OULU BUSINESS SCHOOL

UNIVERSITY OF OULU

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OPPORTUNITIES AND CHALLENGES WHEN IMPLEMENTING DESIGN THINKING PRINCIPLES IN NON-DESIGN-DRIVEN ORGANIZATIONS

Master's Thesis

International Business Management

May 2020

UNIVERSITY OF OULU
Oulu Business School

ABSTRACT OF THE MASTER'S THESIS

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Department of International Business Management	
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Title			
Opportunities and challenges when implementing design thinking principles in non-design-driven organizations			

Subject	Type of the degree	Time of publication	Number of pages
International Business Management	Master of Science	May 2020	82 + 3

Abstract

Design thinking is a concept used in organizations to enhance creativity and innovation, often to gain competitive advantage. Design thinking can be considered both as a mindset of how to think about problems and as a problem-solving process. The process is often described as nonlinear and iterative system of exploring and finding problems or opportunities that inspire for finding solutions, creating, developing and testing ideas and carrying the project outcomes to the market. It is focused on the user experience, analyzing and interpreting the cues for the creation for future solutions and growth. Challenges often occur when beginning to implement design thinking principles to non-design-driven organizations that are accustomed to efficiency-based methodologies. Design sprint is an application of design thinking and fast development systems that aims to compress the main points of the ideologies to generate tested business solutions during a one-week project.

A design sprint was conducted at the case company that has no prior design thinking experience to develop new service packages for their new business unit. During the week-long project new solutions were ideated, sketched, prototyped and tested with customers. As a result, it was determined which services should be launched first, which ones at some point later and which should be discarded for good because of the lack of customer interest. The sprint week, discussions and interviews were used to gather data for this research.

This Master's thesis aims to gain knowledge through a case project and ethnographic action research on the practicalities of design thinking concepts using the example of sprints: what kind of opportunities they bring and what should be considered especially when applying them in an organization that has little prior experience in design thinking. The role of the facilitator and their potential contribution to the desired results of sprints are examined. Furthermore, the organizational culture and established systems are considered in terms of how they too affect the potential design sprint results.

The objectives and expectations of a project should be considered prior to determine whether a sprint is the most appropriate method to use, or if there is a more suitable way of approaching the problem in hand. When conducting a project like a design sprint implementing design thinking principles, it should be considered whether it would be beneficial to prepare the team for the exploratory and creative activity by teaching some design thinking principles and/or arranging activities that foster creativity. Organizational culture and established structures influence the team the outcomes of the sprint and set the scene for the whole project. Facilitator's role is fundamental especially in organizations not familiar with design thinking concepts.

Keywords	
design thinking, design sprint, innovation, user research, human resources	
Additional information	

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1   INTRODUCTION

Design thinking is a concept used to increase creativity and innovation in organizations (Martin, 2009, pp. 6–7). It has been broadly used in design firms for decades (IDEO, 2018) and has been since adopted by other kinds of organizations as well, like General Electric (Wilner, 2015), Procter & Gamble (Cohan, 2012) and IBM (Churchill, 2017). Efficiency-driven organizations often lean into process management practices that are meant to streamline processes and remove non-value-adding activities to reduce costs and increase yields (Benner & Tushman, 2003). Although these exploitative practices are needed in reducing variation in processes and routines as well as increasing incremental innovation to serve existing customers, exploratory practices are needed sustain business long-term by pursuing new business models and technologies (O'Reilly & Tushman, 2016). Design thinking is a methodology that seeks to harness both innovation and efficiency for competitive advantage and for sustainability in business (Martin, 2009, pp. 6–7).

Research has been conducted about how can design thinking principles be applied to different organizational environments (e.g. Dunne, 2018), and there is even more material in practitioner-focused management literature: the roots of design thinking are in real-life product design firms, and the need for it has come from organizations' need for serving their clients better or otherwise improving the internal processes. (Brown, 2009.) New methodologies have emerged to harness design thinking mindset and procedures into more approachable solutions. One of these approaches is *Sprint,* a concept developed in Google Ventures that compresses the problem-solving ideology into a one-week project (Knapp, Zeratsky & Kowitz, 2016, p. 15).

What has not been studied much is whether these explorative project models are beneficial to implement into organizations that do not generally apply design thinking practices, like the case company of this research. The case company of this study is a Finnish company in the field of accounting that provides different kinds of supporting services for businesses. At the beginning of this research they were about to launch a new business unit under the payroll organization that would provide services and

solutions in the field of human resources (HR) for their current and potential payroll clients to help them ease their workload to better focus on their core competences.

After a short pondering, a conclusion was made that it could be very beneficial to use design thinking principles when developing the new services. Design thinking has not been utilized in research and development at the case company systematically, therefore it will be interesting to see, how the principles fit the culture of the organization. A fast solution was needed because of the tight schedule; therefore, it was decided that some sort of condensed, intensive project would best serve the needs. A concept developed in Google Ventures was found to be most suitable for the project: the design sprint is meant to be used when important decisions need to be made rapidly in an organization, essentially to find a solution to a problem, build it and finally test it (Knapp et al., 2016, p. 15).

Although the ideas of design thinking and fast development cycles have been around for a while, the version of design sprint that is applied in this case is a fairly new concept, at least for the bigger audience, since it was published as a book only few years ago in 2016. Therefore, the selection of academic writing on the matter is still rather limited, although there are lots of stories of different implementations on the concept on different business forums. They can be great for inspiration and a good source for insight, but these kind of success stories should of course always be taken with a grain of salt.

The project requires personal preparations from the whole sprint team, but especially from the facilitator. The role includes lots of tasks and practicalities that need to be taken care of before and during the sprint, as well as presenting, teaching new concepts, leading the conversation and activities and being the support for the team throughout the sprint. This phenomenon-based research is therefore conducted and presented from the viewpoint of the facilitator and on the impact of this crucial role on the sprint success. Therefore, the main research question is as follows:

How can a facilitator contribute to achieving desired results in a design sprint?

Desired results are the goals of the sprint and therefore unique to the project in hand. In the case company of this research, the goal of the sprint was to design a flagship product for the new unit and test its potential with some key customers. In the bigger picture, desired results also include sprint team members acquiring a design thinking mindset and utilizing the learned methods in other parts of their work life as well, spreading the exploratory way of solving problems. This requires getting familiar with the team and the organization and considering how the culture there affects the process. Therefore, to answer the main research question, a sub-question is needed:

How does the culture of the organization and the sprint team influence the desired results?

Design thinking is a rather broad and iterative concept that requires time spent on exploration and ideation, activities that are not the most eminent in efficiency-centered organizations. Therefore, it is interesting whether the concepts can be packaged in a way to make them more applicable also in these kinds of traditional companies. Sprints for example are very condensed projects with the atmosphere of getting things done, which can be more attractive for many traditional organizations than full-on shift to a design-driven approach. It will also be interesting to find out whether sprints are a good way to get the benefits of design thinking in organizations that do not yet fully utilize the design thinking mindset in their everyday actions. Therefore, the research questions will be discussed through considering the opportunities and challenges that occur when implementing design thinking principles in the form of a design sprint in an organization that inherently not design-driven.

Although design thinking can be implemented in all kinds of projects and organizations, for clarity it has been decided that in this paper the concepts will be discussed by giving companies as an example. The case project conducted follows the concept guidelines given in the publication *Sprint – How to solve big problems and test new ideas in just five days* by Jake Knapp, John Zeratsky and Braden Kowitz from Google Ventures (2016). Although the word *sprint* is used for many kinds of projects in IT and development, in this thesis the words *sprint* and *design sprint* refer explicitly to the model from Google Ventures. Furthermore, although design thinking and other

concepts mentioned in this research can be used when designing and developing almost anything, here they are considered through the lens of service design, as the case project conducted was about designing services and digital products. As the line between a product and a service is quite thin in the case project and mostly overlapping, both words are still used to describe the offerings. As the author of this research has a long experience at the case company and the payroll field, examples of concepts are provided from the experiences there.

For future research, this study will be a part of a puzzle that will show a bigger picture of the application and the benefits of design sprints and design thinking in general in different organizations. This research is aimed to contribute on the questions of applicability and potential of design sprints. It can serve those who are thinking about facilitating a design sprint or wish to start applying more design thinking principles to their processes. They can learn from the wins and problems that this project will have and consider them when building their own systems. In a practical level, this project will benefit the case company in question in by giving insight on their current practices as well as providing them a tool that gathers expert knowledge to one place to come up with solutions for the new unit.

The theoretical framework consists of definitions and views on the subject of design thinking as well as the topics like experience design and user research, which are important parts of the methodology to consider in depth. After this, the concept of design sprints will be addressed in a more thorough way. Methodology chapter will explain the research methods used in this thesis, which is followed by the project implementation description as well as the conclusions and discussion on the matter aimed to answer the research questions.

2   DESIGN THINKING

Design thinking is hard to define explicitly, and many scholars have given their interpretation on it that depends on the tone and view of their study. Dunne (2018) explains it as both a problem-solving process and as a way of thinking about problems. It is a solution-centered approach that focuses on the experience of the end user of the solution. Brown (2009) describes design thinking process as a nonlinear system of overlapping spaces of inspiration, ideation and implementation: exploring and finding problems or opportunities that inspire for finding solutions, creating, developing and testing ideas and carrying the project outcomes to the market (Brown, 2009, p. 16). Though these definitions coexist at the same time, for the purpose of the research the focus will be on design thinking as more of a process, although the importance of mindset cannot be overlooked either.

Design thinking can be used to create better products and services, but also to improve business processes, leadership practices, business sustainability and organizational change (IDEO U, 2019). On top of business advancements, design thinking has been used to solve pressing social issues such as unemployment, homelessness and poverty. Social design aims to understand what, why and how design can be used to serve the needs of a society, to then execute and deliver solutions to those needs. (Andrews, 2017.) However, this research will focus on for-profit organizations like the case company.

One of the key components of design thinking is experimenting. Open-mindedness and non-judgmentalism play a role in the cycle of creating, testing and learning. (Dunne, 2018.) Brown (2009) as well puts emphasis on optimism since ideas cannot thrive in an environment of cynicism. For optimism to flourish, mutual confidence and trust inside the organization is needed for the people to feel safe and encouraged to express their ideas and pursue them forward. (Brown, 2009, pp. 76–77.) In following chapters, the design thinking principles and process will be discussed more in depth.

2.1 Design thinking principles

Stickdorn and Schneider (2017) focus in design thinking as in designing services, although the concepts can be applied to design thinking in general. They describe service design thinking as user-centered, co-creative, sequencing, evidencing and holistic. As there is no common definition for concepts like service design or design thinking, these principles illustrate the ideas to outline the way of thinking required to design services. (Stickdorn & Schneider, 2017, p. 34.) Service design is a source of competitive advantage that can be seized by both product and service industry actors to create better customer experience (Polaine, Løvlie & Reason, 2013).

