concepts and terms.

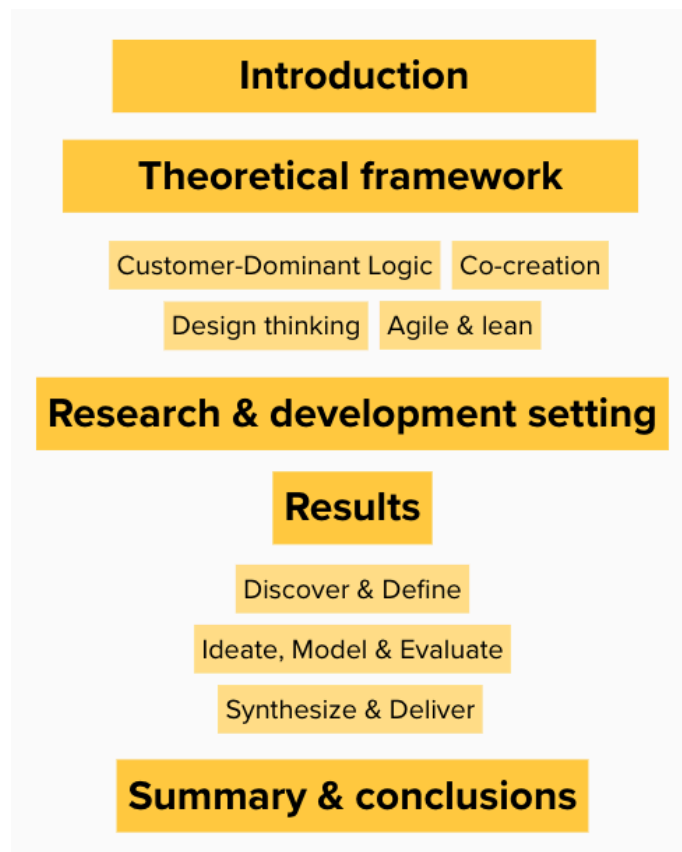


Figure 2: Visualisation of the structure of the thesis

The second chapter discusses theories that together form the theoretical framework for the development work. The purpose of the chapter is to provide the reader with an overview of what is known around the subject.

The third chapter first presents the methodology and research methods that were used during the development project. Then, it argues why the author chose these methods and demonstrates how the collected data was analysed.

The fourth chapter presents the results of development work and the learnings that were received in each phase of the project.

The last chapter summarizes the research results with regards to the theoretical framework and presents recommendations for further development.

1.6 Key concepts and terms

The key concepts of the thesis are briefly explained below to give the reader an overview of the central terminology used throughout the thesis.

Co-creation

Co-creation refers to joint creation of value by an organisation and its customer. It is based on collaborative problem-definition and problem-solving and aims at constructing personalized experiences together with the customers (Prahalad & Ramaswamy 2004).

Customer

In the context of this thesis, the term customer or public administration customer refers to an individual who is currently a resident of Finland. Furthermore, whenever the term citizen is used in this thesis, it also refers to an individual who uses public services and is thus, a public administration customer.

Customer-dominant logic

Customer-Dominant Logic puts the customer in an active role in the centre of service development. The logic emphasises that an organisation needs to embed their service in a customer's context, activities and experiences, and thus, the logic shifts the focus from a service provider to the customers and what customers do with services to achieve their goals. (Heinonen et al. 2010)

Digitalisation

To distinct from digitisation, digitalization refers to “the transformation of socio-technical structures that were previously mediated by non-digital artefacts or relationships into ones that are mediated by digitized artefacts and relationships” (Yoo, Lyytinen, Boland Jr. & Berente 2010, p. 6).

Design Thinking

Design thinking refers to a systematic, yet innovative approach to problem-solving where desirable outcomes for users of a service are created. Design thinking is often pictured as a process during which the needs of the users are thoroughly explored by using customer-centred methods and tools. An essential characteristic of design thinking is that the solutions to customers' needs are created in a collaborative and iterative manner. (Brown 2008, Liedtka & Ogilvie 2011, Bason 2018)

Government subsidy

In this thesis, the term government subsidy refers to public support granted from the State budget or from a non-budgetary State Fund to organisations, communities and individuals. A government subsidy may take the form of a general grant or a special grant. (Government Subsidy Glossary 2018)

Government subsidy process

The government subsidy process is a systematic procedure that is carried out when granting public support in the form of government subsidies (Government Subsidy Glossary 2018). This thesis will refer to activities within the process according to these seven steps: (1) Decision on the budget, (2) Opening of application phase, (3) Application, (4) Reflection, (5) Decision, (6) Monitoring, and (7) Evaluation.

Government subsidy applicant (hereafter “the applicant”)

In this thesis, the term applicant is used to describe an actor who initiates the application for a government subsidy. The applicant can be an organisation, an individual (or individuals) or for example a working group. A government subsidy applicant may apply for a government subsidy for personal use or for purposes other than their own. (Government Subsidy Glossary 2018)

Government subsidy grantor (hereafter “the grantor”)

In this thesis, the term grantor is used as a general term to describe an actor within a public organisation who is involved in the decision-making about the subsidies, the preparation of subsidy related matters, the payments who initiates the application for a government subsidy, and alike. In reality, there are currently several roles responsible for these different tasks but the author has chosen to use this unifying term to simplify the whole. A description (in Finnish) of the various roles within the government subsidy process can be found in the Government Subsidy Glossary (2018).

Public sector

The term public sector is used in this thesis to refer to the part of a country's economy which is controlled or supported financially by the government. (Collins, 2019)

Public services

Public services are in this thesis viewed as services that are meant for public use and that affect the customers of public administration.

Stakeholder

The author uses the term stakeholder to refer to an actor that is directly involved in the government subsidy process and “has responsibilities towards it and an interest in its success” (Cambridge Dictionary 2019), but not the stakeholders that are indirectly affected by the process. Furthermore, the author will use the term stakeholders mainly to refer to the two key stakeholder groups; the grantors and the applicants.

2 Theoretical framework

The first chapter introduced the topic and the key concepts of this thesis. This chapter first presents a theoretical framework and then lays the foundation for the development work from a theoretical point of view. The theoretical framework for this thesis is four-fold and consists of customer-dominant logic and theories on co-creation, design thinking and agile and lean methodologies (see figure 3) which together form the basis for the development project. For this purpose, the author created a process model called the Stakeholder Co-Creation Model that is based on the review of academic literature on the above-mentioned themes.

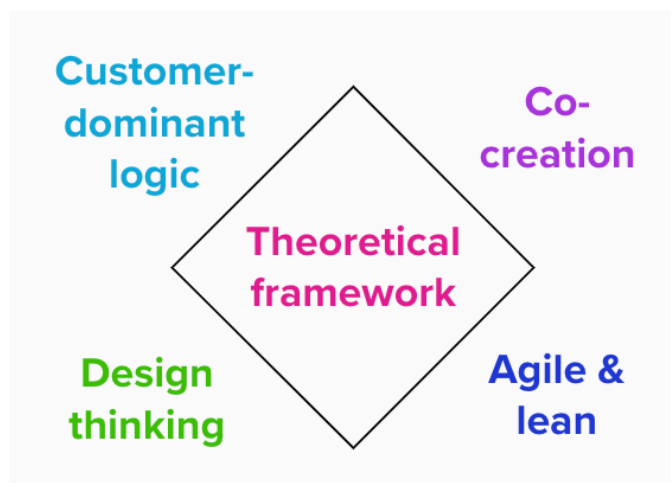


Figure 3: Theoretical framework for the thesis

2.1 Towards Customer-Dominant Logic in value creation

Economies have come a long way from a Goods-Dominant Logic (GDL) where the basis of value creation was on exchanging for goods and value was determined by the producer of a good (product). In the Goods-Dominant Logic the customers’ role was to simply be a recipient of products, and wealth was obtained from owning, controlling and producing goods (Vargo & Lusch 2004). With the shift towards a service-centred economy and arguments from company leaders such as G. Lynn Shostack, a new logic for marketing was introduced in 2004 by Vargo and Lusch. The Service-Dominant Logic (SDL) views products only as “objects representing

parts of a service ecosystem” (Pinheiro 2014, p. 45). In the core of SDL is the idea of value emerging during the use of a service by a customer. This means that the value is determined by the consumer of the service in terms of the benefits of receiving specialized knowledge and skills (Vargo & Lusch 2004). Organisations make value propositions to the customers and conclusively, value is co-created by the service provider and the customer (Vargo, Maglio & Akaka 2008).

On the other hand, Heinonen et al. (2010) argue that the view of Service-Dominant Logic is very production-focused. The authors argue that the term Provider-Dominant Logic would be more appropriate for the view as it still looks at services from an organisation’s perspective. Thus, the authors call for a new business logic, where the customer is at the centre in an active role. This Customer-Dominant Logic (CDL) emphasizes the importance of exploring how customers construct their experience of value and how an organisation needs to incorporate their service to the customer’s context, activities and experiences. To conclude, the Customer-Dominant Logic shifts the focus from organisations creating services from their point of view, to the customers and what they do with services to satisfy their needs. (Heinonen et al. 2010)

Figure 4 illustrates Customer-Dominant Logic in contrast to the Service-Dominant Logic and shows how the customer-dominant view includes an organisation’s service on- and backstage. It also shows a customer’s life as an entity including the different actions the customer does - whether they are directly connected to the service or not.

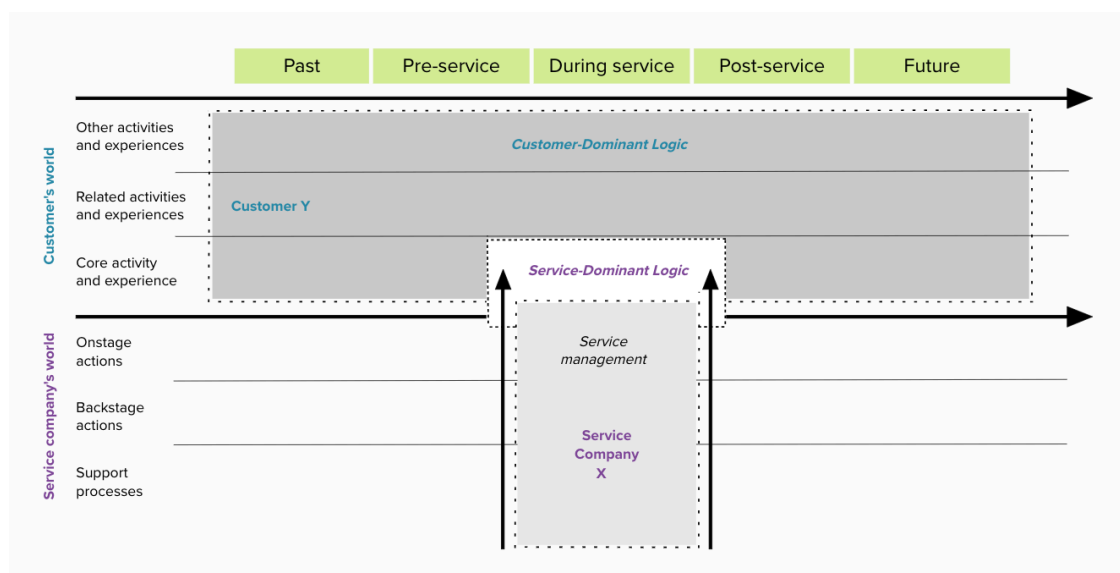


Figure 4: Customer-Dominant Logic in relation to Service-Dominant Logic (Heinonen et al. 2010, p. 6).

The timeline at the top of the figure shows how a service is not only consumed at one point in time but that it is rather experienced as an ongoing activity in the customer's life. This viewpoint is important as services do not exist in a vacuum for a customer. As a conclusion, a service provider needs to manage its actions in both the customer's and the company's world. This way, it is possible to support the activities that individuals do in a network of all customers. (Heinonen et al. 2010).

A service often needs to address the needs of a wider network of stakeholders than only direct customers, especially in the case of public services. The initial reasoning behind Service-Dominant Logic included the idea of creating value for all stakeholders (Vargo & Lusch 2004, Vargo et al. 2008). Furthermore, according to Kauppinen, Luojus & Tähtinen (2018), Customer-Dominant Logic contains creating value not only for the customers but also other stakeholders in a service ecosystem. Nevertheless, research around the previously mentioned logics is mainly focused on marketing organisations and manufacturing in the private sector. Thus, scholars such as Osborne, Radnor and Nasi (2012) have argued for the need of another logic that takes into account the unique characteristics of services provided by the public sector.

Public Service-Dominant Logic (PSDL) is based on the proposition of placing public administration customers as key stakeholders in the processes of creating and delivering public services (Osborne et al. 2012). Involving these stakeholders adds value to these processes and gives them the opportunity to shape their expectations of a certain service. Furthermore, Osborne et al. (2012, p. 149) emphasize the role of co-creation as an important element "that places the experiences and knowledge of the service user at the heart of effective public service design and delivery."

To conclude, what needs to be acknowledged is that the Public Service-Dominant Logic is more complex than the business logics in the private sector due to the fact that many public services often have multiple users with differing and even contradictory needs. Yet, Osborne et al. (2012) argue that this should not restrict applying the Public Service-Dominant Logic to co-creation of public services. "Without a public service-dominant approach, operations management within public services will only lead to more efficient but not more effective public services." (Osborne et al. 2012, p. 149).

2.2 Co-creating value with stakeholders

The above-mentioned terms co-production and co-creation are only two ways to describe participatory approaches in the context of new service creation. Prahalad & Ramaswamy (2004, p. 8) define co-creation as "creating an experience environment in which consumers can have active dialogue and co-construct personalized experiences". The role of an organisation in this context is to facilitate the experience environments (Prahalad & Ramaswamy 2004).

Heinonen et al. (2010) argue that the term co-creation has focused too much on creating a particular service and not on the role that the service plays for the customer. As Customer-Dominant Logic emphasises understanding a customer's life holistically, the essential feature in CDL is a shift in the mindset of including the customers in the co-creation of services to a mindset where an organisation is included in a customer's life (Heinonen et al. 2010).

To move away from marketing and management theory towards the design discipline, Sanders and Stappers (2008, 6) refer to co-creation as “any act of collective creativity, i.e., creativity that is shared by two or more people”. Ultimately, as this thesis describes development work done in the public sector, the author will use the definition by Bason (2018, p. 7): (co-creation is) “a creation process where new solutions are designed with people, not for them”. According to Bason (2018) the key in using co-creation in the public sector is to involve “people inside and outside the organisation throughout the process of creation” consisting of a wide variety of stakeholders.

2.3 Supporting value co-creation with design thinking

Design thinking has its origins in the Bauhaus movement from the 1920s. Bauhaus was a trans-disciplinary school of arts in Germany founded by Walter Gropius where arts and humanistic disciplines were brought to complement the efficiency-driven production methods in manufacturing to ensure that products would be desirable for the customers. However, Bauhaus was not only concerned about the aesthetics of products but saw design as an important part of doing business. What is interesting is, that after Bauhaus was closed in the 1930s, this way of seeing design as an integral part of business was forgotten for a long time and it took some 70 years before the academia and practitioners started talking about design as a way of thinking to solve business problems. (Pinheiro 2014)

The term ‘design thinking’ has been criticized for including the word “thinking” as some see it restricting the action of creating something out of the equation (see e.g. Schaminée 2018, 22). However, as mentioned, design's origins can be dated back to the Bauhaus movement where it was viewed as the act of creating products that delight people and that are easy to produce but also that make sense from a business' perspective (Pinheiro 2014). In a recent book by Stickdorn, Hormess, Lawrence and Schneider (2018), the term ‘service design doing’ is used to avoid the confusion that was related to the term ‘service design thinking’ coined by Stickdorn and Schneider (2011) earlier. What is essential here is not what term is used but that “design in general is an act of doing” (Stickdorn et al. 2018: xvi).

One of the first companies that started to advocate for design thinking in a larger scale was the innovation agency IDEO (Pinheiro 2014). In IDEO's view, design thinking is a discipline that matches design, technology and business. It uses design methods to understand people's needs and desires but also looks at what new market opportunities a new solution can provide

to a business, and whether the solution is technologically feasible (Brown, 2008). Bason (2018, 172) defines design thinking as “the intellectual and practical foundation of the co-creation process (that) guides collaboration across different disciplines”. Furthermore, Bason (2018) describes design thinking as a balancing act between a more analytical and more intuitive mindset (Bason 2018).

While there are many views on how to describe design thinking, there are also many ways to visualise the design thinking process (see e.g. Stickdorn & Schneider 2011, Stickdorn et al. 2018, Liedtka & Ogilvie 2011, Clemente, Tschimmel & Vieira 2017). The United Kingdom’s Design Council introduced a visualisation of the design thinking process in 2004, which has since then been cited in numerous publications making it the most known design thinking process model to date (Design Council 2019). A new version of the process (see fig. 5) was launched recently but as the earlier version, it is divided into four phases as illustrated in figure 5.

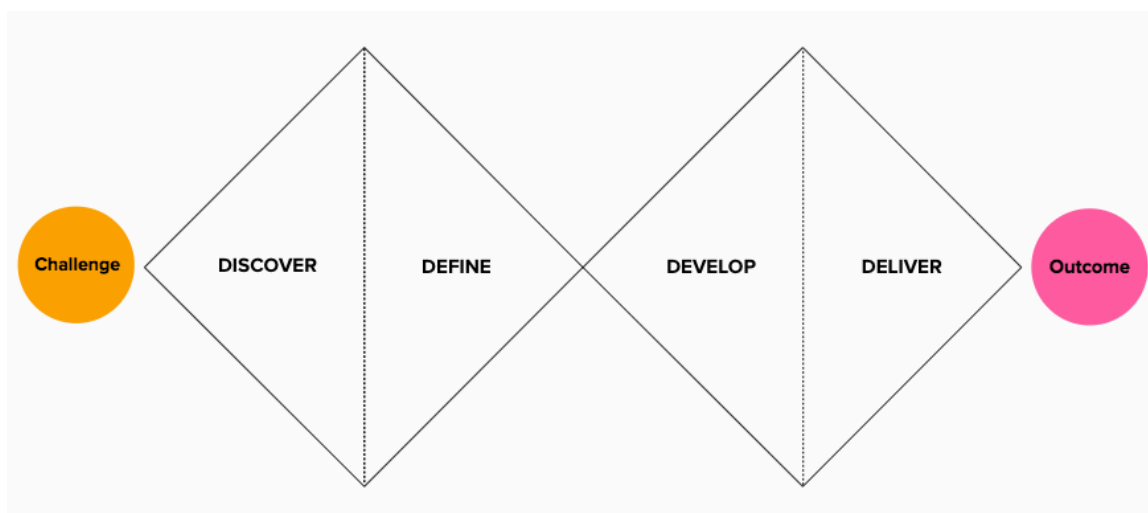


Figure 5: The double-diamond model (modified from the UK Design Council 2019).

There are four phases in the double diamond model. *Discover* refers to the phase where designers (here indicating a team of individuals that is set to design solutions to the problem) explore a challenge as thoroughly as possible by engaging with stakeholders in various ways aiming to understand the problem at hand and the needs of people affected by it. *Define* is a phase where the designers analyse the data gathered and define the challenge that will be the target of ideation. *Develop* refers to the phase where new solutions are ideated together with a wide range of stakeholders. *Deliver* focuses on testing out solutions, gathering feedback and iterating the solutions based on the feedback (UK Design Council 2019). However, it needs to be stated that in real-life, a design process includes several divergent and convergent phases (see e.g. Stickdorn et al. 2018, 345 and 368-375).

Different descriptions of the phases of design thinking are presented in table 1 where the process steps are divided according to the best match among the different models. Tim Brown, the CEO of the design firm IDEO, originally divided the process into three phases (Inspiration, Ideation and Implementation) in order to merge the aspects of design, business and technology into creating a new solution (Brown 2008). D-School at Stanford University (2019) utilises a five-step process (Empathize, Define, Ideate, Prototype and Test) and Liedtka and Ogilvie (2011) describe the steps as questions (What is?; What if?; What wows?; What works?). A model created by Ojasalo, Koskelo & Nousiainen (2015) brings foresight methodologies into the process and name the four steps Map & Understand, Forecast & Ideate, Model & Evaluate, and Conceptualize & Influence. Finally, Clemente et al. (2017) elaborate on the process by naming seven distinct steps in the process (Emergence, Empathy, Experimentation, Elaboration, Exposition, Extension).

Phase of design process	1	2	3	4	5	6	7
UK Design Council (2019)		Discover	Define		Develop	Deliver	
Brown (2008)		Inspiration		Ideation		Implementation	
D-School Stanford (2019)		Empathize	Define	Ideate	Prototype	Test	
Liedtka & Ogilvie (2011)		What is?		What if?	What wows?	What works?	
Ojasalo et al. (2015)		Map & Understand		Forecast & Ideate	Model & Evaluate	Conceptualize & Influence	
Clemente et al. (2017)	Emergence	Empathy		Experimentation	Elaboration	Exposition	Extension

Table 1: Comparison of selected design thinking process descriptions

2.4 Applying design thinking to the development of services, processes and systems

Design thinking can - as a mindset and a process - be applied to the development of products, services, systems and organisational processes. It takes a holistic look at problem solving and tries to find a solution to human needs that is at the same time viable from a business perspective and feasible in the terms of technology (IDEO 2019). Service design is today often

seen as an umbrella term for designing more complex solutions and considering more than just the creation of a product or details of a service interaction. Service design expands the field of design from product-centred design to the design of holistic systems as well as experiences and processes that change over time. Furthermore, service design is a competence area that is based on design thinking but at the same time is concentrated on the human-centred development of services, service business and customer and employee experiences. (Koivisto et al. 2019)

Stickdorn and Schneider (2011) defined five principles of service design that were recently refined due to the rapid evolution of the field. According to Stickdorn et al. 2018, the key principles of service design are:

1. **Human-centred** (instead of “user-centred” to include all people affected by a service)
2. **Collaborative** (the first of two attributes under the prior principle “co-creative” to put emphasis on the active participation in the process)
3. **Iterative** (as the second attribute under “co-creative” emphasising the adaptive and iterative nature of the process)
4. **Sequential** (instead of “sequencing” to include orchestration of actions)
5. **Real** (instead of “evidencing” to elaborate on the concretization of intangible services by adding the notion of real-life context and digital means to it)
6. **Holistic** (as the original but with the notion of service *sustainably* that considers the needs of all stakeholders in a wide spectrum)

To conclude, if the aim is to create services that are valuable to the users and other stakeholders, businesses and even the society, these principles need to be incorporated in the development processes.

2.5 Lean and agile methodologies as a basis for rapid development

Just like design thinking, the idea of lean manufacturing dates back to the times of industrial revolution in the beginning of the 20th century. Lean manufacturing was originally an approach to make industrial processes more effective whereas the term lean start-up was developed for start-ups to use the lean approach in creating products. Lean start-up is “a mixture of the scientific approach to production found in lean manufacturing and the principles of rapid development found in the agile approach” (Pinheiro 2014, 85).

The agile movement (hereafter “Agile” as it is called by practitioners) is based on the principles presented in the Agile Manifesto that was first created in 2001 by a group of academics and practitioners in software engineering in order to “make software development faster and more efficient” (Makoto Higuchi and Noboru Nakano 2017, 113). The Agile Alliance calls Agile a mindset that can be applied to many more purposes such as project management and business analysis. Agile can provide a way to rethink how projects are run both in the public and private sector to better “respond to change and deal with uncertainty” (Agile Alliance 2019).

In its simplest form, Agile is carried out by breaking a project into smaller sub-projects that are given a certain time box in advance. After an agreed time box (called a “sprint”) is over, the work is tested with users and iterated upon based on the feedback of the users (Booth 2018). Figure 8 demonstrates the agile project management model with seven parts: plan, design, develop, test, deploy, review and launch.

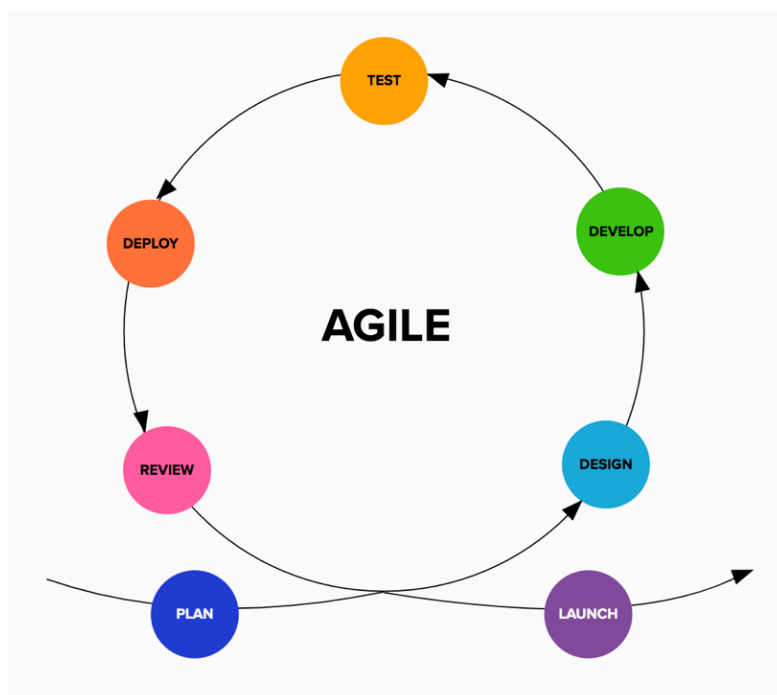


Figure 6: The Agile Diagram (adapted from Booth 2018)

The key in Agile is that customer satisfaction is viewed as the highest priority, which is achieved by delivering work rapidly and continuously, and aiming for simplicity. Agile is seen to increase flexibility and transparency, decrease risk and increase stakeholder engagement, among other things (Alexander 2018). Therefore, it is no wonder that even in the public sector where projects are often planned rigorously in advance, Agile has recently started to become a norm (Booth 2018).

2.6 Concluding theories: The Stakeholder Co-Creation Model

Figure 7 demonstrates a framework that the author created combining the presented theories on Customer-Dominant Logic, co-creation, design thinking and agile and lean development methodologies. The author has named the framework ‘The Stakeholder Co-Creation Model’ because it is modelling the process of co-creating a new service solution together with the key stakeholders of the service. The model takes its form from the Double-Diamond model by the British Design Council (2019, see figure 5) and has been further inspired by design thinking models such as the Service Innovation model by Ojasalo, Koskelo and Nousiainen (2015).

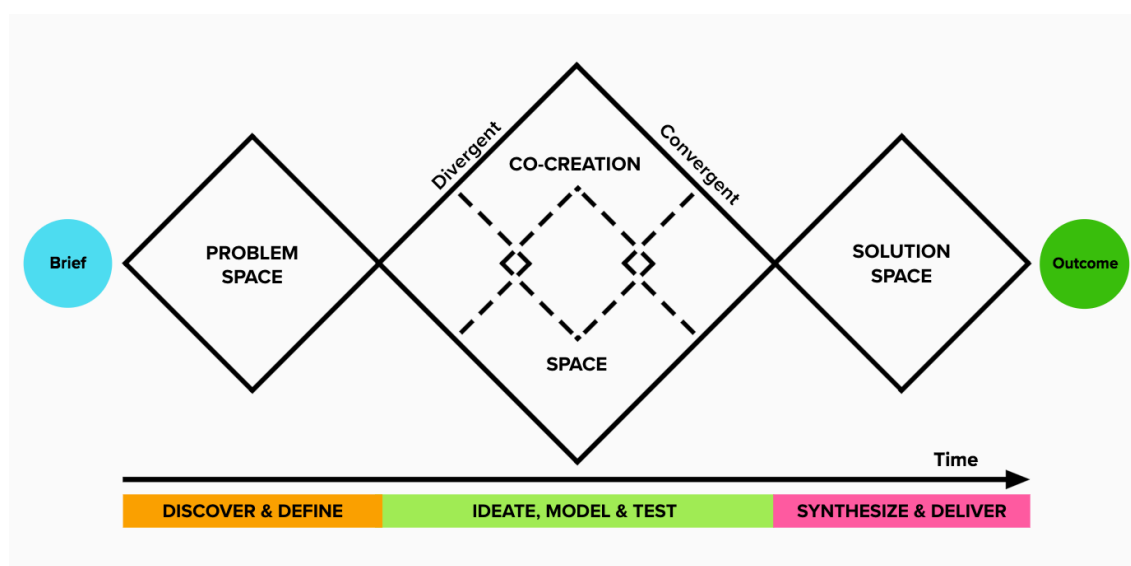


Figure 7: The Stakeholder Co-Creation Model

The Stakeholder Co-Creation Model has three phases: Discover & Define, Ideate, Model & Test, and Synthesize & Deliver. The names of the main phases are inspired by academic literature but more central than the descriptions, is the essence of the phases: the *problem space* concentrates on researching, understanding and defining the problem, the *co-creation space* on ideating and testing different possibilities, and the *solution space* on synthesizing and forming final solutions.

The model emphasizes the role that stakeholders play in the process by including them in the activities in the first two phases. In the Discover & Define phase the role of stakeholders is more passive as they are mostly regarded as objects of research so that the researchers can empathize with them. In the Ideate, Model & Test phase the stakeholders’ role is very active, centred around co-creating and testing solution ideas. In the Synthesize & Deliver phase the stakeholders have a role if more research needs to be conducted or if there is time to validate any further ideas with them.

The process starts with an initial brief that is discussed, iterated and agreed upon before starting the process. Based on the principles of design thinking the model consists of several divergent and convergent phases. These are illustrated with a diamond-like shape representing the nature of a typical design process. At times, it is important to be creative and ‘open’ the thinking to discover new possibilities and create as many ideas as possible (divergent thinking). At times, these possibilities and ideas need to be narrowed down by thinking analytically to move on towards testing solution proposals with stakeholders (convergent thinking).

At the core, within the largest diamond, are several shorter design processes (illustrated with dotted lines) to incorporate the theories of co-creation and agile development. These processes include co-creational ideation activities, prototyping and testing with the aim of getting feedback and learning about whether a solution addresses true needs of stakeholders. Towards the end of the project all solutions are synthesized, finalized and finally, agreed outcomes are delivered to project owners.

To make sure that a designed solution is addressing problems in a customer-centred way as proposed by Customer-Dominant Logic, it is crucial to have a phase of thorough customer research in the beginning of a design project. The amount of the co-creational elements can, however, vary depending on the feedback of stakeholders. Thus, the second phase can include several iterations in different forms inside of it as suggested by e.g. Stickdorn et al. (2018).

3 Research and development setting

This chapter describes the methodologies used to approach the development work and presents the methods used in each phase of the development project.

3.1 Methodological approaches

The boundaries between different research approaches are often ambiguous and the choice of an approach for a thesis does not have to be very strict but can be put together from elements from several approaches (Kananen 2013, Ojasalo, Moilanen & Ritalahti, 2009). This thesis has characteristics of several approaches: research-oriented development, action research, constructive research and service design.