Services are created through the interaction between service providers and customers, therefore focusing on understanding the needs of the customers is essential. User-centeredness means looking at and experiencing the provider and its services through the eyes of the user. (Stickdorn & Schneider, 2017, p. 36–37.) The people-centered approach of design thinking is about finding answers to questions of the potential customers: who are they, what do they need and want, what are their lives like and what experiences do they have. Designers need to be able to see things from others' points of view, what they need, fear or desire. The process also includes getting actual feedback from the real customers, to know if the direction is correct or if changes or improvements are needed. (Mendonça de Sá Araújo, Miranda Santos, Dias Canedo & Favacho de Araújo, 2019.) User-centeredness in terms of user research will be discussed in further detail later in this paper.

Services create value the moment customers are involved and are therefore co-produced with the users (Polaine et al., 2013, pp. 23–24). Co-creativeness means that relevant stakeholders should be included in the process of service design. These stakeholders can include numerous different actors, such as various customer groups, employees in front-end and back-end, managers and investors and even non-human interfaces that customers encounter. (Stickdorn and Schneider, 2017, pp. 38–39.) The process of design thinking is collaborative by nature. Diversity in terms of experience and specialty in forms of multidisciplinary and multifunctional teams is an essential part of the concept of design thinking, because it is believed to bring different

perspectives to the table, making the outcome better. (Mendonça de Sá Araújo et al., 2019.)

On top of designing every aspect of a service, the overall service experience should be designed as well to create a harmonious continuum of service touchpoints (Polaine et al., 2013, p. 22). Well-sequenced services mean having the different stages and touchpoints of the service connected with well-thought narratives and balanced rhythm through the whole service experience. To achieve a good flow for every service interaction and for the whole timeline of a single interaction, design thinking is needed to develop, prototype and test solutions. (Stickdorn and Schneider, 2017, pp. 40–41.) Furthermore, information systems and technical customer interfaces should adapt to service interactions that are in nature varying, individual and customized to sustain the flow (Korhonen, Syrjänen, Kinnula, Isomursu & Kuutti, 2017).

When providing intangible products and services, manufacturing and delivery are often indistinguishable (Levitt, 1981). Evidencing means making intangible services more tangible to make users acknowledge and appreciate the services that happen backstage. An example of this is folding the toilet paper roll in hotels, which is essentially an "evidence" of housekeeping, making customers notice the service that has already been provided for them before they even stepped their foot in the hotel. Effectively and desirably using the method of evidencing can lead to increased customer satisfaction and loyalty. (Stickdorn and Schneider, 2017, pp. 42–43.) For example, a payroll that is calculated correctly is faulty in customer's eyes if the salary has not been transferred and correct reports and official liabilities have not been provided. On the other hand, displaying provided services not only as a row in an invoice but as a proof of a job done can be considered better service. For example, when solving a customer issue by spending time calling different officials, the efforts do not transfer straight to the customer's end. To solve this, a memo or similar can be sent to them explaining the work done as well as the outcomes and future steps.

Similarly, the holistic approach to design thinking implies that services though intangible occur in the physical space, therefore considering the environment of possible alternatives of service moments and touchpoints. Design thinking can also be

considered holistic because of its depth in the organization; it does not only focus on the marketing and development of a product or a service, but also the overall organizational structure, the processes inside as well as culture, values and norms. Co-operation between all the functions inside the company is essential in terms of providing solutions with the value proposition that the whole organization can agree on. (Stickdorn and Schneider, 2017, pp. 44–45.) Failing to connect the different functions often cause struggles in customer experience as the service promise and delivery will vary at different touchpoints (Polaine et al., 2013, pp. 21–22).

2.2   Design thinking process

Design thinking process is described in many ways in literature, but same concepts seem to repeat in every theory (for example Brown, 2009; Dam & Teo, 2020 & Stickdorn & Schneider, 2017). Although the process is often illustrated as a clear step-by-step framework, it is in reality nonlinear and iterative because of its experimental and exploratory nature. According to one concept, the stages service designers go back and forth have been called *Exploration, Creation, Reflection* and *Implementation,* as seen in figure 1. (Stickdorn & Schneider, 2017, pp. 124–127.) Although the process can be cyclical, design projects should not be considered open-ended as in infinite. They should have a set timeline, deadlines and an ending, as well as a defined goal. This gives clarity, direction and limits, which are needed to make progress, evaluate and pivot when necessary. (Brown, 2009, pp. 17–21.)
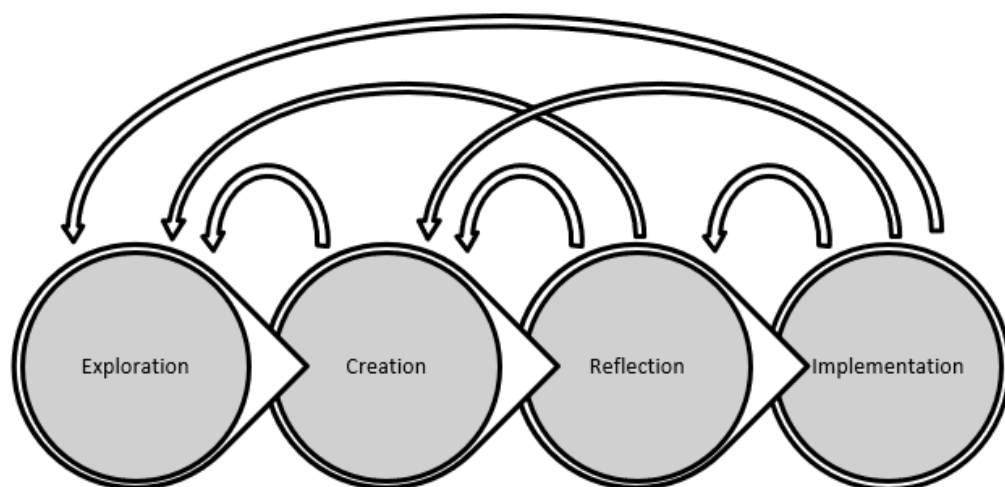

Figure 1. Iterative design process (adapted from Stickdorn & Schneider, 2017, p. 122–123).

At the Exploration stage, the problems are identified and examined from the customer perspective. The real problem is not usually the most apparent one, but something behind the scenes that affects the outcome of the service. Therefore, time is put to analyze the situation from the perspective of current and potential customers and their needs, motivations and expectations, in the scope of providers' processes and constraints. (Stickdorn & Schneider, 2017, pp. 128–131.) Facing problems with a curious attitude and actively looking for issues to improve creates new opportunities to grow, whereas the common way of problem avoidance leads to missing these opportunities (Basadur, 1992).

This problem finding mindset is about recognizing the core challenges for which solution generation can then be aimed at. Sharing unique, individual knowledge in teams promotes different, alternative, and relevant problem formulation. (Baer, Dirks & Nickerson, 2013.) This is important to consider since people tend to find common knowledge more relevant and easier to discuss and find consensus in a group than individual knowledge; this often leads to biased and suboptimal decisions (Stasser & Titus, 1985). Complex problems might therefore get oversimplified based on the first shared parts of knowledge, causing tunnel vision and failing to reach the root of the issue (Baer et al., 2013).

Design thinking process, although very nonlinear and dynamic, needs constraints to work. These constraints can be visualized in terms of feasibility, viability and desirability: what can be done in the set timeframe, what makes sense for the business, and what makes sense for the people, customers. Balancing all three aspects ensures that the designed solutions have the grounds to become successful and sustainable. (Brown, 2009.) In experiments where there are no constraints, it has been noticed that people tend to choose the easy road and settle for the conventional and intuitive solutions that usually lack in originality (Ward, 2004).

Constraints are often thought as restrictions preventing innovation, although having a moderate mixture of constraints can foster innovation. Taking different constraint types like limited resources, guidelines for processes and outcome requirements into account forces to think outside the box, ideate and develop on top of ideas. (Acar,

Tarakci & Knippenberg, 2019.) The constraints should also be evaluated whether they are real or only beliefs. For example, often companies put up constraints for new projects for them to fit the framework of their existing business model or limit their efforts to serve only near-future goals. Mental constraints are a framework to the project, but they should be evaluated, whether they only put constraints on the opportunities. A good project has enough limitations to keep the team focused but narrowing it down too much allows only slow, incremental change to happen. (Brown, 2009, pp. 17–25.)

The *Creation* stage is for generating and developing possible solutions to the problems identified. The goal is to test as many ideas and concepts as possible to exclude the roads that lead to a dead-end and to find the most potential ones that are worth pursuing further. This requires close co-creation between different stakeholders and disciplines, meaning having people abroad from customers, employees and managers, but also from different professional backgrounds, like engineers, marketers and customer service people. (Stickdorn & Schneider, 2017, pp. 130–131.) Triangulation and engaging multiple interpreters to the design thinking process concludes to more robust and useful findings and solutions (Fulton Suri & Gibbs Howard, 2006). Gathering and utilizing a network of interpreters enhances learning in all stages of the design process. These interpreters should be people with vision in different industries and backgrounds, like specialists from cultural institutions, universities and the media, as well as sociologists, anthropologists and marketers, in other words people who observe and analyze culture and the social meaning of things and timely matters. Suppliers, partners, distributers, actors in other industries and pioneering users also have the talent to offer their input in discovering meanings in new technologies. (Verganti, 2009, pp. 120–132.)

When at the Reflection stage, customers and end-users are drawn even more into the picture. The challenge of the Reflection stage is to build a prototype of the service, to generate a mental picture, a vision for the customer of the intangible concepts that have been developed. This should be done in circumstances in real life or close to it, to get the most truthful feedback from the customer reactions. (Stickdorn & Schneider, 2017,

pp. 132–133.) Prototyping and customer feedback will be discussed more thoroughly in chapter five: the design sprint.

At stage four, Implementation, is the change process. The new service concepts that have been developed are implemented to organizations' current processes. This requires efficient change management that ensures effective communication and education on the new service concepts, engagement of employees to new practices and readiness for expected and unexpected challenges in the implementation process. Engagement of employees should be considered at all stages by involving them in the process. (Stickdorn & Schneider, 2017, pp. 134–135.) Therefore, dynamic leadership is required. A leader in a creatively competitive, design-driven organization should adapt different roles in the different moments of design cycle. Leaders should be able to set the organization on explorative quests by inspiring curiosity towards strategic objectives, instead of giving direct commands and govern in a way that suffocates creativity and innovation. They should also take care of the conditions in the organization to make sure that innovation can thrive, by providing resources, spaces and tools that promote collaboration and creativity and by fostering new talents and capabilities. Furthermore, innovative organizations require the leader to be participative and to engage in the projects. They should bring guidance and support without overruling the conversation, as well as help to bring those projects alive. (Brown, 2016.)

On top of *Exploration, Creation, Reflection* and *Implementation* (Stickdorn & Schneider, 2017), and *Inspiration, Ideation* and *Implementation* (Brown, 2009). the process has also been described as including steps like *Empathize, Define, Ideate, Prototype* and *Test* (Dam & Teo, 2020). Even though the choice of words differs in the many descriptions of design thinking, the process model remains essentially the same: it starts by understanding the problem and the people, followed by interpretation, idea generation, experimenting and implementing the results to the organization.

Companies implement principles originally used in design to explore and solve big problems and challenges, to innovate, to create customer value and to gain competitive advantage (Dunne, 2018). Competitiveness is dependent on innovation, which many

times means technological development, but more significant for better customer experience is to design and develop the experience itself (Brown, 2009, pp. 182–183). Therefore, the next part focuses more on experience design.

2.3 Designing experiences

Companies can use experience design to elevate their service offerings to new levels. When serving customers who already have their basic needs met, it becomes more important to offer meaningful and emotionally satisfying experiences with the products and services provided. This can be done by engaging consumers and considering them as active participants, by strong storytelling that resonates with the customers, or by offering uniquely tailored solutions, to mention some. (Brown, 2009, pp. 111–115.) An essential attribute of experience design is finding the meaning people put on things. Therefore, putting innovation efforts to designing those meanings on top of other qualities can be a source of differentiation and success. The meaning can change time to time and different people can have different meanings for the same product. Therefore, the meaning a company has designed for their offering might not directly transfer to the user. (Verganti, 2009, pp. 36–37.)

When a company succeeds to create or gain unique meaning for itself and its offerings, it achieves rare competitive advantage that is impossible to replicate. If another company launches exactly similar product to the market, the meaning people have given to the authentic product and brand does not transfer to the competitor. Products with stronger value of meaning tend to have longer product life-cycles, even after the functionality of the product starts lacking compared to competitors. (Verganti, 2009, pp. 105–106.) User experience management and brand management go hand in hand and can both be better steered by providing consistent on-brand experiences that are aligned with corporate values as well as looking into the possibilities of the experiences that could be turned into them (Merrilees, 2017).

Although it first seems bit odd and irrelevant to connect experience design to a B2B (business-to-business) industry like accounting, in the end the goal is to maintain long-term partnerships with the clients, which requires the creation of consistent great

service experiences. Therefore, experience design matters in the area of B2B as well (Pine & Gilmore, 1998). As users and customers are rarely the same person in the client firm, it is important to recognize both parties in experience design efforts. Investing in user experience design a company can make the work of the user at client company better quality, easier and quicker, which leads to more satisfied customers. On the other hand with customer experience, it can be improved with improving qualities like competence, trustworthiness, helpfulness, innovation and carefulness. (Roto, Nuutinen, Smedlund & Passera, 2011.) Service experience of B2B clients can be enhanced for example by participative actions and involvement to product and service design processes (Sundberg, 2015).

Putting efforts towards design-driven innovation in meanings is risky and because of the lack of market indicators to back up the investment many managers are afraid to take the chance. However, taking the passive and reactive role in meaning-generation results in a situation where the consumers interpret the meanings solely according to other, more random factors; the conscious and unconscious messages the company sends outside, competitors' messages, as well as opinions of people around them and the public. Meanwhile current and potential competitors might be creating their own radical meanings that end up winning them market share. (Verganti, 2009, pp. 108–109.) Experience promise and delivery is strongly linked to corporate brand that delivers the message of the experience. The unmanaged experiences that customers face that are neither on-brand nor off-brand but cause mild and quite regular inconveniences can over time hurt the brand image and therefore should be considered. On the other hand, industry-wide neglection of these in-the-middle experiences are a source of opportunities for current actors and newcomes. (Merrilees, 2017.)

2.4   Design thinking regarding organizational culture and leadership

The best ideas tend to emerge when the whole organization is committed to experimentation. This requires not only encouragement to explore, but also allocating resources to it. (Brown, 2009, pp. 73–75.) The employees should be given a permission to explore during their work hours, by giving enough direction without the constant supervision. Ideas that gather following in the organization should be given support by

the management. Top management's role is to take care that these promising experiments are given enough resources and that the teams have autonomy to pursue them further. It can also further employee motivation to have a say in the goals and freedom to choose the way to get there. (Leonard & Swap, 2005.)

Many organizations decide to pursuit their innovative efforts in a centralized model with a specified early-stage idea development unit that brings solutions for operating departments to implement. It has been a preferred choice is cases where the organization's culture was not receptive for internalizing design practices. However, in a culture like this, design thinking teams have faced unwelcoming attitudes and difficulties in finding their place in the organization. Separate design units can also become unintentionally isolated from the rest of the organization when intending to keep distance to enhance independent thinking. (Dunne, 2018.)

Creating a culture that accepts and promotes risk-taking is essential to create an environment that enhances learning and therefore performance, which can be done by educating team leaders and other levels of management to give constructive feedback that is encouraging. On the other hand, punishing people for failing when they have taken a risk that could have had positive impact if worked has a damaging effect on people's confidence and creativity, therefore creating a culture where experimenting and innovation suffocates. (Leonard & Swap, 2005.) Organizations that have the culture that enforces creative activity have people who are creatively involved in their work, meaning that they do constant problem finding and problem solving as they carry on with their daily tasks. What is left to the organization is to provide the resources to implement those ideas to actual solutions, and recognition for the successful innovation stemming from the actions. (Basadur, 1992.)

3 OPPORTUNITIES AND CHALLENGES IN DESIGN THINKING

Organizations have varying reasons for starting to implement design thinking in their daily activities and as a part of their strategies. Becoming more user-oriented and innovative are common goals to pursue (Dunne, 2018), ultimately looking for better competitiveness and growth (Martin, 2009, p. 26). However, this does not always go as planned. As design thinking is an ambiguous and nonlinear process to begin with, it often collides with organizations' established structures, routines and cultures, especially when they are based on requirements of efficiency. (Kupp, Anderson & Reckhenrich, 2017.) Other kinds of motivators for design thinking has already been discussed in the previous chapter, therefore, this chapter focuses on the opportunities of design thinking in terms of growth as well as the challenges that occur when endeavoring towards the pursued gains of design thinking.

3.1 Growth opportunities

Growth opportunities based in innovation can be divided into incremental, evolutionary and revolutionary. Each require different innovation approaches and expectations for impact. The "Ways to Grow" matrix shown in figure 2 below by Jacoby and Rodriguez (2007) can be used to evaluate and manage company's growth attempts and innovation portfolio. (Jacoby & Rodriguez, 2007.) Diversifying one's innovation portfolio across the matrix could help with retaining one's competitive advantage as the risk is also diversified. (Brown, 2009, pp. 163–165).
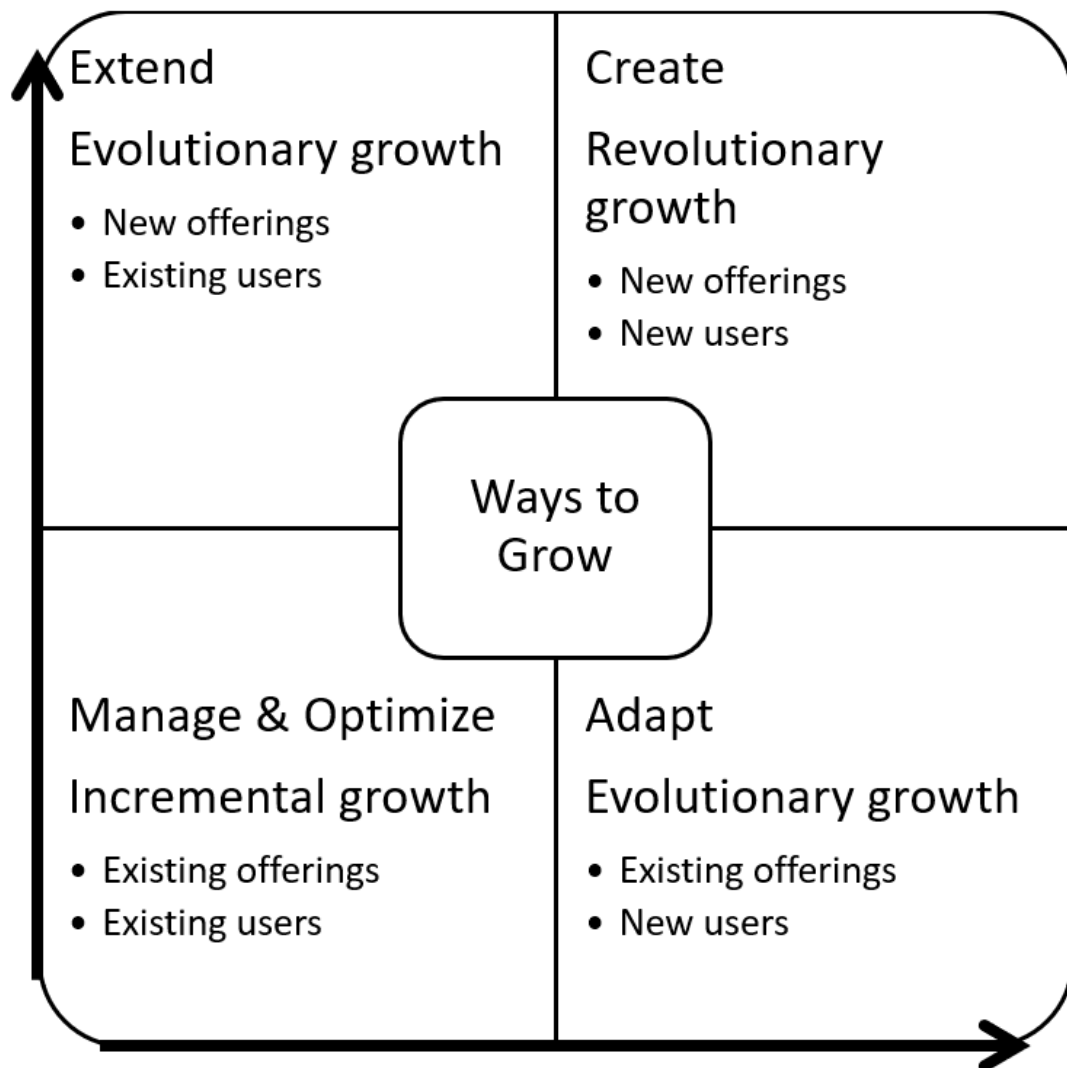
Figure 2. Ways to grow (adapted from Jacoby & Rodriguez, 2007).

When wishing to grow without innovation efforts towards new offerings or users, what is left is to offer existing offerings to the current users. Growth can then happen incrementally with managing and optimizing by ways of raising prices or usage rates, to mention some. Incremental growth is therefore modest, and risks are small. (Jacoby & Rodriguez, 2007.) An example of this can be creating new flavors for existing products, like toothpaste, where the offering is essentially the same as well as the customers: people who wash their teeth (Brown, 2009, p. 162).

Evolutionary growth can be reached by either adapting current offerings to new customer markets or extending product lines to serve current users better (Jacoby & Rodriguez, 2007). For example, adaptation can be done by reaching new, lower

income markets by lowering manufacturing costs and rebranding the product for that market. Automotive industry is a good example of this: essentially the same car can be branded under different names to fit the different markets they are trying to reach. (Brown, 2009, pp. 162–163.) In the field of accounting, as systems and software are constantly developed to need less and less human monitoring, the job description of accountants has shifted towards consultancy from standard bookkeeping. This has enabled extending the service smorgasbord of an accountant towards expert services that aim to serve the clients better. (Aho, 2019.)