First, the author sees research-oriented development as the umbrella approach under which the other methodologies can be placed. As opposed to scientific research, where the aim of research is to produce new theories, and common sense-oriented development, where decisions are often not justified or critically assessed and there is only minimal amount of interaction, research-oriented approach lies in between these two. It aims to solve real-world problems, create new information as well as propose solutions and new practices. These are based

on systematically gathered data from theory and practise, critical assessment of this data, and active interaction with stakeholders (Ojasalo et al. 2009). The author carried out the data collection together with other designers by using a wide variety of methods that also is typical to research oriented development, collaborating closely with the the client organisation and external and internal stakeholders in the project.

Second, the development work is approached using elements of action research and constructive research. In action research, research data is produced hand in hand with the implementation of a practical change while actively engaging stakeholders in the development process. The goal in action research is often to change the way people or organisations operate. A new operational model for applying for and granting government subsidies was one of the outcomes of the development project described in this thesis. However, action research focuses on implementing new ways of operating and assessing the change - often over a longer period of time. Constructive research aims to create a new construction for solving a practical challenge. This can be a concrete solution such as a product, model, method or a plan (Ojasalo, Moilanen & Ritalahti, 2014). During the development work several models and prototypes were created and thus, it can be stated that constructive research was also one of the approaches used.

Finally, service design can be viewed as the guiding approach that was used throughout the development work. This approach was the most familiar to the author before starting the research process. In this context, service design is understood as a methodology where the design process and methods are applied to the development of a service (Ojasalo et al. 2014).

What separates service design from the adjacent approaches such as constructive research is the distinctive way of including customer-centricity and experimentation in the work. Service design can be used in developing services during any stage of an organisation's life-cycle; the goal can be for example to redesign organisational strategies or processes. The aim is to create services that are easy to use, beneficial and desirable from a user's point of view, and effective, impactful and profitable from an organisation's point of view. (Ojasalo et al. 2014)

According to Ojasalo et al. (2014), service design methods bring the users of service to the centre of the development and provide ways to concretize and test abstract ideas. Furthermore, one of the main characteristics of service design is actively engaging stakeholders in the design process. This was a very important prerequisite for the development project, and thus, the approach suited to the development work very well.

3.2 Data collection and analysis methods

The methods and tools used in this thesis are of qualitative nature as the author aims to research a phenomenon by gathering new information about the Finnish government subsidy

system. The qualitative research approach is suitable in this context, as the author wants to thoroughly understand the phenomenon by answering questions “why?” and “how?” and actively engage in the process and the activities. (Ojasalo et al. 2009, Kananen 2013)

Figure 8 demonstrated a framework that the author created to use as a basis for the development work. The framework consists of divergent and convergent phases illustrated with a diamond-like shape and at the core, within the largest of three diamonds, are several shorter design processes, which in the development project were one co-creational workshop and two Design Sprints. The research and development methods that were used for data collection and analysis within the first and third phases of the development project are illustrated in figure 8. Visualisations of the methods used during the Ideate, Model & Test phase are presented in the upcoming subchapters.

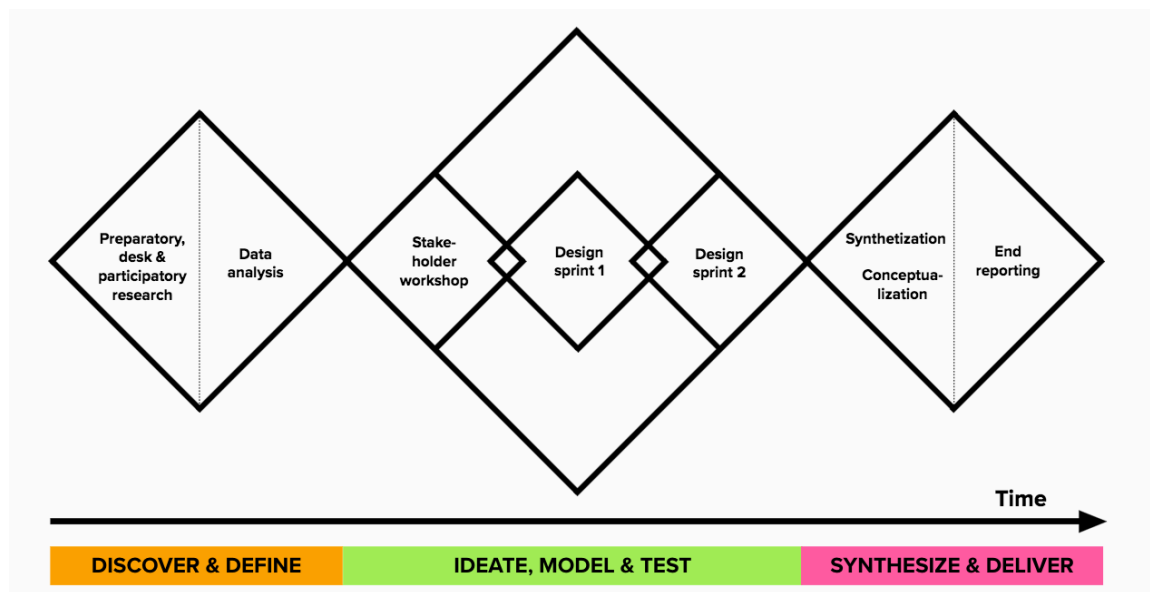


Figure 8: Research and development methods pictured in the Stakeholder Co-Creation Model

Portigal (2013) emphasizes the importance of doing user research and points out that the choice of proper research techniques always depends on the problem to be solved. When doing design research, it is important to use multiple techniques as all research methods have their own strengths and shortcomings and are also affected by biases in human behaviour. This is often referred to as method triangulation that (together with data triangulation) make the dataset of a project richer and more reliable (Stickdorn et al. 2018). During the data collection phase both primary and secondary data as well as multiple research methods were utilised.

3.2.1 Discover & Define

In the first phase of the actual development work (Discover & Define phase), a kick-off meeting with stakeholders was organised, a selection of key stakeholders was interviewed, and desk research was conducted.

The data collection methods in the first phase were both primary and secondary. Primary data is new information that in this case was gathered during in-depth and theme interviews by the author and the design team. Secondary data refers to existing documents such as whitepapers and reports around a certain topic that is the focus of the research (Kananen 2017).

Table 2 presents an overview of the methods used in this phase, as well as the purpose for using them and the outcomes they produced.

Method	Purpose	Outcome
Preparatory research: Stakeholder meeting	To engage relevant organisations and ensure smooth cooperation. To gain first insights of organizations involved in the project. To agree on administrative details in regard to the co-creational parts of the project.	Project details agreed, common understanding of goals of the project created, participants recruited, initial insights gained
Preparatory research: In-depth interviews	To gain an understanding of the topic, the status quo, previous work done, challenges and obstacles, and expectations for the project.	Data from 3 interviews with experts on the topic in general, as well as material for the field guide for theme interviews.
Desk research	To gain knowledge about the topic, its background and previous research conducted, including benchmarking to projects with similarities to the topic.	Notes and insights from reviewing academic papers, white papers and reports on- and offline to serve as a basis for data analysis and theme interviews.
Participatory research: Theme interviews	To gain a deeper understanding about the needs of the stakeholders, their pains with the current systems and about the topic at a larger scale	Data from 21 in-person interviews with journey maps that the participants built during the interviews.

Data analysis: Grouping	To make sense of data and categorize it under relevant themes.	50 groups of insights categorised under the seven phases of the government subsidy process
Data analysis: Statement formulation	To represent most important insights in an actionable and comparable way.	35 statements categorised under the seven phases of the government subsidy process

Table 2: Methods, their purpose and the outcomes in the "Discover & Define" phase

Preparatory research methods: stakeholder meeting and in-depth interviews

The project was kicked off mid-June 2018 with a meeting with the project team at the Ministry of Education and Culture, the design team from Gofore and other stakeholders from ministries and organisations included in the project. Already prior to the kick-off meeting the design team had narrowed down the scope of the project as the team saw that further research on the needs of the stakeholders would be needed before the co-creational activities could be organised, and that all of the requirements of the initial brief would not be possible to take into account in the time period of four months.

The kick-off meeting was the first opportunity for the team to gather information. The meeting can be viewed as the first primary data collection activity as the design team gained a lot of new knowledge during it. The aim of the meeting was to create a common understanding of the overall goals of the project and to find right questions to ask in the further research, as suggested by Stickdorn et al. (2018, 118).

After the kick-off meeting, the design team interviewed the project owner at the Ministry of Education and Culture and two experts that had worked on previous stages on the topic of digitalising the government subsidy process. As Portigal (2013, 22-23) points out, interviews can “point the way to significant, previously unrealized possibilities”. In the case of the first interviews, this was the case: to see if there was something crucial to know before the process would be properly started. For this purpose, the design team chose to use an in-depth interview format that is an open form of interviewing with the aim of discussing freely about a topic without specific themes (Kananen 2017).

Desk research

Desk research was used as an additional method for gathering qualitative data. It is a form of secondary research that uses existing data that has been collected for other projects with the aim of finding out if similar research already exists (Stickdorn et al. 2018). Desk research for

the development project was conducted during June and July 2018. The design team reviewed various whitepapers and reports on the topic both online and offline, benchmarking similar systems in other countries as well as studying the organisations that were involved in the project. Especially valuable was the Preliminary Study on the Digitalisation of Government Subsidies (Ministry of Education and Culture, 2017) and documentation (including e.g. interview notes and visualisations) of design work that had been done during the pre-study phase.

The results of the preparatory and desk research phases were gathered on a virtual board in an online software called Trello and on the walls of the project room as a start to creating a research wall, “a visual arrangement” of all data that would be gathered throughout the project (Stickdorn et al. 2018, 128). Also, the team started mapping the current state of the government subsidy system and the journey of key stakeholders representing the main steps of the experiences they have with the system over time (Stickdorn et al. 2018).

Participatory research: theme interviews

The preparatory and desk research phases were complemented with in-person interviews with stakeholders. They were semi-structured theme interviews, where a few overall topics were agreed upon by the team and the steering group in advance. Questions around these themes were also formulated but in order to give the interviewee a sense of control, the interviewers asked questions that were suitable for each situation and modified the data collection in a flexible manner. This is typical for theme interviews (Kananen 2017, Hirsjärvi, Remes and Sajavaara 2013)

Interviewing stakeholders is a suitable data collection method also when the results need to be placed in a larger context and when it is important that the interviewers will be able to ask clarifying questions, deepen the information that is given and get into more sensitive topics (Hirsjärvi et al. 2013). However, it is important to note that interviewees might not say what they actually think or speak very directly. Thus, the interviewers need to observe body language and in general, be alert to asking more questions to find out the truth (Kananen 2017). Conducting interviews is also time consuming and requires a lot of preparation. The data is tied to the context of the interview and situation, which is why it is important that the results are not overstated. (Hirsjärvi et al. 2013)

The theme interviews were conducted during the first half of August 2018 mainly as individual in-person interviews; a few interviews were done per videoconferencing and as pair-interviews. Altogether 21 stakeholders who represented a wide variety of stakeholders within the government subsidy ecosystem were interviewed. The interviewees were recommended by

the different ministries and organisations that had participated in the kick-off meeting. Altogether seven experts from different NGOs, six experts from ministries, six experts from other public organizations as well as two individual applicants were interviewed.

The design team organised the work so that one researcher of the design team acted as an interviewer and another one was documenting the interview. The roles were changed after each interview. All interviews followed an interview field guide with chosen questions but interviewees also left room to express other thoughts related to the topic (see appendix 1).

During the interviews, the participants were asked to map out their current journey through the government subsidy process as well as add possible challenges to the map with post-it notes or by using mood, role and channel cards (see appendix 2). This was done to prompt the interview participants into remembering details about the current process. Then, the participants were asked to imagine how the future process could look like or what they would like the process to be like if they had the power to redesign it. Appendix 3 presents some of the journey maps created during the interviews.

The team documented the interviews by taking pictures, notes on computer, hand-written notes and recording the audio. All data gathered was organised on to a virtual board in Trello where each participant's data was saved on to a separate card in a specific column including the audio files, pictures and transcribed interview notes. The data was anonymised as agreed with the participants.

Data analysis

In qualitative research, where data is collected in many stages, data analysis is carried out not only in one step of the research process, but along the way. Thus, the material is analysed and collected partially at the same time (Hirsjärvi et al. 2013). In the development project, there was only time to document and organise the collected data in between the interviews and data was analysed first after all the interviews were conducted.

Analysing the interview data followed a common four-step process of (1) data preparation, (2) data reduction, (3) pattern recognition and (4) critical assessment (Ojasalo et al. 2014). In this case the data reduction phase was done in a data-driven manner where data was compressed, classified and abstracted.

First, the audio recordings were divided among the team members, listened to and transcribed into text documents. According to Hirsjärvi et al. (2013), there is no unambiguous guide to the accuracy of transcribing but in most cases, it is the best to write down the recorded material literally. Furthermore, the transcription can be done from the whole collected

material or according to selections (Hirsjärvi et al. 2013). In this case, the collected data was transcribed literally and as a whole.

Second, the team members started to reduce the data by highlighting in their view essential or important findings in the documents. Kananen (2013) points out that the phase of interpretation demands creativity from a researcher who has to “determine what the material wants to tell him/her” (Kananen 2013, 124). After the interviews were processed the researchers presented their findings of each of their interviews to the rest of the team. This was carried out in order to reduce the possible biases the researchers might have and to collectively decide what the most important findings were.

Third, the team attached A4 paper sheets of each step of the government subsidy process on a large wall surface. The steps were described as: (1) Decision on the budget, (2) Opening of application phase, (3) Application, (4) Reflection, (5) Decision, (6) Monitoring, and (7) Evaluation. The team members then started to classify the data by writing the findings down on sticky notes according to the type of stakeholder. This was done by giving each stakeholder segment a colour code and writing the quote or other kind of finding on the right coloured sticky note.

As a result, a research wall with hundreds of colour-coded sticky notes loosely grouped under the seven steps of the government subsidy process emerged. At this point, the team started to recognise patterns, i.e. quotes and findings related to each other, in the data on the wall. In the abstraction phase (as described by Ojasalo et al. 2014), the sticky notes were put together in groups where the notes had similarities with each other (see fig. 9). After several rounds of grouping, around 50 themes were recognised, which were each given a headline (red sticky notes in figure 9).



Figure 9: Research wall with classified and grouped data

In the final phase of the analysis, the team members went through all the data on the wall and critically assessed the themes under the 50 headlines. For each step of the government subsidy process, three to seven findings were chosen on the grounds of how many times it had showed up in the data as well as the significance of it determined by the researchers. Altogether 35 findings were chosen and then formulated into statements (see appendix 4). These concretized the challenges faced by the interviewees and were used as a basis for co-creation in a stakeholder workshop that is described in the next sub-chapter.

Finally, the insights were put together in a separate report (Gofore 2018a) and delivered to the steering group of the project. The report presented the main findings in each step of the funding process as well as the most revealing quotes from the participants. The insights were reported according to the seven steps in the government subsidy process. Also, photos of the journey maps compiled by the participants were delivered to the steering group. In the end, all data from qualitative research was organised in the online tool Trello so that it could be used later on in the process in the “Synthesize & Deliver” phase.

3.2.2 Ideate, Model & Test

The table below shows the name of the activities in the Ideate, Model & Test phase, their purpose and outcomes. The methods used during the co-creational activities are visualised and discussed separately.