When aiming for revolutionary growth, a company is either creating new markets or radically shifting current ones, by offering something new to a completely new set of users (Jacoby & Rodriguez, 2007). This kind of innovation is rare, therefore putting efforts into this kind of growth is risky and challenging, although it can lead to creating something truly successful. Companies use design thinking and other innovation methods and processes to gain competitive advantage, sometimes aiming to generate something to radically shift the market and give some sort of lead compared to others. However, generating radical innovations is not something every enterprise is capable of execute and succeed with. (Dunne, 2018.)

Although many private organizations start to use design thinking for its potential to lead to radical innovation, many times the design teams end up engaging in incremental innovation projects. Putting effort and resources to incremental development in the organization brings short-term wins that look good in the financial measures. Therefore, doing incremental innovation projects might often be more attractive for teams that are set with short-term financial goals. (Dunne, 2018.) It has been suggested that the measurement systems used should be aligned with the internalization level of design thinking (Björklund, Hannukainen & Manninen, 2018). Furthermore, the metrics should fit the unique features and requirements of the organization and evolve as the organization does (Köppen, Meinel, Rhinow, Schmiedgen & Spille, 2015).

There is nothing inherently wrong or good with incremental or radical innovation, and both are needed for growth and sustainability (Jacoby & Rodriguez, 2007). Radical

innovations are rooted in new knowledge, ideas and offerings and the commercialization of them, resulting in long-term impact and possibly even displacing company's and competitors' previous solutions. (Hopp, Antons, Kaminski & Salge, 2018). Incremental innovation on the other hand aims for continuous progress and short-term advancements (Davila, 2014). Companies usually have processes in place for incremental innovation. However, these processes often limit and discourage more radical innovation where are more unknown variables. This is because the same lens is used to review incremental and radical innovation efforts, even though they should not be evaluated with the same metrics. (Fulton Suri, 2008.) Evaluating and measuring the results of design thinking has also been found challenging and demonstrating the value of it difficult. As the design thinking process is usually utilized in a very early stage of any project, tracing the final results back to it can be especially challenging. (Rauth, Carlgren & Elmquist, 2014.)

3.2 Challenges in design thinking

Implementation of design thinking projects can be a challenge for varying reasons. If the idea requires more resources in time and money than the organization has budgeted for the time being, it might be left to wait on the shelf. Furthermore, in big organizations and especially in the public sector, there are many stakeholders that must accept the innovation project for it to be launched in the organization. Incremental innovation project specifically directed to a certain department has often a better luck to get through. (Dunne, 2018.) Also, efficiency and innovation goals often clash with each other. Efficiency improves when routines in operations in a controlled environment is achieved, when innovation flourishes in more flexible organizational surroundings. The issue of wanting more innovation without disturbing efficiency and cost management is sometimes solved with establishing separate units for creativity. The problem with this is that it eliminates the creative possibilities that arise from the company's operational side. (Trott, 2012, pp. 84–85.)

Problems in execution often derive from the differences in motives and performance meters of different organizational levels. To give an example of the service design standpoint, the effects of three strategic levels are explained here. At the corporate

strategy level, the industry and market prospects are the dominating drivers in decision-making, therefore less importance is put on the development of services and offerings, which are seen as product attributes and not something capable of shifting the industry. At the business strategy level, the focus is on competitiveness. A company that pursues to be the cost leader of the industry, views service as a cost and not a mid- to long-term investment, on the contrary to one that seeks to differentiate with their service promise and execution. At the level of operational strategy, the margin of the offerings matters and therefore the costs that are considered being at the end of the value chain, like service, are usually the first targets for savings. (Beuker, 2017.) Furthermore, relating to the case of this research, accounting is not seen as something furthering innovation and new strategic suggestions either. On the opposite, it is often considered to be a hindering factor as many times organizations give it a restrictive role instead of using it as a part of their strategy. (Aaltola, 2019.)

Design thinking teams have faced unwelcoming attitudes and difficulties in finding their place in the organization. In organizations with in-house design or development teams introducing a specialized design thinking team can be perceived as questioning the expertise of the established functions, to give an example. (Rauth et al., 2014.) Company's stakeholder groups all have too their own incentives and needs that sometimes collide with each other. Companies should assess the importance of the drivers of the different stakeholder groups and decide how they should be considered in the development of products. By clarifying the key drivers and aligning them among the stakeholders, effectiveness and unambiguity in decision-making in development projects can be enhanced. (Majava, 2014.)

Internal stakeholders like product management, engineering and management are most affected or have the most influence on the drivers of product development. Regarding external stakeholders, the ones most affected or the most influential are customers, suppliers and partners. Company and unit management should provide strategic guidance for development unit to strengthen focus and make priorities clear. (Majava, 2014.) In establishing and maintaining a design thinking program in an organization, it is found to be essential to have an influential leader to advocate for it and to push ideology throughout the organization. In cases where the person in that position has

not been fully engaged or appreciated the process, challenges have occurred. The teams that utilize design thinking often rely on the support from the top, therefore turnover in leadership can have severe consequences to the design programs. (Dunne, 2018.)

User-centered, market-pull based design approach aims to understand customers, their needs and the meanings they give to the things around them but has the risk of failing to question and redefine them, therefore leaving innovation incremental. On the contrary, technology-push based approach offers new solutions to market and has the potential to radically impact industries and lead to long-term competitive advantage. Design-push approach, or design-driven innovation, aims to amplify a company's vision about possible groundbreaking meanings to something people could love. (Verganti, 2009, p. 56.) Radical innovation requires design research that inspires imagination and inform intuition. This happens by using different methods to reveal patterns behind people's behaviors and experiences, to explore user reactions to suggestions of solutions that are prototypes, and to uncover the unknown by iterative hypothesis and experiment. (Fulton Suri, 2008.) Therefore, the next chapter focuses on the benefits, challenges in user experience and interpretation methods commonly used in design thinking, before diving into the concept of design sprints.

4   RESEARCH IN DESIGN THINKING

An important aspect of design thinking applications in the world of business is corporate anthropology that strives to create understanding of the people in the business landscape. The methodology includes human-centered, observation-based research methods. (Fulton Suri & Gibbs Howard, 2006.) People can rarely articulate their needs on their everyday situations where they unconsciously keep improvising to make their life easier. Therefore, an essential part of design thinking is observing the behaviors of people, where they struggle, and what kind of solutions they use to fix their problems, in essential their experience as users of products and services. As designers find solutions to existing problems, design thinkers find the problems by researching the initial needs and struggles of people. (Brown, 2009, pp. 40–41.)

4.1   User research methods

User research fieldwork can be seen as a three-dimensional system of methods: Be them, With them and About them. The first of methods, "Be them", means going to the field to experience the issues like any other customer would, doing the same interactions and purchases. This way the researcher finds out for themselves, what there is to love about a service, what is missing, what is frustrating to use and how they feel after the process and does it serve their functional, emotional and even social needs. (Chia, 2017, pp. 68–69.)

"With them" is about observation: following people and observing how they react at different points of the process (Chia, 2017, pp. 68–69). Research techniques and methods useful in design and development projects are mostly ethnographic in nature, as researchers try to blend in with the target groups to gain insight by observation and conversations. Contextual interviews, for example, combine the user narrative with the behavior observance in the context or environment the researcher is interested in. For instance, when researching work routines more insightful discussions can emerge when located where those routines occur: the workplace. Observing interactions in service touchpoints in general is a useful way to gain insight on the real-life situations: positive or negative moments that people can not necessarily recognize or articulate if

asked about their experience. (IDEO.org, 2015, p. 52.) Observation can be targeted both to the customers and providers: on top of shadowing users it can be beneficial to do excursions to different kinds of service experiences in the field. This puts the researcher in the shoes of the customer in those situations, which can be eye-opening. (Stickdorn & Schneider, 2017, pp. 154–157.)

"About them" implies to learning more about the potential customers and understanding the reasons behind their actions by conversation. It might be crucial for further decisions to clear any possible misconceptions that the researcher might have made based on observing the customers, therefore hearing the customers give their reasoning and thoughts is essential. (Chia, 2017, pp. 68–69.) Another way to gain knowledge on a subject is by asking research participants to keep some sort of journal or other kind of documentation of their lives. The problem with interviews and even observation is that the results are somewhat always interfered by the researcher in some way by merely being present. (Stickdorn & Schneider, 2017, pp. 168–173.) By giving participants a chance for a prolonged period for self-documentation without intrusion, more intimate insights can be obtained, especially when studying matters people find delicate (IDEO.org, 2015, p. 60). This can be executed in different ways; from giving specific instructions and prompts for the participants, to giving the freedom of choice to them to conduct and structure the research as they please. (Stickdorn & Schneider, 2017, pp. 168–173.)

All three viewpoints are needed in user research to gain the most thorough insight on the user experience. User research is the essence of the *Exploration* part of the design thinking process. By getting to know the users, discovering new perspectives on problems, and gaining experience on the matter, a foundation should be formed for the rest of the design thinking project. (van Dijk, Raijmakers & Kelly, 2017.)

4.2   Issues with traditional market research

Different kinds of empathetic research methods are needed in design thinking since people can articulate only their conscious preferences and wishes but cannot put their subconscious impulses to words (Leonard & Rayport, 1997). However, it is

challenging to achieve reliable user test results when testing a product that does not yet have a market, when people do not necessarily recognize a need for that product merely because they did not know such existed. Trusting too much on market research can lead to discarding potentially radical opportunities and ideas. (Trott, 2012, pp. 530–531.)

Verganti (2009) even states that traditional market and user research is not useful for radical innovation, but only for incremental improvements of offerings. By observing what people do and how they react in service situations or when using products, the researcher's focus is on the present moment, how it can be made better. It does not provide a window to the future and what people will then find purposeful. Furthermore, people in product test situations tend to look for features that are familiar to them and if they cannot find one, they might turn down a radical solution only because of that, if the circumstances are not right. (Verganti, 2009, pp. 3–49.)

The key is in finding the balance between intense communication with users and following one's own intuition. Active listening and understanding the customers combined with interpreter's own expertise and experiences allows making educated guesses, testing those assumptions and learning from them. (Faranello, 2016, p. 13) Design research is therefore about synthesizing evidence, recognizing emergent patterns, empathizing to people's motivations and behaviors, exploring analogies and extreme cases and using intuition to interpret information from multiple sources (Fulton Suri, 2008).

5 THE DESIGN SPRINT

Sprint is a concept developed by Jake Knapp, John Zeratsky and Braden Kowitz, all current or previous employees at Google Ventures. The sprint is about creating a full product in just five days, building, testing and learning. It is an application of lean development and design thinking principles. (Knapp et al., 2016, pp. 3–6.) This chapter presents the concept and its applications as well as process outlines, to give a sharper picture of the whole system.