Method	Purpose	Outcome
Stakeholder workshop	To validate the results of the previous phase, engage different actors in the development work and enable a joint, cross-sectoral debate around the topic.	7 solution concepts, incl. 2 themes for design sprints.
Design Sprint (1)	To develop a solution to the challenge: "How can we create an open dialogue between the stakeholders in the government subsidy process?", following a 4+1-day Design Sprint process.	A tested prototype. Feedback and development ideas from user tests.
Design Sprint (2)	To develop a solution to the challenge: "How can we improve the impact assessment of the government subsidy process and make the process more effective?", following a 4+1-day Design Sprint process.	A tested prototype. Feedback and development ideas from user tests.

Table 3: Activities, their purpose and the outcomes in the "Ideate, Model & Evaluate" phase

Stakeholder workshop

A one-day stakeholder workshop was held in August 2018 at Gofore's premises in Kamppi, Helsinki. The workshop followed the divergent and convergent phases of the design process illustrated in figure 7. It included the phases "Discover & Define", "Ideate, Model & Test" and "Synthesize & Deliver" to a certain extent but due to the limited timeframe these phases were short, each lasting for some 30 minutes. The programme of the day was built around the methods of the Design Sprint to a large extent, which will be more thoroughly presented in the next subchapter. Figure 10 illustrates the methods used during the workshop day in detail.

PHASE	DISCOVER & DEFINE	IDEATE, MODEL & TEST	SYNTHESIZE & DELIVER
METHODS	<p>Immersing into data</p> <p>Individual decision-making</p> <p>Long-term goal</p>	<p>Formulating HMW's</p> <p>2-step ideation</p> <p>Modeling</p> <p>Group presentations</p> <p>Gathering insights</p>	<p>Evaluating</p> <p>Individual decision-making</p>

Figure 10: Methods used during the stakeholder workshop

The workshop included more than 30 stakeholders from NGOs to government officials and other subject matter experts. The aim of the workshop was to jointly identify the key development needs of the government subsidy process, engage different actors in the development work and enable a cross-sectoral discussion around reforming the government subsidy system. The concrete goal of the day was to choose two themes for subsequent design sprints.

The design team had prepared statements under each of the seven identified main steps in the government subsidy process to concretize the most important findings of the research and to be able to validate these with the participants. Each step was accompanied by three to seven statements that had risen from the qualitative research. The statements were each printed on A4 paper and attached to the relevant step in the government subsidy process on the wall of the workshop space.

After the vote, the participants were divided into seven multidisciplinary groups, each of them receiving a template (appendix 5) and one of the top-voted statements to work on. The first group assignment was to form a “How might we...?” (“HMW”) question out of the statement. “HMW” questions can be used as a tool to move from the problem space into solution space and triggering participants into the ideation mode (see e.g. Stickdorn et al. 2018, 179). Next, the groups were asked to discuss why the challenge should be solved and formulate a written long-term goal for their topic and imagining the future in five years where the challenge would be solved. Then, the groups started ideating solutions to the HMW question, presented their ideas to other group members, ideated more based on each other’s ideas and finally, chose three ideas to be further discussed.

After a break, the groups reviewed the ideas and together chose one for assessment and further development. The assessment was done using an effort-impact scale: first on a template in the groups and then on a mutual one on the wall to see how all the different ideas

compared to each other. This was accompanied with a group discussion after each group presented their idea and put it on the scale. Based on the discussion, presenters put a sticky note with the name of the idea on the scale and with that, all the participants could see which ideas would be optimal for further development, i.e. which of them would be most impactful and easiest to execute.

The key attributes of the solution were written on a whiteboard and finally, the participants voted for their favourite solutions for further development. The workshop ended with the design team members announcing the two top-voted themes that would be the topics of the upcoming Design Sprints and presenting the process and the possible outcomes.

After the workshop, the two top-voted themes were formed into initial research and development questions for the Design Sprints and sent to the steering group for comments. After some iterations, the initial questions were sent to the participants of the sprints so that they could familiarize themselves with the topic in advance.

Design Sprints

Two co-creational Design Sprints were facilitated by the author at Gofore's premises in Helsinki; first one in the end of August 2018 and the second one in the second week of September 2018. The structure of the weeks was based on the Design Sprints process developed by Knapp, Zeratsky and Kowitz at Google Ventures. The process was originally mostly utilized for product development purposes by startups that needed quick proof to show investors that their product ideas were worth investing in. (Knapp, Zeratsky and Kowitz 2016)

The Design Sprint process is based on well-defined methods and tools to help teams move from a problem to a testable solution in a fast pace; originally in five working days that last six to seven hours each. The key to the process succeeding in such a short time period is to have clear roles for the sprint team members as well as using distinctive methods such as time-boxing, silent work and voting, that support rapid decision making. (Knapp et al. 2016)

A Design Sprint is facilitated by a Sprint Master who keeps track of the advancement so that the team can concentrate on the problem at hand. The most important role within a sprint team is the "Decider", who is appointed to make final decisions during the process in order to meet the goals in time. Other roles include a finance expert who brings in business knowledge, a marketing expert who makes sure that the essence of the solution is well communicated and a customer expert who represents the voice of the customers. Furthermore, a technology expert is needed to overlook what is technologically feasible and a design expert to make sure that the solution is desirable from customers' point of view. However, the most important thing is to have a variety of people with different backgrounds and ways to look at challenges and empathising with the end users. (Knapp et al. 2016)

The Design Sprint methodology has during the past few years evolved into a new version, the Design Sprint 2.0. This process was commercialised by the design agency AJ&Smart in cooperation with the inventor Jake Knapp (AJ&Smart 2019). The biggest change in the 2.0 version is that the process takes four days instead of five, and that it includes the whole sprint team only in the first two days. These changes were made because Knapp and other prominent Design Sprint facilitators experienced difficulties in getting executives attend the whole process (Romanovski 2019). Figure 11 shows an overview of the Design Sprint 2.0 process by AJ&Smart (2019).

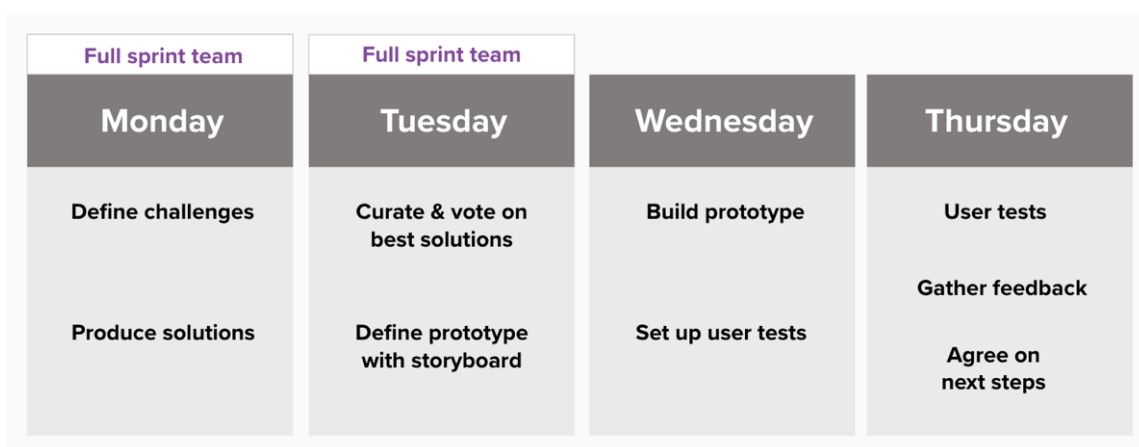


Figure 11: Overview of the Design Sprint 2.0 week (modified from Aj&Smart 2019).

The Design Sprint 2.0 process was used by the author to form the program of the Design Sprints with the goal of getting relevant stakeholders to commit to it. The author created a model for illustrating the process according to the steps in the Stakeholder Co-Creation Model presented in the second chapter. This model (fig. 12) displays the Design Sprint in a circle-form with the four sprint days within the circle, the core of the model. The small circles demonstrate the four days it takes to run the core of a sprint. In addition, at least one day (Day 0) should be reserved for preparing for the sprint week and recruiting stakeholders that will act as experts and testers during the week, and one day for presenting the results and going through the learnings from the week (Day 5). Thus, in the model and the description of the development work, the author talks about five sprint days, where the fifth day is focused on presenting the outcomes of the week and not actual design work with the team.

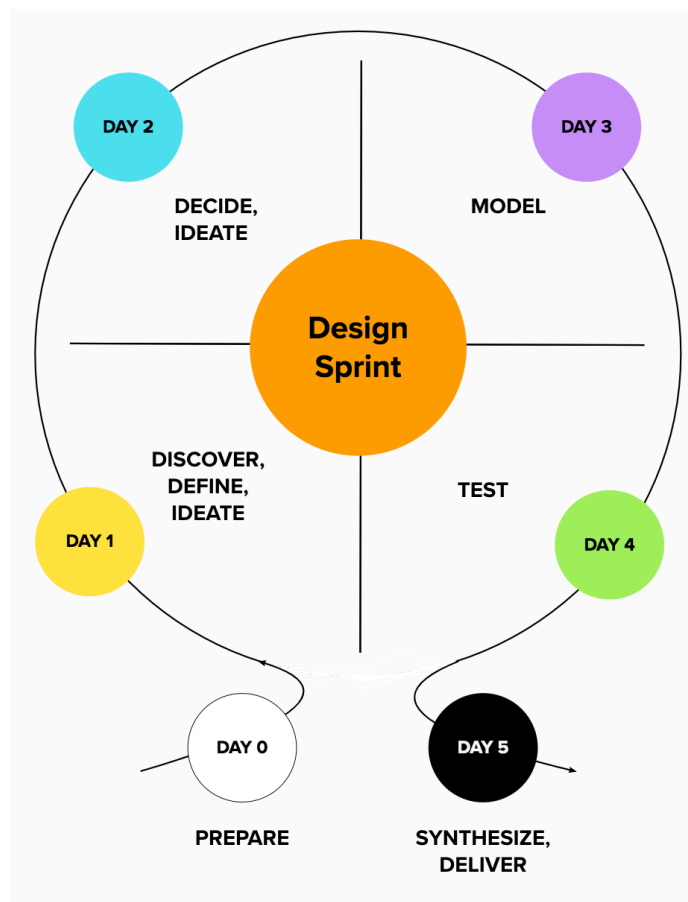


Figure 12: An overview of the Design Sprint week (adapted from Knapp et al. 2016 and AJ&Smart 2019).

The first sprint day's focus is on discovering the problem and the problem space, gaining insight from former research and forming these into sprint questions. Also, a long-term goal and a sprint map are formed together with the team. The second day focuses on defining. The third day is reserved for developing a prototype of the chosen solution that the team wants to test and the fourth day on learning from the testing of the solution. The last day focuses on the delivery of the solution and the learnings, and includes presenting the outcomes to the decision-makers, in this case the steering group of the project. In addition, a discussion on the next steps should be included in this phase.

Figure 13 presents the methods that were used during the two Design Sprints within the development project. These are aligned with the methods presented by Knapp et al. (2016) but the process was completed by bringing in selected insights from the previous phases of the project in the first day of the Design Sprints. The methods are discussed in detail below.

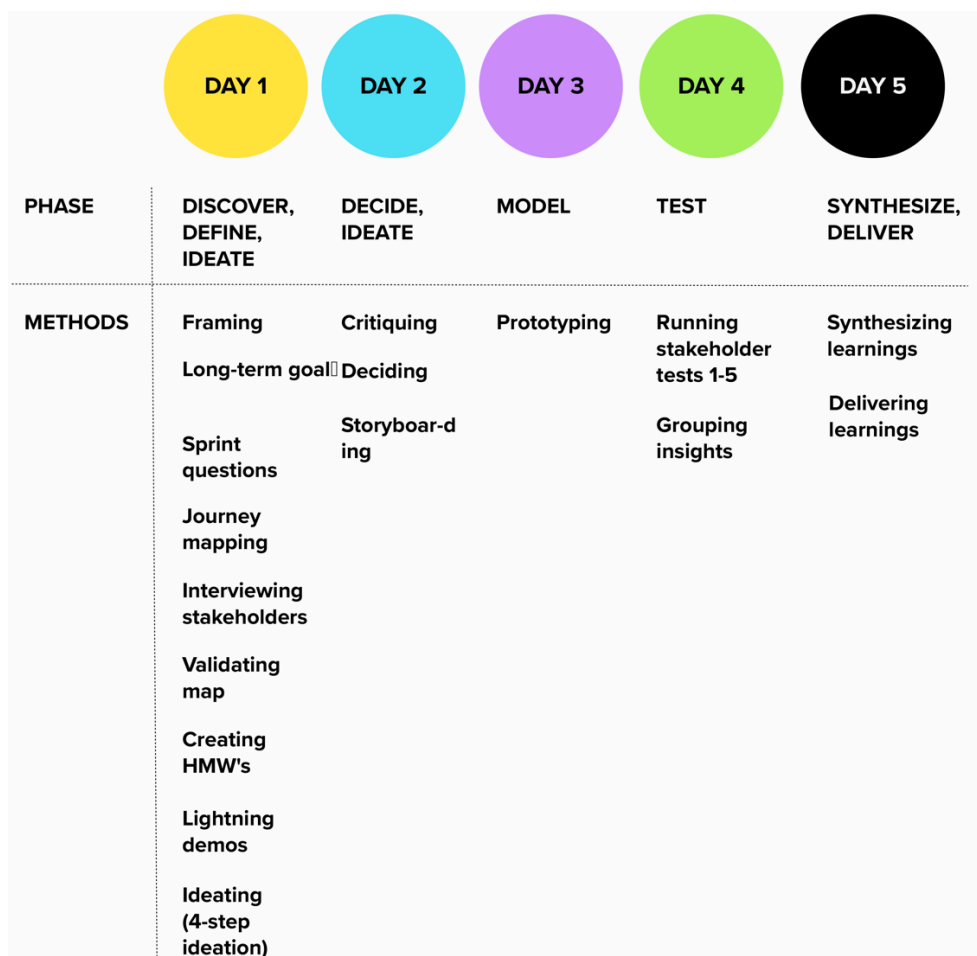


Figure 13: Overview of the Design Sprint week and the methods used

The first sprint team consisted of five stakeholders representing an NGO, a ministry and three other public organisations, and the second one of four stakeholders; two from ministries and two from other public organisations. Both of the two sprint weeks were facilitated by the author of this thesis, and another designer from Gofore helped the team to concretize and visualize their ideas.

The Sprint team worked together on Monday and Tuesday after which a smaller group continued with the work on Wednesday and Thursday. On Friday, the sprint results were presented to the core team at the Ministry of Education and Culture. A breakout of the sprint days and what was accomplished during each day is presented below. Further discussion and analysis will follow in the next chapter.

Day 1: Discover, Define, Ideate

The week started with a short presentation and warm-up after which the team jumped right into user research. First, the participants went quickly through parts of the data from previ-

ous qualitative research that was put on the walls of the sprint room. Then, five subject matter experts were interviewed over the phone and in person. The facilitator led the interviews with open-ended questions leaving space for the interviewees to talk freely. Sprint team members asked additional questions and wrote down what they thought were important comments on sticky notes in the form of “How might we...?” questions and put these on a wall after each interview. After all the interviews, the team was asked to go through all the notes and choose the most important ones (in their opinion). Next, the team determined a long-term goal and a target for the sprint, prepared a road map of the topic at hand and selected so-called Sprint Questions.

During a 1-hour lunch break the team started to recruit participants for Thursday’s user testing. After the break, it was time to dive into ideation. The ideation phase was run as a four-step idea generation process, where the participants first presented examples of inspirational solutions related to the topic. Second, they ideated individually and in silence, looking at all the gathered data for inspiration. Third, the team members continued refining one of the ideas individually with the help of an exercise called the ‘Crazy-8’s’ where eight solution sketches are created in eight minutes. As the fourth step, the team finalized their individual suggestions for solving the sprint challenge by drawing them on three large sticky notes and finally, attached these on the wall for processing on the next day.

Day 2: Decide, Ideate

Tuesday started with a review of the solution sketches. At this point, the team did not know whom the solution belonged to in order to avoid biased outcomes. The sketches were reviewed with using the “Speed Critique” method where each solution is examined and criticized within a given timeframe and comments are added to the sketches with sticky notes. After this, the team voted on one solution sketch that they liked the most and first then, the creators had the chance to respond to remaining open questions. Now the team had a concrete solution to concentrate on. Other ideas and sketches were saved for later use in the process.

In the afternoon, the team started to put together a storyboard that visualised and concretised the idea further. The purpose of the storyboard was to align and prepare the team so that they could build a prototype based on it the next day. The storyboards can be found in the next chapter (fig. 17).

Day 3: Model

The third day was reserved for building a prototype of the chosen solution. Here, it was essential to produce something concrete, a so-called prototype, for Thursday’s user testing. This work was done with a smaller team, i.e. the original sprint team worked together only on the first two days. The team started with discussing and revising the storyboard and then divided

the work among themselves to create the prototype. The facilitator made final arrangements for the tests and prepared an interview guide.

Day 4: Test

On Thursday, the prototype was tested with five stakeholders in the first week and four stakeholders in the second week. The testing was carried out by the author either at the Design Sprint location or at the stakeholders' workplaces around Helsinki. Two other team members were following the testing via a video call collecting feedback and comments regarding the prototype. The testers represented NGOs, ministries, public organisations, and individual applicants.

The feedback on the prototype was colour coded already during the interviews. This meant that the note-takers wrote down the comments on sticky notes of different colours in order to make grouping faster and analysing easier; red sticky notes represented negative comments, yellow ones represented neutral comments and green ones represented positive comments. After each test, comments were collected on large whiteboards (see examples in fig. 14). The feedback was quickly analysed by the note-takers in the end of the day and sent to the author to be put into a sprint review presentation.



Figure 14: Photos of the feedback walls

Day 5: Synthesize, Deliver

On Friday morning, a presentation with an overview of the sprint week was finalised. This, as well as the prototype and main findings of the user tests, were presented to the steering group at the Ministry of Education and Culture in the afternoon followed by a discussion on the next steps.

3.2.3 Synthesize & Deliver

Table 4 presents the outcomes of the final “Synthesize & Deliver” phase.

Method	Purpose	Outcome
Compiling re- sults, creating further concepts	To put together all learnings, create final concepts and visu- alisations.	A 40-page end report with visualisations of the new process, an operational model and descriptions of 6 more concepts.

Table 4: Methods, their purpose and the outcomes in the "Synthesize & Deliver" phase

After the qualitative research phase and all the three co-creational activities (workshop and two Design Sprints) were completed, the design team members went through all the data that had been gathered, evaluated the results and iterated them into a final report where the process and the outcomes were described extensively.

During the ‘Synthesize’ phase the design team created nine further concepts as well as visualisations of the process and as a request of the steering group, an operational model for new ways of working around the government subsidies. This was done in a joint effort by ideating, building prototypes and iterating them within the design team. Finally, the project ended with the design team presenting the final visualisations and the contents of an end report to the steering group at the Ministry of Education and Culture.

4 Results of the development project

As described in the previous chapter, the duration of the development project was four months during which several designers worked with researching the topic and designing solutions. The project followed a service innovation process as described in figure 7. The design team first gained understanding of the topic by doing desktop research and conducting stakeholder interviews (Discover phase). Then, they synthesized the gathered data and created insights (Define phase) and ideated solutions together with stakeholders in a one-day workshop (Ideate phase). Next, solution concepts were co-created (Model phase) and tested in Design Sprints (Test phase). Thereafter, the design team synthesized and evaluated all the gathered data (Synthesize phase). Finally, the team delivered an end report and presented the results from the different phases to the Ministry of Education and Culture and the project’s steering group (Deliver phase). The outcomes of each phase of the development project will be presented in detail in the following sub-chapters.

4.1 Discovering the needs of key stakeholders

The kick-off meeting with stakeholders was a good opportunity to hear the thoughts of representatives from other ministries as well as organisations that would take part in the different co-creational activities during the project. Participants could pose questions to the design team and the steering group members about the process and administrative details. By the end of the meeting most administrative details were agreed upon, participants for co-creational activities recruited and a common understanding of the goals of the project achieved.

The in-depth interviews were a first step in building a deeper understanding of the government subsidy process. The team learned about the complexity of the government subsidy process, the systemic nature of it as well as the challenges and obstacles connected to the reform of the process. However, as the interviewees did not represent the key stakeholder groups (applicants or grantors), the data was not included in the later analysis but used as a basis for forming the questions for the theme interviews. Desk research was conducted as described in previous chapter to further deepen the understanding around the topic.

The main insights from the preliminary research phase were:

- There is great variation in the government subsidy processes between different public organizations and even within the same organization.
- The processes are usually designed from the point of view of grantors; the perspective of the applicants has not been considered.
- Many of the processes are still largely manual resulting in errors and security issues.
- The same documents and information are transmitted and processed at different stages and in different organizations. This results in “double work” and in some cases to duplication of subsidies.
- Applicants that seek for funding from several organizations need to deal with different levels of digitalisation; some of the organizations have entirely manual processes, some partly digitalised, some entirely digitalised. The digital systems also vary from each other.

Based on these findings the design team formed a field guide for the theme interviews to deepen the understanding of the needs of the key stakeholders. As described earlier, the Discover & Define phase included interviewing 21 stakeholders including grantor representatives from four different ministries and four other public organizations as well as applicant representatives that were either individual applicants or from non-governmental organizations. As a result of the data analysis described in the previous chapter, the following main findings

about the needs of the applicants and the grantors are summarized under the seven steps of the government subsidy process as presented in table 5.

Phase of the process	Main findings about the applicants' and grantors' needs
Decision on the budget	<p>Applicants:</p> <ul style="list-style-type: none"> -More strategic discussions about the subsidy targets -Possibility to bring observations from the field as part of the decision-making <p>Grantors:</p> <ul style="list-style-type: none"> -Data (e.g. statistics, reports) to support decision making -Fewer subsidies (in number) and removal of overlapping subsidies
Opening of the application phase	<p>Applicants:</p> <ul style="list-style-type: none"> - Information on subsidies before the opening of the application process to help planning projects and finding partners -Information about subsidies collected in one place so it becomes easier to see the options <p>Grantors:</p> <ul style="list-style-type: none"> -Common terminology for making the description of subsidy materials easier
Application	<p>Applicants:</p> <ul style="list-style-type: none"> -Possibility to save own basic information and former applications for later use so that the main emphasis is on the description of the planned actions -Unified application forms and terminology used by the different grantor organizations -Possibility to ask for personal guidance <p>Grantors:</p> <ul style="list-style-type: none"> -Answers to applicants' questions equally visible for all parties
Reflection	<p>Applicants:</p> <ul style="list-style-type: none"> -Intermission results so that recruiting can be started <p>Grantors:</p> <ul style="list-style-type: none"> -Removing manual work with help of automation so that the focus can be put on the actual contents of the applications -360-degree view into the data about applicants to support the decision making

Decision	<p>Applicants:</p> <ul style="list-style-type: none"> -Sparring assistance from the grantor in case the project plan needs to be updated -Information about what kind of projects have received funding, including a short description of the project -Feedback on the application to be attached to the decision announcement <p>Grantors:</p> <ul style="list-style-type: none"> -Possibility to comment the applications and make recommendations on what to emphasize or leave out from application in the future
Monitoring	<p>Applicants:</p> <ul style="list-style-type: none"> -Questions in the reporting phase consistent with the ones in the application phase -Possibility to document activities during the project so that nothing is forgotten -Possibility to make project change requests more easily <p>Grantors:</p> <ul style="list-style-type: none"> -Possibility to monitor projects already during the project
Evaluation	<p>Applicants:</p> <ul style="list-style-type: none"> -Feedback on the reporting and a notice when report has been accepted -Information about the impact that the subsidies have resulted in as a whole <p>Grantors:</p> <ul style="list-style-type: none"> -Possibility to visualize and compile data easily -Possibility to utilize data in the impact assessment of the subsidies and in planning of future application processes

Table 5: The main findings of the key stakeholders' needs

As can be seen in the table, most of the themes were related to communication in its different forms, such as increased dialogue, quality and quantity of information, level of interaction, transparency around decisions and clarity of alternatives.

For validating the results in an effective and hands-on manner, the most important findings recognized by the design team were formed into statements under the seven process steps, each of them including three to seven statements. These statements were chosen on the grounds of how many times they showed up during the data analysis as well as based on their significance determined by the researchers. A list of these statements can be found in appendix 4.

4.2 Co-creating and testing solution ideas

The “Ideate, Model & Test” phase started with a stakeholder workshop after which two design sprints were facilitated by the author. This chapter describes in detail what results were gained during these co-creational activities.

Stakeholder workshop

The one-day stakeholder workshop included more than 30 stakeholders from NGOs to government officials and other subject matter experts. The workshop began with the participants reviewing the 35 statements that were put together by the researchers before the workshop. The participants were asked to add comments to the statements and attach those next to them, and then vote for the most critical points in the process in their opinion. The highest number of votes (one per process phase) were selected for further processing during the day to move forward in the process.

The statements chosen as the most critical ones in each step of the government subsidy process were:

1. **Decision on the budget:** “There must be an open dialogue between the parties before opening the application phase.”
2. **Opening of the application phase:** “There are no common practices for opening the application.”
3. **Application:** “Applicants find it difficult to see what the instances are where they can apply for government subsidies.”
4. **Reflection:** “The grantor of a subsidy must be able to form a more complete picture of a certain applicant.”
5. **Decision:** “The decisions on government subsidies must be transparent to the beneficiaries and include information about the basis of the decision and the purpose for which the subsidy was awarded.”
6. **Monitoring:** “Visibility into the final reporting of all completed, subsidized projects and the criteria for approved implementation will help applicants to develop their own activities.”
7. **Evaluation:** “Compiling project data (in the evaluation phase) must be easy for the grantor.”

During the day, the participants worked on the statements in small groups and created preliminary solution ideas. The purpose was to build a larger understanding of each topic so that two of them could be chosen as the themes for the coming Design Sprints. The workshop resulted in seven solution ideas (see fig. 15 for an overview), of which the participants chose their favourite one. The two top-voted solutions (numbers 1 and 4 in fig. 15) were ‘Strong dialogue’ that included suggestions such as the possibility for stakeholders to bring in issues that need attention into the government subsidy system, and ‘Frankenstein’ that presented the idea of an intelligent system with unified information.

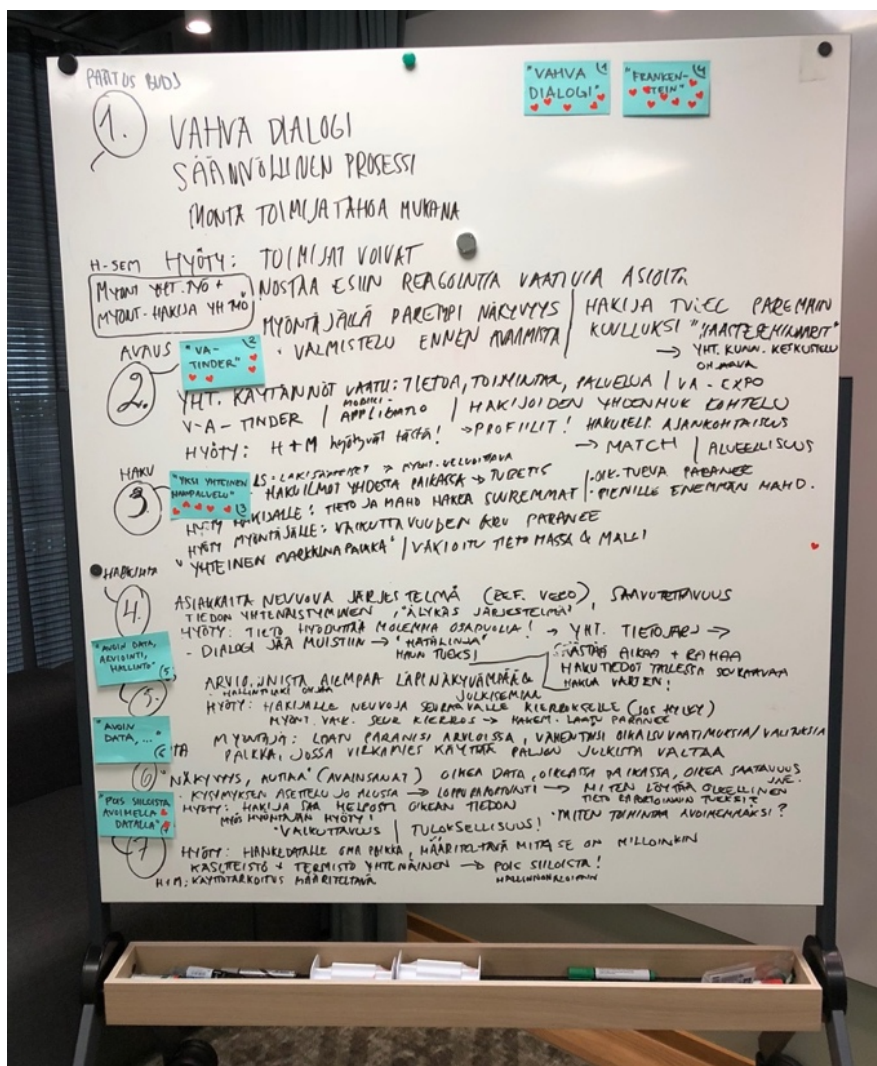


Figure 15: Descriptions of the concepts created during the workshop

After the workshop, the two top-voted themes were iterated with the steering group over e-mail and then sent to the Design Sprint participants so that they could get familiarized with the topic in advance. Also, a report with an overview of the workshop was delivered to the Ministry of Education and Culture (Gofore 2018b).

The Design Sprint challenges were formed as follows:

1. "How can we create open dialogue between the stakeholders in the government subsidy process?".
2. "How can we improve impact assessment of the government subsidy process and make the process more effective?".

Design Sprints

An overview of the results of the Design Sprints is illustrated in figure 16. As the illustration shows, there were many outcomes from the first day as it is the most method-intensive one, whereas less but more refined outcomes such as solution prototypes were produced during the other days.