The roots of the concept stem from the issues of group brainstorming and finding better alternatives for it. Firstly, brainstorming promotes quantity over quality and therefore accumulates shallow ideas. Secondly, they favor extroverted people, and usually people who have reputation on having good ideas and can articulate them well, get the spotlight. Third, the collaborative way of thinking, "everybody's opinion is important" view slows projects and waters down ideas. Fourth, the brainstorming concept has no plan for developing the ideas into anything else, which is why even the good ideas are many times left as such. (Knapp, 2016.)

Brainstorming is a regularly used method in design thinking and usually highly praised, and different structured exercises that solve some of these issues are introduced as brainstorming activities in different design thinking publications (for example Brown, 2009; IDEO.org, 2015; Stickdorn & Schneider; 2017). Research shows the benefits of individual idea development followed by group discussions as it combines the advantages of both methods (Diehl & Stroebe, 1987). However, others prefer approaches that favor processes that include deep research, development and shared knowledge over fast creativity generation. (Verganti, 2009, pp. 134–135.) Working with other people is essential either way; one person's capacity to hold knowledge and understand the surroundings in depth is limited and requires other specialists to share knowledge with to make comprehensive strategic decisions (Nickerson & Zenger, 2004).

Knapp (2016) found that giving a team two days to think about the plan and the solutions results in less, but better, thought-through, implementable ideas instead of

the shallow results of brainstorming. Furthermore, when everybody gets their best ideas heard in the team because of the sprint system, no great idea is untold only because someone else has a louder voice. Every sprint has a decider who has the final call on all the ideas on the table, which means that less time is wasted on unnecessary compromising efforts. Finally, the idea of the sprint is to implement the solution right away: it includes a whole day for making the prototype and another one for testing it with the customers. This way no good idea is passed to next month and being forgotten, while bad ideas get recognized early on. (Knapp, 2016.) This kind of time constraints and fast time cycles are usual in different sprint-like agile process models (Sharma, Sarkar & Gupta, 2012; Awad, 2005).

Using creative and divergent thought processes combined with rational and convergent approach is a definition for strategic problem solving (Bonn, 2005). First widely accumulating ideas and then narrowing it down to prime solutions is also essential for design thinking. Divergent thinking is needed for exploring and finding new possible solutions. Convergent thinking is for finding a common ground; therefore, it is good when solutions need to be narrowed down from existing alternatives. (Brown, 2009, pp. 66–68.) The same principles are used during the sprint, where the team first explores different solutions and ideas, then spreads to develop their best ideas further individually. After this is the convergent thinking applied to select the best ideas to build into a prototype and to test with real audience. (Knapp, 2016.)

5.1   The process

The sprint is meant for situations where it is essential for an organization to make fast decisions. It has been successfully implemented when solving many kinds of challenges, big and small, and in different organizations, from hardware manufacturing to medical and education. It is a five-day project that starts with the challenge that requires a fast result. Figure 3 presents the process model of the sprint. (Knapp et al., 2016, p. 16–17.)
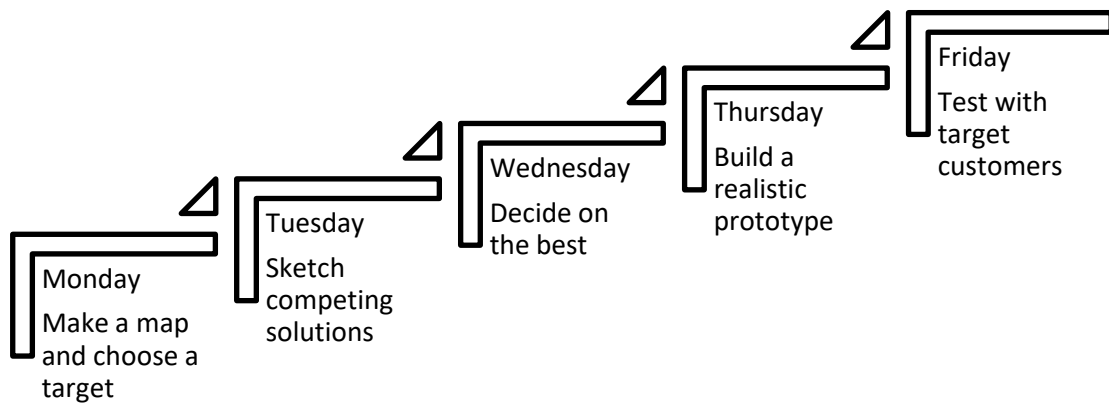
Figure 3. Sprint process model (adapted from Knapp et al., 2016, p. 17).

The sprint starts on Monday with mapping the challenge and setting more tangible targets. Tuesday is for ideating and sketching solutions. Wednesday is for comparing sketches and deciding which ones to execute, drawing a detailed storyboard, which is then built into a prototype on Thursday. On Friday, target customers are asked to test and give feedback on the prototype. The results are analyzed, and following steps are decided. (Knapp et al., 2016, p. 16–17.) The process will be presented in more detail in the following parts of this chapter.

The process answers to the question whether the idea is worthwhile to develop further, what the potential customers love and hate about it. In the end both the positive and negative feedback are equally valuable and the outcome is either way positive: either the organization gets a kickstart on developing their operations, or they get to bury an idea that first seemed promising that customers end up disliking before investing huge amounts of money and resources to it for nothing. (Knapp et al., 2016, pp. 16–17.) In fact, organizations that involve end-users early on as well as test multiple parallel solutions are more likely to succeed and make it to the market on average faster than their counterparts who skip the research and pursue straight towards one idea at the time (Aycan, 2019).

Because of the sprint's fast-paced process model, it is beneficial especially to organizations with very limited resources money and timewise. Keijzer-Broers and de Reuver (2016) had this issue in their case, and due to their preliminary work, they decided to shrink their sprint to a three-day project (Keijzer & de Reuver, 2016). However, Knapp et al. (2016) recommend arranging five days from 10 a.m. to 5 p.m.

with a one-hour lunch break and two short ones in between, giving process guidelines specified to the extent of almost every hour of the sprint. The pedantic plan for the week deducts delays and allows the team members have some time in the morning to go through their regular work if they need to, while considering people's energy levels. (Knapp et al., 2016, p. 39.)

5.1.1 Set-up actions

Before the sprint, some essential steps must be taken. First, it is important to have a proper challenge at hand: sprints work best when there is not a lot of time to make important decisions that are crucial for future steps. It can also be a good booster for cases when a project has faced a wall and the momentum is lost. The challenge should be important and big enough to keep people focused and interested; however, it also requires lots of energy from them. Therefore, it is not a decision-making tool for every little problem. (Knapp et al., 2016, pp. 26–28.) A good challenge for a sprint is something that has no obvious solutions: in cases where there is already an idea for a solution, it could be better to just skip the first three days of the sprint and just prototype and test the solution with the target audience. Therefore, sprint is good for situations where the solutions are unknown, and the challenge inspires to come up with many ideas. (Pollock, 2017.)

Secondly, a team should be elected for the project. The sprint team should consist up to 7 members from different experience areas linked to the area of development. This includes a decider who has the authority to make important decisions and execute the outcomes of the project. An engineer, a designer, a customer service specialist and a financial expert are also suggested. These roles can be combined in one person or shared by some. (Knapp et al., 2016, pp. 30–36.) Other theory suggests looking at team members in the behavioral sense, choosing people to work in the same team based on their traits that assign their natural roles. A healthy team consists of a mixture of action-orientated, people-orientated and thinking people. These roles can include for example leaders, networkers, drivers, evaluators and innovators. Although recognizing the natural tendencies to roles can be beneficial when sharing tasks and understanding each other, choosing people to join the team based on that in advance can be more

difficult, especially if there is no common teamwork history. (Cook & Mangla, 2009, pp. 40–44.)

It is important to make sure that everybody is invested in doing their absolute best during the sprint, reserving the time for it so they are able to be there the whole time and engaging in all the activities. In case there are more than seven people whose ideas, knowledge and judgement should be heard in the sprint, they can be invited to come on Monday afternoon to visit the sprint as experts to give their point of view. (Knapp et al., 2016, pp. 30–36.) Furthermore, it is good to have different personalities onboard, like questioners amongst conformers, for the team to have different points of view on the case. Managing a diverse group can be challenging since people tend to be overly polite, cautious or withdrawn from the conversation if they feel the situation is getting confrontational. (Leonard & Straus, 1997.) Reckoning and appreciating different talents in the team as well as making the reason everyone is there clear is therefore important.

Previous studies have examined the sprint mainly in classroom scenarios, where they have noticed struggles mainly caused by human feelings: lack of motivation, exhaustion and unwillingness to participate (Ferreira & Canedo, 2019; Larusdottir, Roto, Stage, Lucero & Šmorgun, 2019). These feelings are common between students who a lot of times have too much on their plate or take courses just for the credits. Therefore, choosing the right team can be challenging in the classroom environment, which is why the outcomes might vary a lot in these situations. However, the desired outcomes of classroom sprints and business sprints are different: in class the goal is mainly to learn the tools and skills, as in business the intention is to develop and accelerate. Because of this, the definition of a successful sprint is also different and therefore the outcomes of them should not be compared side by side.

A facilitator is also needed for the sprint (Knapp et al., 2016, p. 36). Facilitator's role includes making sure everything runs smoothly and the objectives are met, taking care of the schedule, ensuring the team has all the tools they need, and the overall process (Cadwell, 1997, pp. 5–6). The facilitator needs to be unbiased throughout the sprint, helping the team to solve the problem by being the one who asks the questions, writes

ideas on a whiteboard and minds the clock. Because the facilitator should remain neutral in conversations and decision-making, the role should be separated from the role of the decider. As facilitators take care of the process, deciders are responsible for the outcomes. (Knapp et al., 2016, p. 36.)

Lastly, some supplies are needed for the sprint to run efficiently: a room that fits the whole team comfortably, whiteboards to write down the thoughts and ideas, some office supplies like markers, stickers and sticky notes. Healthy snacks and beverages that help to keep the team's energy levels up throughout the day are needed as well. (Knapp et al., 2016, pp. 42–45.)

5.1.2   Day 1: Map and target

The first day of the sprint starts with introductions: people getting to know each other if they have not met before, also introducing the concept, challenge and schedule for the week. The time before lunch is spent on setting the long-term goal, listing out possible obstacles and making a map, a flowchart that shows the customer's route from start to finish line when engaging with the product or service designed. (Knapp et al., 2016, 55–67, 238.) The day is therefore all about problem identification and formulation. It is important to engage the team that is assigned to solve the problems also to the problem finding activities, since it increases ownership and commitment to the project and reduces resistance to change (Basadur, 1992).

Expert interviews are a way to gain relevant and valuable insight and perspective on the issues the project is about (IDEO.org, 2015, p. 43). Afternoon is therefore for hearing the experts in the team and outside guests. Interviews should cover the vision, customer research, practical know-how and previous efforts on the matter, what has been done and what not. The goals and the map should be updated as the interviews go on and common understanding on the topic deepens. (Knapp et al., 2016, pp. 68–72.)

Active problem finding is an important part of any creative project, since it introduces more possibilities for coming up with solutions, opposed to waiting for problems to

occur. Time should be spent to problem definition as well, as a well-defined, neither too broad nor narrow problem inspires creativity. (Basadur, 2011.) One tool for defining problems is called the How Might We method (HMW), originally developed in the 1970s by Procter & Gamble and later utilized in other organizations as well. The purpose of the exercise is to turn obstacles and difficult problems into optimistic questions of opportunities and challenges. Using restrictive language like "How can we" or "How should we" suggests doubt if something can or should be actually done, therefore limiting creative options. (Berger, 2012.) HMW is also used in a way of articulating a challenge or field research insights in a way that contributes to defining the problem to be solved further (Chia, 2017, pp. 57–58, 83). The exercise is utilized in the sprint concept as well, as team members write down questions starting with "How might we…" while engaging in the expert interviews and pondering the ideas that come up from the conversation. The best ones are put to the map on their relevant steps. (Knapp et al., 2016, pp. 73–81.)

The goal of these exercises is to get a clear vision on what is the most important part of the project, which the team should focus on. At the end of the day, the decider makes the final call and chooses the target customer and target event on the map, which will be the challenge to be solved for the rest of the sprint. (Knapp et al., 2016, pp. 87–88.)

5.1.3   Day 2: Sketch

On the day two of the sprint, Tuesday, the goal is to come up with solutions that will take the team to the target set the previous day. This starts with searching existing ideas for use, since the best model might be already used somewhere else in the company, or outside of it. It might even be in a totally different industry and in different use because this exercise is about finding raw materials to be refined. These ideas are drawn to the whiteboard next to yesterday's map. (Knapp et al., 2016, 98–101.) Divergent thinking generates novelty (Sawyer, 2011), and is important at the start of the *Creation* stage of design thinking process (Stickdorn & Schneider, 2017, pp. 130–131), which the day of sketching is essentially about.

In the afternoon it is time to sketch the solutions. Depending on the width of the challenge, the team can be divided into working on different things, or all focusing on the same problem. Either way, this part is individual work, enabling everybody to research and find inspiration in peace, although having the group pressure to do their best. (Knapp et al., 2016, 102–115.) Sketching is a design tool to express and develop design ideas and to communicate them to others (Greenberg, Carpendale, Marquardt & Buxton, 2012, p. 7). Sketches are quick and cheap to make and can be provided timely when needed as well as disposed when not needed anymore. Sketching commonly results to a collection of possible solution sketches. Unlike blueprints or other technical drawings sketches are open suggestions that are free to be altered, often drawn with appropriate but minimal amount of detail and refinement. (Buxton, 2007.)

The afternoon of sketching is divided into four exercises, which erases the desire for slacking and boosts energy. First exercise is for everybody to take notes on the things they find important regarding the challenge, the map, the objectives, and the ideas. After this, the second exercise is about drafting rudimental solutions. The third exercise is called "the crazy 8s", drafting eight rapid variations of the idea in one minute each. The final exercise that people have more time to focus on is about drawing the details to their best solution sketch and finalizing it to be ready for the next day. (Knapp et al., 2016, 102–115.)

5.1.4   Day 3: Decisions

Wednesday of the sprint week is for presenting the solutions, critiquing them, and deciding on the best one. According to the sprint guidelines, solution sketches should be put up on the walls for the team to see them closely, after the team spends a few minutes silently reviewing the solutions, marking the interesting bits and therefore creating a heat map on the wall. Then, each solution sketch gets three minutes of discussion time, as the team goes through them aloud, going through concerns and questions, and writes down the excellent ideas according to the heat map. The creator of each sketch has a chance to answer questions and clarify unclear issues. (Knapp et al., 2016, 131–137.) Group decision-making is a process that easily lengthens to

unnecessary measures when failing to reach consensus. Therefore, a predefined plan on how to make decisions is useful to streamline the process. (Frisch & Greene, 2019.)

As a result of the review session, everybody has a clear image of all the solution sketches. Therefore, it is time to vote for the most potential parts. Everybody chooses their favorite part and shortly explains their choice. This will help the one who has decision power on the project to make their mind on what parts of solution sketches will be turned into a prototype. These parts are then written into a storyboard. (Knapp et al., 2016, 138–158.) Storyboard is essentially a very basic prototype that helps to visualize the concept from start to finish. It spotlights the key moments in the interaction and is usually drawn on comic book style frames. (IDEO.org, 2015, p. 113.) It allows the team to pull together the best ideas into one solution and answer any remaining questions or plot holes in the storyline, which could cause trouble and delay at the prototyping phase. (Knapp et al., 2016, 138–158.)

5.1.5   Day 4: Prototype

Prototyping is an essential part of the design thinking process. Building primitive models and experimenting early in the process makes ideas tangible, therefore furthering the evaluation and refinery of the solution. Prototyping makes it easier to notice the strengths and faults of different ideas, helping to choose between different solutions to focus on the most promising ones. The focus of a single prototype should therefore be on answering one or two questions about the solution, not to model the entire system. The same prototyping principles apply to designing and refining other than physical product solutions like organizational processes, services, and infrastructure elements. (Coughlan, Fulton Suri & Canales, 2007.) The purpose of the early prototypes is not to create a model for future production, but to visually explain the idea to oneself and others, which is meant to improve discussions and enhance learning. (Brown, 2009, pp. 89–91).

The fourth day of the sprint is for building a realistic looking prototype of the solution planned the day before (Knapp et al., 2016, p. 183). When wishing to get feedback of the solution from potential customers, the prototype should become more polished to

be believable for the audience. Still, only those parts of the solution that require answering some questions should be refined to a sufficient enough level to make testing and learning possible. (Brown, 2009, pp. 91–92.) The prototyping process and the final result depend highly on what kind of solution is being build, whether it is software, hardware or an intangible service. For the prototype to be ready on time, the team should divide and each member focus on different task or part of the storyboard, lastly someone making sure everything is smooth and works as a whole. (Knapp et al., 2016, pp. 166–170, 183–190.)

After being ready with the prototype, it should be given a trial run to catch the remaining inconsistencies or glitches. The team goes through the prototype step by step out loud. It is also the last moment to ensure all the parts of the storyboard are included, and that the prototype will give answers to the original challenge questions. An interviewer should also be chosen, who will be in the same room with the customer the next day, asking questions and observing reactions. They should get to know the prototype thoroughly. (Knapp et al., 2016, pp. 189–190.) The prototyping model utilized in sprints is very similar to Minimum Viable Product (MVP) that is known for example from Lean Startup methodology by Eric Ries (2011), where MVPs are built fast to test assumptions and gather early customer feedback. One difference to sprints is that Lean Startup is more of a continuous process that utilizes fast development cycles of learning, iterating or pivoting, and testing assumptions again, when sprint is a single project.

As more investments are put into a prototype of an idea, the more committed a team or an organization becomes to it. Therefore, the early prototypes should be disposable and expensive investments should be avoided at this point. Using too much resources early on can lead to the decision of excessively developing ideas that are essentially mediocre. Furthermore, another reason excessive investment at this stage can be wasteful is because the low-cost prototyping practice itself can accumulate ideas worth pursuing further. (Brown, 2009, p. 90.) When designing services, a prototype is essentially a simulation of a service experience. At an early development stage when still discussing the service attributes in the team, it can be done by casual roleplay. When testing the ideas outside with customers, experience prototypes grow as well

into more believable forms, up to including active user-participation, real-feeling props and touchpoints, tested perhaps already in a real-world environment. (Stickdorn & Schneider, 2017, pp. 192–193.) Tangible products can as well be built to and tested for their experience. Experience prototyping might become helpful when aiming to understand existing user experiences and the context they are in. (Buchenau & Fulton Suri, 2000.)

5.1.6   Day 5: Test

Getting feedback is important for testing whether ideas are worth to pursue further (IDEO.org, 2015, p. 126.) Therefore, the last day of the sprint is for gathering information from customer interviews. The interviews should be arranged so that the interviewee is in the same room with the interviewer, while the rest of the sprint watches the interaction through a video connection in another room. This way the interviewer can focus on the situation while the others take notes. Furthermore, this saves time when comparing to the common option of interviewer collecting and analyzing data himself or herself and presenting the results later, which delays the project days or even weeks later. (Knapp et al., 2016, 202–219.)

There is time for five one-hour interviews, which is the perfect amount according to the authors of the sprint concept, who explain that if the test-customers are selected carefully, representing the target customers, five interviews are enough to show patterns on customer reactions. (Knapp et al., 2016, pp. 197–200.) Others have found a different approach better suited for their needs: in one organization that was implementing features from the design sprint concept, they decided to split the testing part to a few following weeks after the project. They tested the demo of the platform with 30 end-users instead of the suggested five in the original sprint guidelines. The researchers found the approach good for example for getting feedback on small issues and development ideas, but also for hearing the customers' concerns on the platform. (Keijzer-Broers & de Reuver, 2016.)

The goal of the interviews is to get honest reactions on the product or service. This requires making the customers feel comfortable and let their guards down, which is

done by friendly and considerate behavior on the interviewer's part. Assuring the interviewees that the prototype is only a tool by which to learn is one way convince them to give their honest opinions instead of trying to be nice to the interviewer. (IDEO.org, 2015, pp. 126.) The interview should start after pleasant greetings with general, open-ended questions about the customer themselves. This is supposed to make the customer feel relaxed and lead the conversation subtly to the subject of the interview. Then, after introducing the prototype to the customer, there can be some tasks for the customer to test the prototype, to get them reacting. Finally, some debriefing questions should be asked from the customer to let them explain their thoughts on the prototype. (Knapp et al., 2016, pp. 204–210.)

5.2   Challenges and applications of design sprints

It is a commonly accepted principle that when designing services and products, the experience of the end user matters and should be considered at every step of the process. Of course, the implementation level of this principle varies depending on the organization and the designer, therefore outcomes on user satisfaction varies as well. The sprint as well has a strong emphasis on assessing, measuring and analyzing user needs, wants and experiences, from defining the challenge to sketching ideas and testing them with real current or potential customers (Knapp et al., 2016, p. 9). However, the concept has received constructive feedback on the lack of customer point of view. One way to integrate more end-user insight could be with inviting a potential customer on the first day of the sprint to the "Ask the Experts" activity. This was given as one possible solution to the issue the participants in one sprint project had: end-user felt distant mostly because the first interaction was at the day five, when they were testing the solutions. (Larusdottir, et al., 2019.) Still, even with inviting customers to join the sprint activities, sprints do not replace the need for customer research. It is better to know the customers and users of the services before diving into the sprint than going in blindly. (Colburn, 2019.)