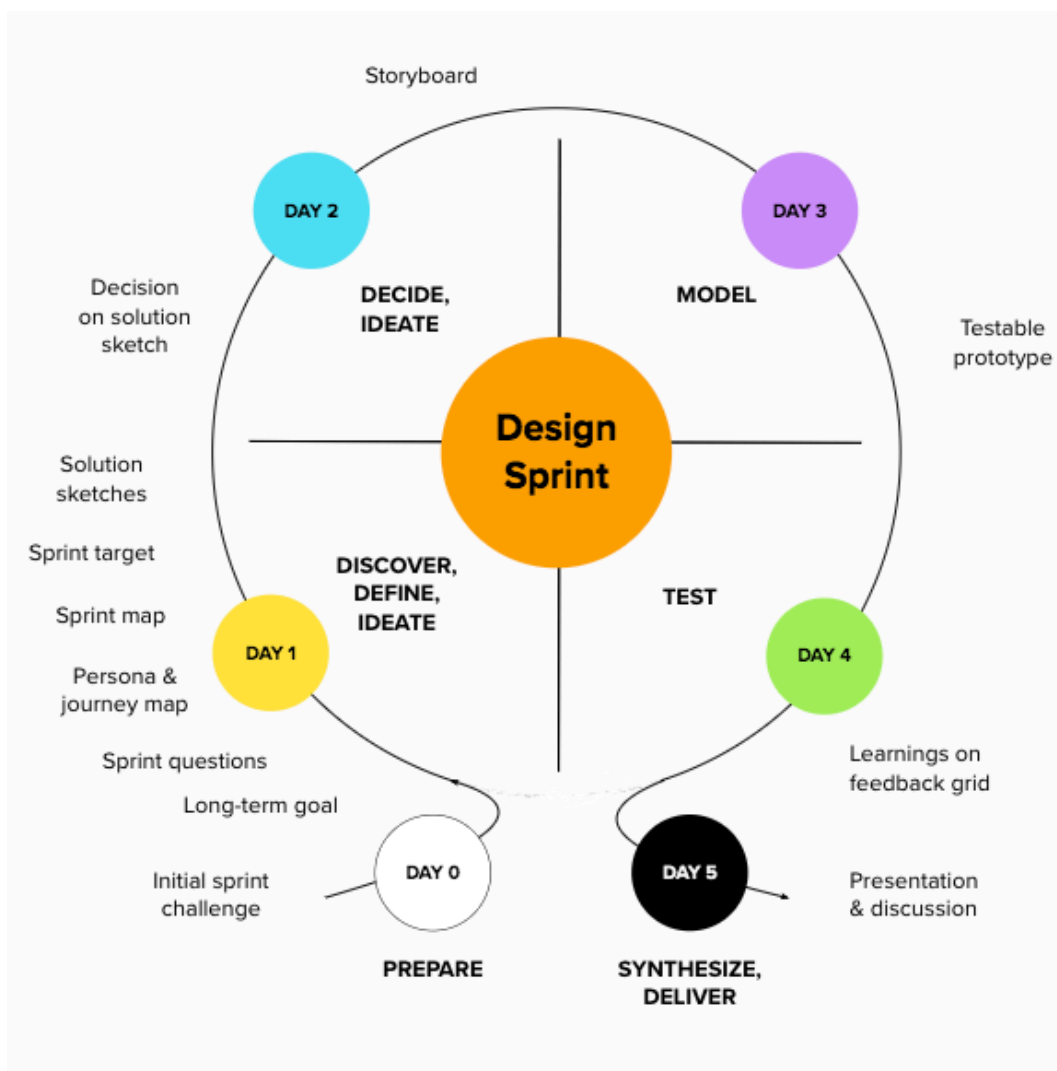


Figure 16: Overview of the outcomes of each day of the Design Sprint week

The main outcomes of the first day - including a long-term goal, sprint questions, sprint targets and 'How might we' questions - are presented in table 6 (the author has freely translated these from Finnish into English; the original materials can be found in appendix 6).

Outcomes of Design Sprints	Design Sprint 1	Design Sprint 2
Long-term goal	“Government subsidies are rightly targeted at projects and objectives that need help the most”	“In five years, data from the systems can be used to evaluate the effectiveness of different funding organizations so that activities can be targeted in an agile manner.”
Sprint questions	<p>“Can we create common goals and avoid getting stuck in cliques?”</p> <p>“Can we find someone to lead the change?”</p> <p>“Can we avoid building a slow and meaningless interaction system?”</p>	<p>“Can we ensure that cooperation is not too high-level?”</p> <p>“Can we succeed in making information unified?”</p>
Sprint targets: target activity & stakeholder group	<p>“Mapping of needs”</p> <p>Public officials (the grantors)</p>	<p>“Unified way of describing activities, its results and its immediate effects”</p> <p>The grantors</p>
Chosen “How Might We” questions	<p>“How might we create a genuine dialogue on the right issues with the right actors?”</p> <p>“How might we get organizations and relevant actors involved in setting the goals for the subsidies?”</p>	<p>“How might we make sure that all data is available for impact assessment?”</p> <p>“How might we ensure that enough information is collected about the applicants and their activities?”</p>

Table 6: Outcomes of the first day in the Design Sprints

The outcomes of the second day were top-voted solution sketches (fig. 17) and storyboards that visualised all the aspects of the idea that the team wanted to include in the prototype (fig. 18).



Figure 17: The top-voted solution sketches



Figure 18: The storyboards that were created by the teams

During both Design Sprints, the prototype that was created on the third day was a process visualisation including cards with additional information to clarify the roles and activities in each step. Figure 19 shows the first sprint week's final visualisation and a few of the information cards illustrating a process for bringing more dialogue into the government subsidy process. Figure 20 shows the second sprint week's prototype illustrating a process for creating a mutual language for the government subsidy process.

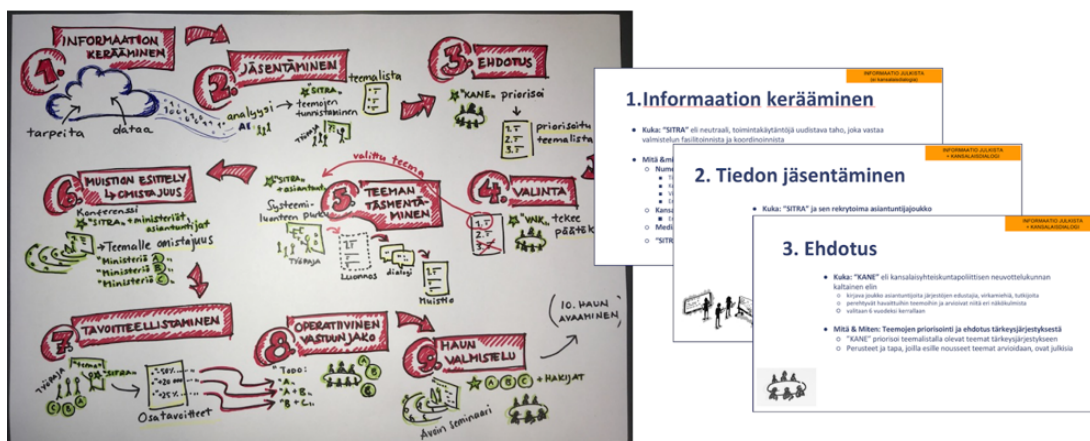


Figure 19: Parts of the first sprint week's prototype

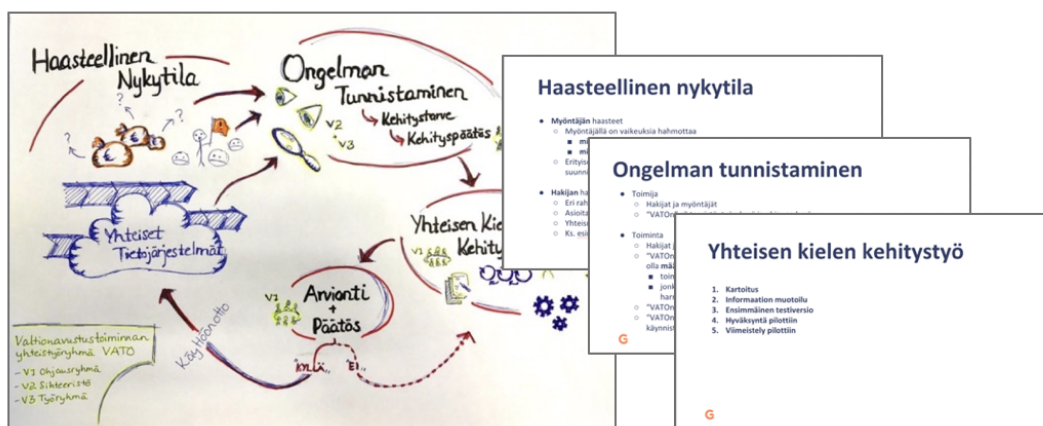


Figure 20: Parts of the second sprint week's prototype

On the fourth day in both Design Sprints, the prototype was tested with stakeholders representing NGOs, ministries, other public organisations, and individual applicants. The main insights were gathered by two team members based on their expertise. As a result, two large whiteboards were filled with hundreds of sticky notes (fig. 14). A selection of the feedback is presented in table 7.

Feedback on the proto- types	Design Sprint 1	Design Sprint 2
Direct in- sights from feedback	<ul style="list-style-type: none"> - Positive: Centralization of information in one place - Easy access to information, transparency and public conversation are also good ideas - It is important that the solution would enable cross-sectoral collaboration - Ownership - all phases in the process should have an owner - Dialogue with applicants before opening the application phase is important - The role of the governmental program (“hallitusohjelma”) in the process is not clear - The time span of the task force (“Kane”): 6 years too long; many suggested 4 years 	<ul style="list-style-type: none"> - The problem to be solved (creating unified language) is the right one - Positive: The importance of change management is emphasized as a 'shared information system' alone is not enough. - Monitoring of short-term and long-term effects: it is easier to monitor effects in the short-run; how is the impact evaluated in the long run? - Applicants should be involved more as they have very different needs and roles - Phenomenon-based Management needs to be considered - The solution must be linked to other development projects - Creating a common, unified language will not be easy
General learnings from testing	<ul style="list-style-type: none"> - There were few recurring patterns. - The concept was very broad -> feedback was fragmented - The testers represented very different organizations and positions in organizations -> the participants viewed the topic from very different perspectives - The most critical statements came from public officials -> the model questions the role (and power) of politicians and politics. 	<ul style="list-style-type: none"> - The process was viewed more or less positively, but often with reservations and conditionality; challenging perspectives were raised a lot. - At first, many testers found it challenging to catch the "red thread" of the model. - It might have been better to describe the model from the perspective of an individual project. However, in that case, the level of generality of the model may have disappeared

Table 7: Main insights from the feedback on the prototypes

Finally, on the fifth day, an overview of the sprint week and the prototypes were presented to the steering group, followed by a discussion on the next steps. The steering group members positively commented for example that the prototypes had succeeded in receiving a lot of valuable feedback from a large variety of stakeholders. The presentations of the results of the Design Sprints (Gofore 2018c & Gofore 2018d) were delivered to the Ministry of Education and Culture after the sprint weeks.

4.3 Iterating towards delivery

In the final weeks of the project, the design team members synthesized all the data that had been gathered during the project. Based on the synthesis the team created visualisations of the process and a new operational model as well as nine further concepts.

Figure 21 presents an overview of the new government subsidy process that the team proposed to the steering group. It divides the process into six steps that reach over the four-year Finnish government period (represented by the pink line in the upper part of the figure) during which data is transparently and actively being shared within the process. The blue line represents the funding period during which data about the projects and from the specific fields of operation is openly provided and actively utilised. In addition, data about new societal phenomena and weak signals are fed in to the process. The system that enables the new process is visualised with a green line in the bottom of the figure.

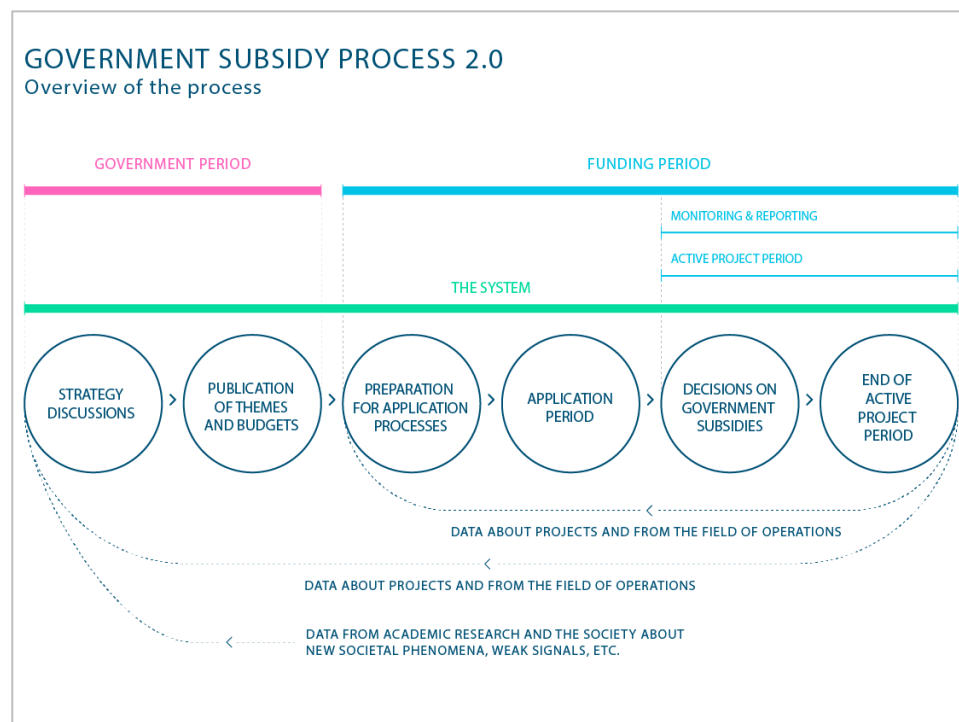


Figure 21: Visualisation of the 'Government subsidy process 2.0'

Figure 22 shows an overview of the new operational model for administering the government subsidy system. It shows the seven process steps under the pink and blue lines representing the above-mentioned time periods, and the main stakeholder groups on the left side. The first one of the stakeholder groups is ‘The government’, a general term representing the individuals with the highest decision-making power. The second stakeholder group is called ‘The Hub’ that consists of public officials that are involved in the process on different levels of decision-making: a strategic, cross-sectoral and an operational level. The stakeholder group marked with orange colour represents the applicants, and the green colour a digital system. The detailed contents in the visualisation are replaced with placeholder text as the contents are out of the scope of this study.

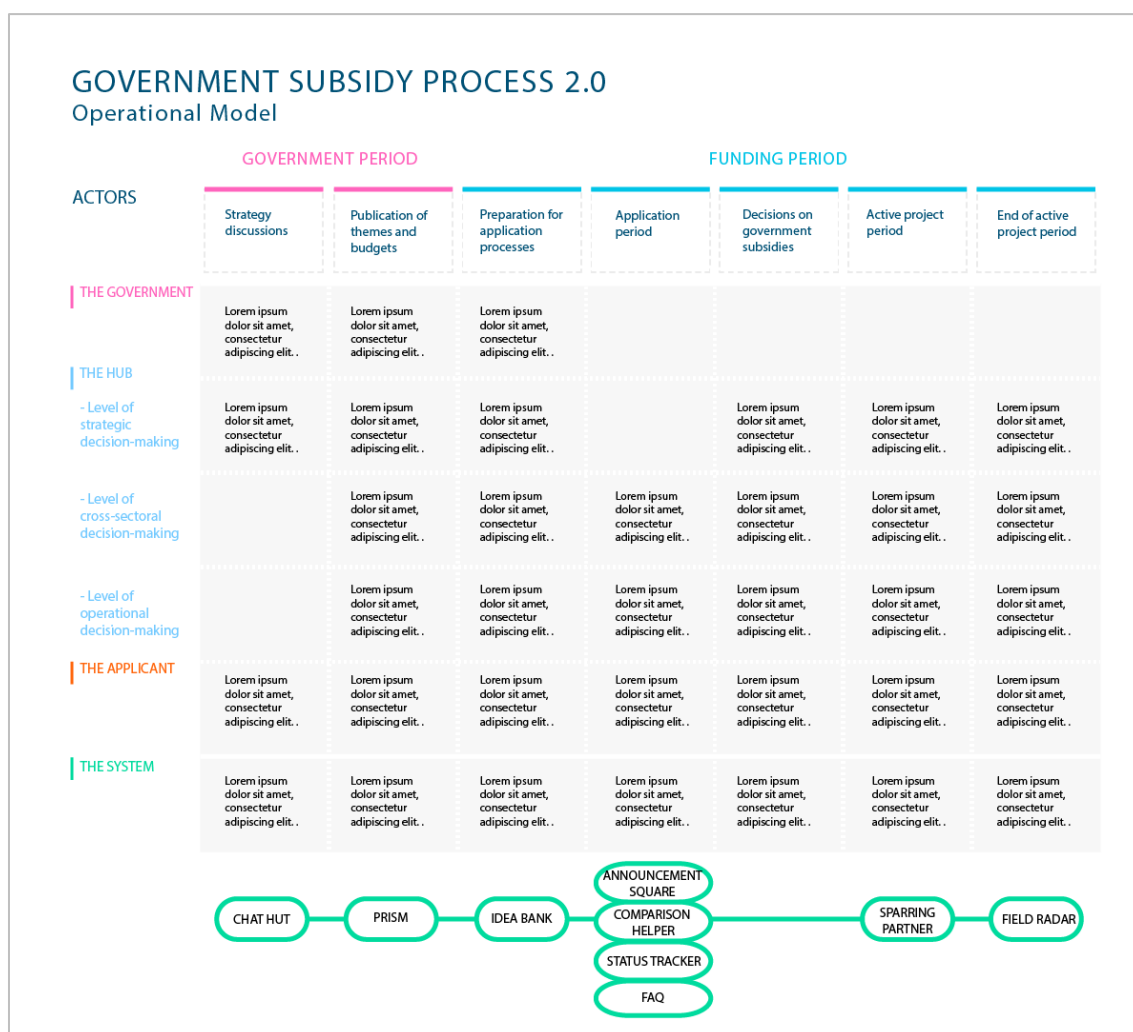


Figure 22: Visualisation of the operational model

The nine further concepts that the team created based on the data gathered during the development work are visualised in the bottom of figure 22. Another visualisation that illustrates the concepts in an applicant's context is illustrated in figure 23. Here, the concepts are presented with circles that are placed in the order of the phases in the government subsidy process. The smallest circles in the figure represents the outcomes that these concepts would provide for the applicants. These include more information on the subsidy projects and results as well as feedback on an individual applicant's project.