The lack of user research in the sprint concept has led sprint participants in different case studies to add in different methods to get to know the customers better, like creating customer personas and scenarios on their own time before starting with

sketching (e.g. Larusdottir, et al., 2019; Keijzer-Broers & de Reuver, 2016). In the case study of Keijzer-Broers and de Reuver, before starting with the design sprint, the team predefined eight user personas, different customer profiles likely to use their platform, and decided on the most important one to focus their efforts on. They defined this persona's must-haves and need-haves and formed key questions they are asking themselves in the role of the end user. They saw this helped the designers to better understand the customer needs when continuing to develop their platform. (Keijzer-Broers & de Reuver, 2016.)

In one classroom case study conducted by Ferreira and Canedo (2019), it was mentioned that sprint participants' characters might have affected the perceived outcomes on team learning. Some participants had low motivation and low interaction to others and the activities, and therefore did not take as much advantage of the collaborative sprint activities. Applying sprint principles to classroom projects was most successful learning-wise in groups where the students were interested in the subject, communicative and engaged in the project activities. (Ferreira & Canedo, 2019.) The finding is interesting, since the sprint concept is designed so that it allows the opinions of the quieter to also be heard (Knapp, 2016). Imbalance in roles can affect the team dynamics. An effective team consists of different types of people who are naturally drawn towards different roles. Therefore, if some essential roles are missing like those who drive the team forward, the atmosphere can become lethargic. (Cook & Mangla, 2009, pp. 37–42.)

In another classroom experiment a sprint was conducted with lectures about the tools used in the sprint like sketching, storyboarding, prototyping and user evaluation. The participants found the intensive approach motivating with detailed schedule, timing the activities and the logical follow-up of using one activity's outcomes to conduct the next one. However, the participants were exhausted after the week and lost momentum when entering the next, looser week of the study program. (Larusdottir et al., 2019.) It could be worth of consideration, whether adding lectures to the sprint week makes the already fast-paced system either too busy for the participants or the days stretch too long to keep focused.

The aim of the following chapters is to tell one story of sprint implementation, analyze the results and shed light on how useful and beneficial the concept might potentially be. The sprint concept is also a nice combination of different design thinking inspired techniques; therefore, it will be interesting to see whether the individual exercises are something worth to apply later in future projects.

6   METHODOLOGY

A sprint was conducted following the guidelines of the Sprint concept, developed by Jake Knapp, John Zeratsky and Braden Kowitz from Google Ventures (2016). In this research, it was decided to focus on two aspects: the benefits and the potential of applying design thinking in a service development project as well as the potential pitfalls, what should be considered when applying design thinking in an organization that is not familiar with the concept.

To analyze the sprint week and its output, qualitative methods are needed. Since ethnographic research methods are commonly used in design to obtain reference material on people's everyday lives to utilize in design projects (van Dijk, 2017), it would be only suitable to use the same methods when studying the usability of design sprints.

6.1   Research method

Ethnographic research originates from social and cultural anthropology, and the focus is in studying the subject of the research in the social and cultural context they are in. Its characteristics include intense fieldwork, observation and studying the context of the studied phenomena. In business studies, ethnography is used to study organizational culture. (Myers, 2013, pp. 92–93.) As this paper focuses partly on the role of the facilitator – that is the researcher – and is therefore quite self-centered, it was decided to also consider autoethnographic research methods.

Autoethnography is applied mainly in social sciences, especially in anthropological studies, similarly to regular ethnography. As a form of research, it is self-narrative and storytelling in nature, though it has a more analytical and interpretative style that distinguishes it from other self-narrative methodologies. In autoethnographic studies, the primary data source is the researcher themselves, which gives them initial familiarity in data collection, analysis and interpretation compared to other researchers. (Chang, 2008, pp. 43–52.) The autoethnographic researcher should be a complete member at the organization. One of the key features of the method is that the

researcher should be visible, active, and reflexively engaged in the text they produce, but also engage other members of the organization to the dialogue. The goal of all ethnographic research is to use empirical data to gain insight on a broader phenomenon. (Anderson, 2006.) Engaging members in the organization to the research in the form of interviews but also letting them read the narrative and analysis and sparing time for them to clear any possible misunderstandings or misinterpretations also increases the research's internal reliability in cases where there is only one researcher (LeCompte & Goetz, 1982).

Because of the nature of the project, it can be debated whether full ethnography, or autoethnography, is fully applicable. The time spent in the field was fairly short, only few weeks when counting the preparations, the sprint week and the following actions and discussions. It is guided that ethnographic research in business setting should include fieldwork at least six months (Myers, 2013, p. 94). However, there is the benefit of having been engaged with the company for several years, therefore being familiar with the social and cultural context and being a complete member of the organization. This allows to analyze how the principles and methods applied during the sprint work in the organizational culture of the case firm. Therefore, the empirical section of this thesis includes insights acquired during years of active participation and observation of the corporate culture. Furthermore, the sprint concept is only one-week long, therefore the requirement for long-term fieldwork is not applicable here. This paper has elements of autoethnography and ethnography in general, perhaps most noticeably in the narrative style of writing research.

When anthropologic research is often done mainly by passive observation, action research aims to intervene and then study the effects. The purpose is to find both practical and scientific value in the project. Action research is collaborative; therefore, it requires active participants who are experiencing the issues and the changes in the organization. (Myers, 2013, p. 60–94.) It has contextual focus as the beforementioned methods; therefore, the scientific results must be applicable outside the case organization. However, action research is situational because of the variants in a single research: relationships between people, events and things effect the outcomes. The aim is to provide information of know-how that has been learnt during the research.

(Susman & Evered, 1978.) Figure 4 presents the action research process (Myers, 2013, p. 62):
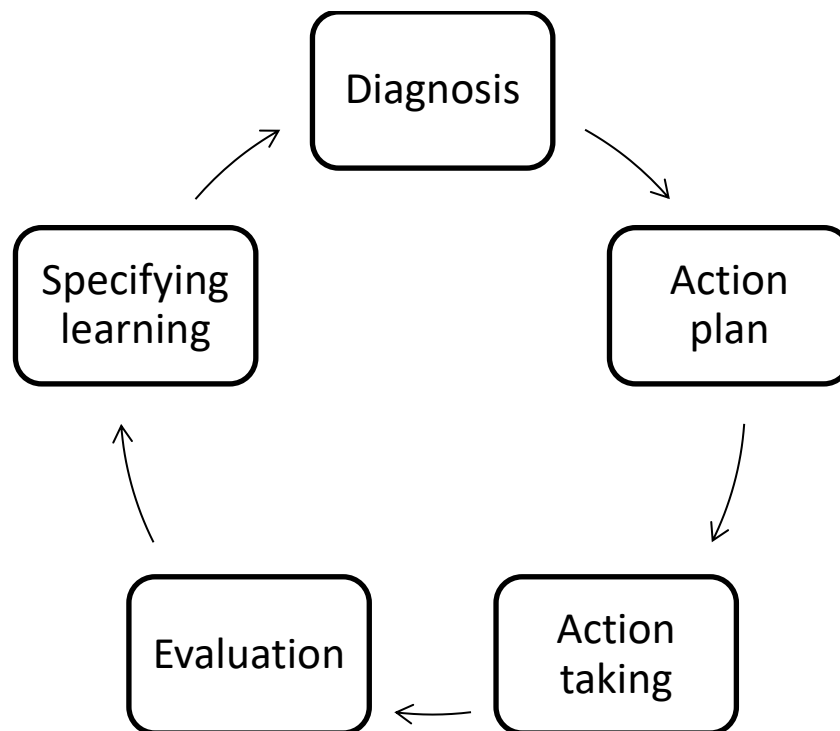

Figure 4. The cyclical process of action research (adapted from Myers, 2013, p. 62).

The cyclical process starts with diagnosis: identifying the problems to be addressed within the case organization. Action plan is made to specify the action that should be taken in the organization to solve the problems identified. Third phase is for implementing the plan for action. At evaluation phase the taken actions are analyzed whether the actions had intended results. Lastly, it should be specified what was learnt during the research project, and then those learnings should be implemented in the organization, while the researcher should relate the topic to existing research and add their findings to the general knowledge. After, a new cycle might begin depending on the results. (Myers, 2013, pp. 61–63.)

Although business and management research are sometimes criticized as being useless in practice and too theoretical, action research aims to bring value to the business community on top of academic contribution, thanks to its hands-on nature. The method has its pitfalls though since it can be hard for a researcher to conduct both action while

giving to the academic community convincingly. (Myers, 2013, pp. 65–66.) The method, like many other qualitative methods, does not fill the requirements of positivist science criteria that values logical consistency, repeatability, and prediction. However, it seeks to answer questions of phenomena under certain conditions that positivist science is not useful in, like when trying to understand organizational behavior. (Susman & Evered, 1978.) Evaluation of the sort of qualitative research this thesis is representing can be done by assessing the comparability and translatability of the research. This requires describing the characteristics of the group studied, constructs, methods, and the overall phenomena so clearly that the findings can be translated and compared to other situations and organizations. (LeCompte & Goetz, 1982.)

The next parts of this paper aim to present the results that serve both the practice and the academia. The research process is according to the action research cycle with some characteristics of ethnography: at the start of the project at the case organization, a new business unit was being planned to launch and some critical questions remained still unanswered. Therefore, to solve these issues, a sprint was planned and executed. Afterwards, the execution and its results were evaluated, and future actions were decided in the company, while the results are communicated and analyzed here in this paper in the following chapters. The whole process is explained in detail in a narrative style.

6.2 Data collection

Before, during and after the sprint that was conducted in February 2020, project development and updates are described in a form of journal, with the perspective to find explanations and causalities between transactions, which are included in this paper in translated quotations and also in a more formal form with facilitator's analysis on events. Journals include insights on conversations that were had before, during and after the sprint that were not documented otherwise. Other sources of data like interviews and feedback were also used. Table 1 represents the data collected for this research:

Table 1. Data collection

Data source	Amount of material
Facilitator's informal project journals - Project execution plan for each day - Project diary - Personal communication	Approx. 20 pages
Participant feedback - Webropol survey - 5/7 participants answered - 6 feedback questions	1,5 pages
Interviews - Chief Operating Officer: April 15, 2020 - Director of Digital Services: April 20, 2020	30 minutes 40 minutes

To get feedback on the project, its exercises, practicalities and atmosphere, sprint participants were asked questions, both during the project and after in a form of survey with open-ended questions that can be found in appendix 1. This way every participant had the chance to give their final feelings and opinions on how the project went according to them, what worked and what did not, anonymously. The sprint participants were then contacted again two months after the sprint to give them a chance to share whether they have utilized any learned tools or ideas in their work since.

To paint the picture of the whole organization the COO (Chief Operating Officer) of the case company was interviewed. The interview was conducted via a phone call, recorded, and transcribed for the purpose of this research. The interview was semi-structured and therefore included some predetermined open-ended questions to steer the conversation. The English translations of these interview questions can be found in appendix 2. The aim of the interview was to determine the tools and mindsets that are currently in use and promoted in the organization concerning customer research as well as service and systems development models. This allows to visualize the environment and culture better and to analyze the project in contrast to the situation at the case company. The COO recommended to also interview the Director of Digital Services of the company as he has better knowledge on the internal processes and tools that are in use at the centralized development unit. The predetermined interview questions for the Director of Digital Services can be found in appendix 3.