Figure 23: Further concepts on an applicant's journey through the process

The design team created the concepts to concretize the ways to improve the government subsidy system from the key stakeholders' perspective. The concepts were presented in detail in the end report (Gofore 2018e) that was written by the design team and delivered as the result of the project. A few examples of the concept descriptions (in Finnish) can be found in appendix 7.

5 Summary and conclusions

This thesis explained the process of discovering the needs of the key stakeholders of the Finnish government subsidy system by using qualitative research methods. Furthermore, it demonstrated how a proposal of a new customer-centred government subsidy system was designed based on these needs by means of a co-creational service design approach. The development questions that guided the development work are answered below.

Q 1: How should the Finnish government subsidy system be developed to become more customer-centred?

It was evident in the qualitative research results that both key stakeholder groups, the applicants and the grantors, want to improve the government subsidy process; everyone sees the challenges with the current state and knows that solving the issues would benefit not only them individually but the society as a whole.

The findings from the qualitative research were presented in chapter four by categorising them under the seven steps of the government subsidy process used throughout the development work and in this thesis. The main themes that were formed based on the needs of both key stakeholder groups, and that most of their biggest pain points related to, were all related to communication. These can be summarised into five categories as follows:

1. **Dialogue:** The applicants want more strategic discussions around the subsidies and the possibility to bring observations from the field into the process. Improved communication in general would also improve the recruitment processes in applicant organizations as well as the planning of activities.
2. **Quality of information:** For grantors to do their work properly a common language for the terms related to government subsidies needs to be defined and the information that is put into the system must be unified. This - and the use of unified forms - is important for applicants, too.
3. **Interaction:** Applicants appreciate personal guidance and sparring, and would like to have more personal feedback both during the projects and after the evaluation. This need for more interaction is supported by the grantors' wish to be able to comment and make recommendations on an individual applicant's project activities.
4. **Transparency:** The applicants find it important to see what kind of projects receive funding and on what grounds, mostly to improve their applications.

5. **Clarity:** The grantors need overall clarification of the different subsidies and more data to support decision making. Applicants want to see more information about subsidies and preferably in one place.

The solution prototypes that were created based on these results in the Design Sprints addressed the first two of the above-presented themes: dialogue and quality of information. The final outcomes of the project addressed the findings by bringing them as essential element in the process visualisation, the operational model and the concepts. These demonstrated how communication related to the government subsidy system could be improved in the future, and how this could ultimately lead to more effectiveness and increased impact of the system.

Q 2: What factors need to be considered when designing a customer-centred public service?

The way of creating new public services has traditionally been slow and organisation-driven, which has long provided stability for the society (Virtanen & Stenvall 2017). However, the dynamic, networked and complex nature of today's wicked societal problems makes them hard to solve with traditional approaches. Thus, new ways of creating public services that are more customer-centric, creative, agile, transparent and experimental are needed.

The proposal for a new customer-centred government subsidy process and operational model as well as the related concepts were designed using a service design approach and theories on Customer-Dominant Logic, co-creation, design thinking, and lean and agile development.

Customer-Dominant Logic emphasizes the role of customers in value creation and shifts the perspective in service development from the organisation to its customers. Co-creation theories demonstrate the importance of designing solutions together with stakeholders, not only for them. Theories on design thinking emphasize a deep understanding of stakeholders' needs and complement a design process with adding in the balancing between analytical and creative thinking, as well as experimenting and iterating. Agile and lean development theories highlight the importance of validating ideas and solutions as fast as possible to save resources.

For bringing these theories together, the author created the Stakeholder Co-Creation Model that guided the development work. Service Design was used as the main development approach and the methods were chosen depending on the suitability in each phase of the design process. The Design Sprint was chosen as the main co-creational methodology as it offered a clear process for co-creating solutions and testing them in a short period.

Based on the learnings throughout the development work and the thesis writing process, the author has defined a set of criteria that she proposes as the foundation of developing new customer-centred public services. These criteria conclude the author's learnings during the process of co-creating a proposal of a customer-centred government subsidy system.

Eight criteria for developing customer-centred public services:

1. Participatory
2. Collaborative
3. Engaging
4. Co-creative
5. Iterative
6. Concrete
7. Systematic
8. Agile

Participatory refers to the action of involving a wide variety of stakeholders into the design process. It is important to engage people that have different backgrounds and/or differing opinions and experiences. Stakeholders need to be involved throughout the process, even in the final phase when all gathered data and created solutions are evaluated. In the stakeholder workshop, groups were formed based on the participants' opinions about certain topics and thus, the groups were very homogenous and many of the ideas were solutions that had been suggested earlier. On the contrary, in the Design Sprints the teams were multidisciplinary leading to more unexpected solutions.

Collaborative refers to cross-sectoral cooperation and emphasizes the importance of working together across organisations and departments within organisations. This does not only suggest discussing with representatives from different organisations but also working together on a defined problem and towards a mutual goal. This needs to be made possible by using clear processes, such as the Design Sprint methodology. In the feedback for the Design Sprints that were facilitated during the development work, the participants said that one of the best things in the process was that it enabled working together with people from other organisations on a concrete challenge.

Engaging refers to the nature of the activities used throughout the design process. The activities need to be engaging so that people connect to the cause and thus, naturally engage to it and finding the best possible solution. Different engagement methods such as personally interviewing users and listening to their stories should be incorporated into the process. In the development project, there was a clear difference between the participants' engagement in the one-day workshop and the one-week Design Sprints. In the workshop, most

likely due to the very short timeframe, no deeper engagement was visible, but in the Design Sprints participants gave direct feedback on how exciting it was to immerse themselves into the design process and how they liked the engaging process. As a learning, it would have been very good to have more decision-makers attending the Design Sprints or even some of the theme interviews to introduce a more holistic view of the problems and why and how a certain solution was developed. For future purposes, it should be considered what constellation could improve the chance of getting the most important decision-makers to attend the more intensive and time-consuming different activities.

Co-creative refers to solutions being created together in multidisciplinary teams where there are people with not only different backgrounds but different points of view and skills. Design team members should support the stakeholders in concretising their ideas rather than design solutions themselves. On the other hand, if the time does not allow for creating everything together, solutions need to be tested and iterated based on feedback. In the development project, two prototypes were created together in a multidisciplinary team but due to time constraints they were not iterated upon collectively. The end report and further concepts were created by the design team members only, which resulted in that the outcomes were not validated with stakeholders.

Iterative refers to constant improvement of created solutions by refining them based on feedback. In some cases, this means ending the development of a solution or even an existing service. In the development work, solutions were not iterated upon much as the project outline and outcomes were agreed upon in the beginning not allowing for much space to go back in the process or for example organise several Design Sprints. As a learning, it needs to be clearly communicated that solutions sketches and ideas need to be iterated upon and time reserved for it. People involved in design processes also need to embrace ambiguity, trust the process and be open to learn from mistakes.

Concrete refers to show evidence of all new learnings and demonstrate the value that different solutions bring. The learnings can be concretised e.g. by inviting decision-makers and key stakeholders to review data analysis results, show them quotes from interviews with real people or other evidence such as pictures and videos. The value of solutions can be concretised by creating prototypes where a future scenario is e.g. played out by using roleplaying methods. In the development work, this was done by creating concrete outcomes such as journey maps, storyboards and prototypes. The outcome of both two Design Sprints were process visualisations, where testers moved from one step to the next using a Lego figure. These prototypes served as helpful tools for concretizing complex and abstract ideas and for gathering feedback from very different kinds of stakeholders. Additionally, most of the stakeholders were keen on giving even negative feedback, which can normally be hard in test situations.

Systematic refers to the results being gathered, analysed, organised and shared in a systematic way. First, there should be enough time to collect and handle research data so that it enables a smooth and effective analysis phase. Organising the raw data as well as the insight in a systematic manner would allow others to utilise the data later or complete it with further research. In the development project, the data was gathered into an online board as systematically as possible but the used solution did not allow for proper data handling such as coding and thus, the team delivered the documents with transcribed interview raw data and a presentation document on the insights to the client. This requires further handling if the data is needed later suggesting that it might be left unused. Also, no proper data collection or analysis was done during the Design Sprints as the original format does not include these phases but also because there was no time for it. As a learning, the content of different reports and where (and in which format) research data is saved to allow for further utilisation should be decided upon in the beginning of a design process. The author argues, that the impact of development projects could be increased if research data was handled more systematically.

Agile refers in this case to the way of concretising and testing ideas fast so that a new course can be taken before too much time and effort is invested in the development. In the development project, the Design Sprint turned out to be a working solution for this. As it allowed the teams to move very fast from the problem, to ideating, to a testable solution and gathering learnings from the feedback of the stakeholders.

To conclude, the fast-evolving needs of public administration customers can only be addressed by co-creating solutions and across organisational sectors. This demands new ways of working that are engaging, iterative and agile. Furthermore, research data that is collected during a design process needs to be handled systematically, and solutions that are created during the process need to be concretised. Finally, it needs to be ensured that the solutions created are viable and feasible from the perspective of organisations and the society.

Finally, the author argues that a co-creational problem-solving framework based on service design and agile methodologies can support public organisations in creating solutions together with stakeholders to better meet their needs as well as overcome organisational silos. The author believes that a framework such as the Stakeholder Co-Creation Model can support public officials in concretizing and testing out ideas fast so that feedback can be received earlier in the process before resources are wasted. Services that are created and maintained with public money are worth to be designed as well as possible so that they ultimately create highest value for all stakeholders in the society.

5.1 Suggestions for further research

Concerning the proposal of a customer-centred government subsidy system the suggestions include three things. First, the Design Sprint prototypes as well as the concepts in the final report need to be validated and iterated upon based on the feedback. Second, as the research in the development project was limited to only include organisations working in the fields of a) sustainable development and b) free time activities for children and young people, and included only a handful of public organisations, the author suggests that further research is done on the needs of further stakeholder groups. Third, it should be ensured that the new solution that will be built is not only desirable but also viable and feasible from the point of view of the society.

Concerning the Stakeholder Co-Creation Model (see fig. 7), the author suggests that it is further tested in similar service design projects to find out if there are distinctive features in the public sector that need to be considered when applying the model.

5.2 Credibility of the results

The development work that serves as a case environment for this thesis was carried out using qualitative methods. According to Kananen (2013), it is much more difficult to evaluate the credibility of qualitative than quantitative research. However, there are two concepts that are used for evaluating the quality of a thesis.

Reliability refers to the consistency of the research results and *validity* to whether the researcher has researched correct things. There are also common credibility criteria such as saturation and documentation of the results, that can assist in evaluating the credibility of the research (Kananen, 2017).

One way to ensure credibility of a qualitative thesis is to evaluate the choices made by the author, and how well these choices have been documented and justified. The aim is to show a reader that no gaps exist in the argumentation and if needed, the research can be repeated to a certain extent. However, in design research repeatability is nearly impossible as the situations that build the research are context-driven and in the past. (Kananen 2013)

As presented in chapter 3 all research was documented and organised thoroughly. Also, each step of the research process and the choices made were justified based on academic literature. The development work produced the outcomes that were agreed upon with the client organisation and the thesis process answered the research questions.

The results of the different phases were analysed by several researchers to increase the consistency of interpretation described by Kananen (2013). Also, the results of each phase were

validated with stakeholders to large extent. For example, many of the theme interview participants were present in the co-creational activities where they could see the insights that the researchers had driven from the interview data and did not criticize the validity of the results. The results of the co-creational activities were presented to the steering group of which some members had taken part in the activities and could ensure the correctness of the results. Finally, the credibility of the thesis results was ensured by sending the thesis report to the client representatives to be confirmed.

The credibility of qualitative research can also be increased by using data and researcher triangulation. Data triangulation is done by collecting data from various sources and comparing it to the conclusions that the researcher has done (Kananen 2017). Data triangulation for the theoretical part of the thesis was accomplished by using academic literature from several academic traditions. Customer-Dominant Logic has its roots in marketing research, Public-Service-Dominant Logic in social sciences, design thinking in design research, agile in software development, lean in entrepreneurship practices and co-creation in multidisciplinary research. This gave the author a holistic view on what kind of process would best support co-creating a new customer-centred public service.

The author and the design team also went through several different documents on the Finnish government subsidy system to increase the credibility of the knowledge base. In this context, data triangulation was mostly done by comparing the theme interview results with the findings presented in the preliminary study and the data from previous design work and finally comparing all gathered data and results to each other in the last “Synthesize & Deliver” phase of the project. In addition, data triangulation was done by including as many organisations as possible and very different stakeholders in the process. Although the context of the stakeholders varied a lot (e.g. what kind of a platform they had used for applying for a subsidy), it turned out in the theme interviews that the experiences and needs toward the system were relatively similar. The results started to saturate after around 10 interviews implying that the researchers had reached an adequate number of participants. However, the researchers received a lot of new interesting information by interviewing more stakeholders so it is difficult to say what exact number would have been optimal.

Researcher triangulation refers to further reducing the effect of biases by using several researchers in the development work (Stickdorn et al. 2018). In this development project, four researchers with backgrounds in organisational design, interaction design, UX design and business administration were involved during the process.

5.3 Usability and transferability of the results

The outcomes of this thesis can be used to demonstrate the importance of renewing the Finnish government subsidy based on the needs of its key stakeholders and provides guidance for its further development.

The author has examined the transferability of the results from two points of view. The direct transferability to similar projects in other countries, for example, is challenging as the author believes that the results are unique to the Finnish context. The methodological transferability is higher: the author deems that the Stakeholder Co-Creation Model and the process of how it was applied in the development project is applicable to projects where solutions need to be created fast, systematically, creatively and together with customers and other stakeholders.

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Appendix 1: A selection of the theme interview questions

- How can we streamline the government subsidy application process from the point of view of both applicants and grantors?
- How do the applicants perceive the current state of the application process?
- How would a “dream process” for applying for government subsidies look like from the applicants' perspective?
- How do the grantors perceive the current state of the government subsidy granting process?
- How would a “dream process” for applying for government subsidies look like from the grantors' perspective?

Appendix 2: Mood, role and channel cards used during the theme interviews

ASKELEET / VISO

Työryhmiä löydetty ja laati ehdotukset	Työryhmiä löydetty ja laati ehdotukset	Sähköinen hyväksyntä	Sähköinen hyväksyntä
Sähköinen hyväksyntä	Erilliset käännetään kotoon avulla, käsitteitä tarkastaa	Kommentit/ muutosehdotukset suoraan dokumenttiin	Kommentit/ muutosehdotukset suoraan dokumenttiin
Hakemuksen hyväksyntä/tyky viesti päätöksestä	Hakemuksen edistyneet samanaikaisesti	Päätöksen lähettäminen järjestelmästä	Hakemuksen julkaisu valtuutusmallissa portaalissa
Hakemusten, ilmoitusten sähköpostin, tms.	Lähtökohtien yksinkertainen järjestelmä toimituksen aikana	Lisätietopyyntö kommentoina	Järjestelmä ehdottaa parhaiten soveltuva avustusta
Järjestelmä ehdottaa parhaiten soveltuva hakija	Hakemusten läpikäynti korvaus avulla, läpikäynti, tms.	Lisätietojen antaminen järjestelmässä, kuitaus	Hakemusten suodatus
Hakemusten vertaileminen avulla	Päätös hakijalle järjestelmän kautta	Chat-mahdollisuus järjestelmässä	Mahdollisuus dokumentoida toimituksen aikana
Toimitusraportin laatiminen samanaikaisesti	Tapausten sähköinen arkistointi, päätös hakijalle		

AIKA & TUNNETILA

pv	kk		

ROOLIT

Esittelijä	Valmentaja	Mikroliini	Hakija
Taloustarkastaja	Ylijohtaja	Työryhmä	

KANAVAT

Sähköinen järjestelmä	Sähköposti	Puhelin	Kirjeposti
-----------------------	------------	---------	------------

VALTIONAVUSTUSPROSESSI: NYKYTILA

```

    graph LR
      A[Hallitus päättää avustusta/pöytäkirja ministeriölle] --> B[Ehdotusten laatiminen avustavista haaroista]
      B --> C[Hakuehdotusten hyväksyntä/tyky, viesti päätöksestä]
      C --> D[Hakemuksen laatiminen]
      D --> E[Hakemuksen lähettäminen hyväksyntä/tyky, viesti päätöksestä]
      E --> F[Hakemuksen hyväksyntä/tyky, viesti päätöksestä]
      
      G[Hakemuksen viestittely] --> H[Hakemuksen kääntäminen]
      H --> I[Hakemuksen julkaisu]
      I --> J[Hakemuksen läpikäynnin ja kuitauksen]
      J --> K[Hakemuksen läpikäynnin, liittämisen kerräsiminen]
      K --> L[Hakemuksen kuitaus]
      
      M[Hakemuksen vastaanottaminen] --> N[Hakemuksen skannaaminen ja kuitaaminen järjestelmään]
      N --> O[Hakemuksen läpikäynti]
      O --> P[Lisätietopyyntö]
      P --> Q[Hakemuksen täydentäminen]
      Q --> R[Hakemuksen kuitaus]
      
      S[Hakemuksen läpikäynti ja vertailu] --> T[Ehdotukset ministeriölle]
      T --> U[Saajaehtotusten hyväksyntä/tyky]
      U --> V[Päätös ilmoitus ja ohjeet hakijalle]
      V --> W[Avustussumman maksaminen]
      W --> X[Avustussumman käytön seuranta]
      
      Y[Itun näkökulma] --> Z[Toimitusraportin lähettäminen]
      Z --> AA[Rahoituksen solmittuun taloudelliseen tarkastamiseen]
      AA --> AB[Lisätietopyyntö]
      AB --> AC[Taloustarkastusraportin laatiminen]
      AC --> AD[Rahoituksen solmittuun sisällölliseen tarkastukseen]
      
      AE[pyyntö] --> AF[Taloustarkastusraportin laatiminen]
      AF --> AG[Tarkastusdokumenttien arviointi]
    
```

Appendix 3: A selection of journey maps created in the theme interviews



Appendix 4: A list of chosen statements for the stakeholder workshop (in Finnish)

PÄÄTÖS BUDJETISTA

- Enemmän strategista keskustelua ennen haun avaamista järjestöjen ja myöntäjän välille. Järjestöillä on asiantuntemusta kentältä, joka auttaa hakujen kohdentamisessa.
- Mikäli tietoa hauista tulisi hyvissä ajoin, hakijat ehtisivät valmistella projektia sekä kumppanuuksia, joka puolestaan johtaisi laadukkaampiin hakuihin.

HAKU

- Hakukriteerit ovat epäselkeitä ja hakijoiden on vaikea hahmottaa mistä kaikkialta he voivat hakea rahoitusta. Myöntäjällä menee aikaa hakijoiden neuvontaan.
- Hakijoille oma hakijaprofiili, jossa toimintaan liittyvät tiedot sekä tiedot saaduista rahoituksista. Profiilin avulla hakijat täyttävät hauissa vain hankkeeseen liittyvät tiedot, eivät esimerkiksi järjestön perustietoja.
- Hakulomakkeiden tulisi olla keskenään samanlaisia ministeriöstä riippumatta.

HARKINTA

- Myöntäjää kiinnostaa ns. iso kuva hakijasta, millaisia avustuksia saanut aiemmin, mitä kaikkia avustuksia hakee nyt ja millaista toimintaa.
- Järjestelmän tulisi automaattisesti tarkistaa hakijan hakukelpoisuus sekä pakollisten liitteiden puuttuminen.
- Hakemusten käsittely aiheuttaa paljon manuaalityötä ja vertailu on vaikeaa ilman työkalua.

PÄÄTÖS

- Päätöksenteon prosessi näkyväksi sekä myöntäjälle sisäisesti, että hakijalle.
- Avustuspäätösten viipyminen aiheuttaa resurssiongelmia järjestöissä.
- Avustuspäätöksiin halutaan läpinäkyvyyttä, tieto siitä kuka saa avustusta, mihin tarkoitukseen ja millä perusteilla näkyväksi.
- Ilman perusteluita päätöksestä hakijat eivät voi kehittää toimintaansa. Perusteluiden puute aiheuttaa oikaisuvaatimuksia.

SEURANTA

- Toiminnan raportointi jo hankkeen aikana helpottaa loppuraportin tekoa sekä tarkastusta.
- Seurannan pisteiden perustelu auttaa hakijaa kehittämään seurantaa, joka helpottaa myös käsittelijän työtä.

ARVIOINTI

- Ilman kuittausta selvityksen hyväksymisestä, hakija jää epätietoisuuteen onko projekti saatu hyväksytyksi päätökseen.
- Dataa ja visualisointia avustuksen kohteista halutaan helposti saataville sekä myöntäjille että hakijoille.

Appendix 5: Stakeholder workshop template (in Finnish)

Ratkaisuehdotus

Ryhmän nimi/väri: _____

Ryhmälle annettu väittämä: _____

"Miten voimme...?"

Muuttakaa väite kysymyksen muotoon aloittamalla lause sanoilla "Miten voimme" ja lisäämällä perään väite sopivassa muodossa. Väitteen muuttaminen kysymyksen muotoon auttaa ideoinnissa.

Pitkän ajan tavoite

Miksi tämä projekti tehdään? Missä haluamme olla viiden vuoden kuluttua? Voitte aloittaa lauseen esimerkiksi sanoilla "Viiden vuoden päästä...".

Ratkaisuideat

Kirjoittakaa tähän ryhmänne valitsemat 3 parasta ratkaisuideaa:

Vaikutus sidosryhmiin (hakija/myöntäjä)

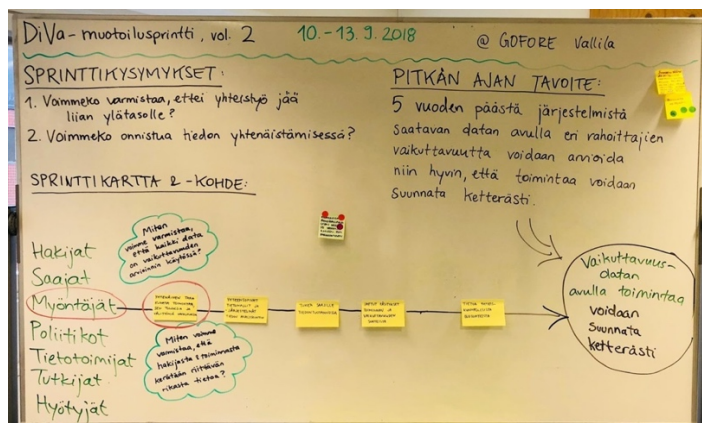
Millaisen vaikutuksen arvioitte ratkaisullanne olevan hakija- sekä myöntäjäosapuolelle? Asettakaa arvionne tarralla alla olevalle skaalalle.



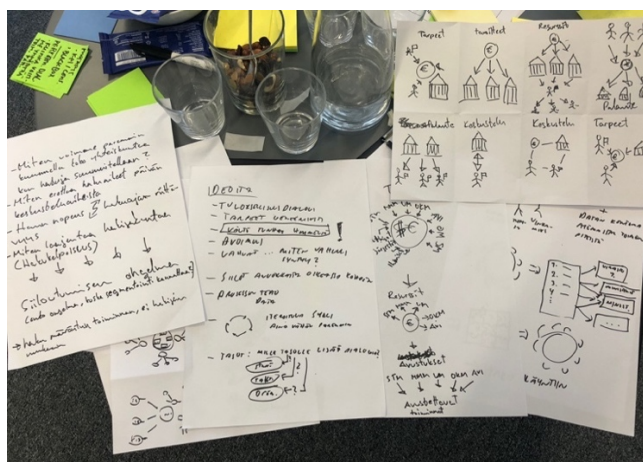
Appendix 6: Photos from the Design Sprints



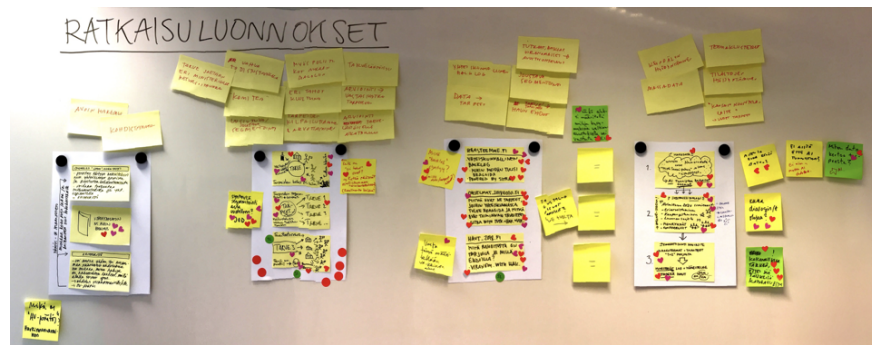
Sprint board of the 1st Design Sprint



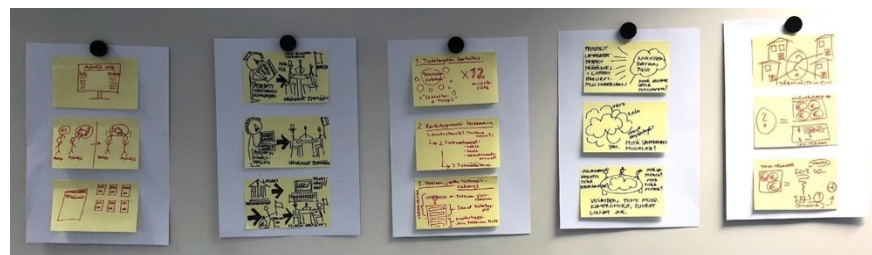
Sprint board of the 2nd Design Sprint



Outcomes of the ideation phase



Solution sketches from DS1 with votes and comments



Solution sketches from DS2

Appendix 7: Selected concept descriptions from the end report

Järjestelmäkonsepti: "Kenttätutka"

Kenttätutkassa hakija voi syöttää järjestelmään tietoa kentällä havaitsemistaan asioista ja ilmiöistä. Järjestelmä ryhmittelöi järjestöjen tuottaman tiedon teemoittain ja visualisoi sen, sekä edelleen lähettää sen myöntäjätahojen käyttöön.

Haaste, johon konsepti vastaa:

Hakija kaipaa mahdollisuutta tuoda omia havaintojaan kentältä myöntäjien tietoon.

Strategiset teemat:

Avoimen dialogin lisääminen
Tiedon keskittäminen & saavutettavuus
Tiedon & prosessien läpinäkyvyys



Järjestelmäkonsepti: "Visualisointityökalu"

Visualisointityökalulla myöntäjä voi tehdä helposti koon- teja ja visualisointeja hankedatasta. Työkalu tukee avus- tustoiminnan läpinäkyvyyttä, kun tieto tulee sen kautta kaikkien saataville.

Haaste, johon konsepti vastaa:

Myöntäjillä menee aikaa datan kokoamiseen ja visuali- sointiin. Materiaalipyynnöt tulevat lyhyellä varoitusaajalla ja aiheuttavat tuskaa.

Myös hakijat kaipaavat tietoa siitä mitä rahalla on saa- tu aikaan, joten visualisoinnit ja tietokoonnit palvelevat myös heitä.

Strategiset teemat:

Tiedon keskittäminen & saavutettavuus
Tiedon & prosessien läpinäkyvyys
Toiminnan tehostaminen



Vaihe 1: Strategiakeskustelu

Valtionavustusprosessin ensimmäisessä vaiheessa hallitus päättää siitä, mitkä yhteiskunnalliset teemat sisällytetään kyseisellä hallituskaudella valtionavustusten piiriin. Hallitus hyödyntää teemoja valitessaan sekä Hubin strategisen tason asiantuntijajuttua, että eri lähteistä kerättyä vaikuttavuusdataa. Hallitus myös määrittelee valtionavustusten kokonaisbudjetin sekä niiden teemakohtaiset tavoitteet ja mittarit. Hubin strate- ginen taso on jatkuvassa dialogissa hallituksen kanssa ja tuo päätöksenteon tueksi näkemyksiä niin hakijakentältä, Hubin substanssitasoon osajilla kuin yhteiskunnallisesta keskuste- lusta. Järjestelmämerkaisu toimii prosessin ensimmäisessä vai- heessa pääasiassa datalähteenä sekä dialogialustana.

Tietojärjestelmäkonsepti: "Juttutupa"

Juttutupa on paikka, jossa Hubin strategisen päätöksenteon tasolla koolla olevat toimijat voivat käydä keskuste- lua hallitusohjelman laatijoiden kanssa valtionavustus- sen ylätasoon teemoista sekä tuoda mukaan keskusteluun myös hakijoiden kentällä tekemiä havaintoja. Juttutuvan tavoitteena on tehdä valtionavustusprosessista entistä osallistavampi ja läpinäkyvämpi, sillä sen tarkoituksena on tarjota myös hakijoille yhtäläinen mahdollisuus olla yhteydessä ja vaikuttaa päätäjiin.

Haaste, johon konsepti vastaa:

Hakijat kaipaavat enemmän strategista keskustelua ja osallistumista hakujen suunnitteluun.

Strategiset teemat:

Avoimen dialogin lisääminen
Tiedon & prosessien läpinäkyvyys
Poikkihallinnollisuus