These were the only interviews conducted, and on top of them the project was discussed with the HR Service Manager and the Director of Payroll Services of the case company multiple times before, during and after the sprint. The last discussions were held two months after the sprint, when the HR Service Manager had had time to wind down from the intense project, got new challenges on her desk due to the uncertain business environment of the spring 2020 and had to readjust the objectives and plans for the new unit. She also provided her insights on the narrative, interpretations and findings of this research. This was done to ensure no misinterpretations were in the empirical part. Combining the information from the active participative observation and the feedback, there ended up being plenty of data to analyze how the sprint concept and its methods work in the case company's environment. They help with describing the implementation of the sprint principles and to analyzing the outcome: what worked, what could be done better the next time conducting a sprint like this.

The following chapters include a description of the project and its implementation, reflection, analysis and discussion on the suitability, benefits and potential of the whole design sprint method as well as different aspects of it. The research journal has been transcribed to fit academic writing style and put into the empirical part of this study. The insights from the interview and the feedback that was given are weaved into the narrative as well as discussed in the conclusions. Narrative analysis will be used to interpret and analyze the qualitative data collected. Narrative analysis is a technique used in research that uses chronology as the main organizing device (Czarniawska-Joerges, 1998). That being said, the next chapters are about the project implementation and conclusions.

7   PROJECT IMPLEMENTATION

In the autumn of 2019, the decisionmakers at the case company were planning to launch a new business unit in their payroll division to provide HR services for their clients. The new unit was budgeted to launch and start to acquire new customers already in the first half of 2020, therefore there was a rapid need to develop product and service packages to be sold. It was a new field for the Director of Payroll Services and the HR Service Manager who are in charge for the unit launch and therefore deciders during the sprint. As the primary issues to be addressed during the sprint had been identified – in other words the *diagnosis* was made – the project could be started.

7.1   Starting points for the project

To offer better understanding of the background of the case company and the starting points of the sprint, this part will first go through the systems that are in place in the organization regarding development, productivity improvement and creativity. The information of these systems has been collected by interviewing executive level deciders, but some of the insights are also based on my personal experience of working at the organization and participating in the ground-level operations and having conversations with my team members as well as the operational management.

The development efforts have been towards automatization and process optimization for better productivity and customer satisfaction in the organization (Director of Digital Services interview, April 20, 2020), and according to the interviews, conversations and observation inside the company, design thinking seems to be something that has not yet been recognized to be potentially applicable in those development processes. To give an example from the payroll division, although its employees are accustomed to process development in their daily routines and it is encouraged in all levels, design thinking, creativity or innovation have not been promoted the same way. Unit specified in systems development in the organization does not utilize exploratory methods systematically either, or they are not recognized as such, although the most innovation and ground-up building of new solutions is centralized there (Director of Digital Services interview, April 20, 2020).

The development unit at the case company still utilizes some methods and tools also known in design thinking, like user experience research and prototyping. They have a design studio partner to help with enhancing end-user experience in some customer system projects. The cooperation has revolved around user experience research, interpretation and action towards better user experience. Furthermore, the development teams aim to build minimum viable products after each two-week development session, therefore are familiar with fast prototyping and learning cycles. (Director of Digital Services interview, April 20, 2020.) However, these methods have not spread wider in the organization. Rest of the company is efficiency-driven as well and has taken influence for example from Lean manufacturing to develop its processes. Team-level decision-making, leading with culture and enhanced customer experience are promoted aspects in the organization. (COO interview, April 15, 2020.) Still, it requires personal initiative and upward push if for example someone working in payroll wants to focus some of their hours on developing something they find could be done better, as there is no designated time for development work, although many aim for constant customer process improvements in their work.

> "Our leadership structure and systems are rooted in having as many customer encounters as possible, which are used to gain knowledge about the value [of our offerings], what do our customers want and what they are ready to pay for. This [customer research] is done by both third-party actors and our internal systems that allow us to operate and gain knowledge right there at the customer interface." (COO interview, April 15, 2020)

Different information sources were also used in the case company when it was discovered that customers would benefit from HR services. The case company has an outside partner to conduct its customer research and relies partially on the provided quantitative and qualitative data to analyze the current situation, points to improve on and future trends. Furthermore, internal systems, structures and development projects are used to acquire, analyze and interpret customer data. For example, customer feedback, wants and needs transfer from the front-end employees and managers to other members of the organization, fostering new ideas and development points. (COO interview, April 15, 2020.) Furthermore, there have been participatory development projects with some customers to develop the payroll interface and processes in their cases.

On top of using active customer research as guidelines to develop services, the case company has also based a part of their development efforts on technical innovation and advancements that are not based on cues from the customers. These are solutions that the market has not yet asked since they do not know they exist yet, nor that they are possible to ask from an accounting firm. This can be done by finding and developing new ways to analyze and interpret data. To do this, the executive board is among others heavily invested in the user research process, and different kinds of internal teams and functions have been built to solve substantial issues. (COO interview, April 15, 2020.)

To conclude the perspectives of the interviews and personal experiences in the company, although design thinking is still an unfamiliar concept there, the open-mindedness towards new ideas and the low hierarchy promotes trying new kinds of ways of doing things, like applying the design sprint concept in new service development. The company already invests in the research and improvement of user experience and has therefore a good baseline for design thinking processes. However, the organization is lacking design know-how and resources for ground-level, everyday innovation.

7.2 Sprint preparations

Because of the novelty of a whole new unit launch, it was a perfect opportunity to try something new. I thought the design sprint concept would fit and presented the concept to the managers in charge, who gave the go-ahead for the project with certain limitations, for example in terms of time available.

> "I had a meeting with [Director of Payroll Services] yesterday, where I walked her through the sprint process, we looked at the roadmap for the HR unit and decided who we want to be a part of our dream team. The current plan is to arrange the sprint during week 6. [Director of Payroll Services] said that we could probably use half of the days that week for the sprint. I now have to figure out how to compress the process to fit the schedule." (Research journal entry, December 5, 2019)

The actual preparation for the sprint started in the beginning of December in 2019, two months prior the sprint. At this point I started making an *action plan* using the

theoretical framework around sprints and design thinking. One of the most pressing issues was that we had to invite the people we wanted to join the project as soon as possible, for them to still have clear schedules. The project week ended up being the first week of February because January is traditionally a very busy month for the company, and the first HR service packages were supposed to be ready for sales already in March. The week suited well the sprint team candidates, which made me as well as the managers in charge very happy as we got to have everyone on board that we originally wanted and asked to join.

Choosing the right team is essential to make good progress during a sprint. The team should of course have a wide set of expertise that is beneficial to the project, but they should also be highly motivated and interested in development work. Extraversion is not a requirement, but the people should feel comfortable with sharing their thoughts in the group. (Knapp, 2016.) I met with the Director of Payroll Services in the beginning of December to decide who we want in the sprint. We made the decisions on who to ask by thinking of colleagues who have great experience and knowledge and who were known for being open for challenges like the one in hand. The new HR Service Manager for the unit was also chosen in the background during these discussions.

The team was chosen from different specialties and backgrounds to have a wide setting of strengths and know-how. I would act as the facilitator as I am the most familiar with the concept. The deciders, who would make the final calls during the sprint, were chosen based on their status regarding the new unit, meaning that they have the decision power even after the sprint. They are both highly experienced; the Director of Payroll Services has insight on strategy, finances and sales, while the HR Service Manager has great knowledge on the biggest clients as well as the deployment of payroll services for the new customers. Other team members are each highly skilled in one or two specialties in software, customers and HR. With the set of knowledge added with great enthusiasm all the participants had for development work, my expectations for success were high. There ended up being some changes before the project start; one more person joining the team and three informing they are going to miss one or two days of the sprint.

I was a bit concerned at some point that we ended up not asking specialists from the fields of marketing or sales to come along, and neither had we actual software developers with us. There was a point during the sprint when it would have been beneficial to have someone from the marketing department to give their insight, but we made a decision to leave those ideas that required marketing expertise for a later date. An in-house salesperson was invited to tell the team about the selling process of the company in the middle of the week because a realization of the lack of knowledge on the current practices emerged. The team had such a strong experience in software that no actual developers were needed in the end. Later, more people came to my mind who could have been a great addition to the team. Nevertheless, we conducted a successful sprint in good spirit with the team we had chosen, so these were not major issues. Overall, the atmosphere was cheerful and warm throughout the sprint, and everybody seemed to be excited to try something new.

As mentioned before, we had some time constraints on the project. There was no way to convince the team members to leave their jobs for a full week for a concept they had never heard of before. Therefore, it was decided to shorten the sprint days to leave the afternoons free for the team to take care of their regular work. This was a challenge for me as the days had to be planned in a way that the team would manage to do everything on time while maintaining a good spirit. My responsibilities as the facilitator were to plan and execute the sprint and teach the concepts while minding the time. I took care of the schedule and that we were moving forward, also making sure the team had all the needed supplies to perform and snacks to keep the energy levels up. I crafted a detailed schedule for each sprint day the day before, while I also made sure that I knew how to present and justify the different exercises to the team. A team of experts who are particular about their use of time do not easily tolerate spending time on exercises they consider non-essential, therefore it was important to have a good reason for every step on the way.

> "I talked with [HR Service Manager] today. We pondered some practicalities about the user tests: we called two potential customers to ask them to participate and one of them confirmed already. I would like to arrange face-to-face interviews here in Oulu, but let's see what happens." (Research journal entry, January 20, 2020)

The goal of the sprint was determined in the beginning of January: to develop a flagship product for HR Services to start the sales with. Week or two prior the sprint the HR Service Manager utilized her network and made calls to those payroll customers who had showed interest in new HR solutions. In total four interviews were arranged for the last day of the sprint, three being Skype calls and one in-person.

Right before the sprint, on the Friday of the previous week, I had to make some last preparations so we would have everything set on Monday morning. I emptied the office supply storage room of markers, sticky notes and other sprint necessities and searched around the floor for whiteboards we could use, brought them to the sprint room so they would be reserved for the team for the mornings of the next week. I made a trip to a convenience store as well to purchase some snacks for the team and the remaining tools the day before the sprint. The sprint had to have a proper timer, and the best low-cost option I came up with was to download a visual timer app for an iPad that was not otherwise needed during the exercises. Everything was ready for *action-taking* and starting the sprint project.

> "I am feeling both excited and nervous for the next week. I know I will start stressing if we get behind the schedule. I just hope I won't show it to the team in case we waste time or something goes wrong. I must prepare mentally for everything. [Team member] asked yesterday if she could have her laptop open with her in case of emergencies during the sprint. I promised her that she could, although I am nervous how it will affect the project if there are constant interruptions. On the other hand, nothing will go perfectly by the book anyway, and that is fine. The participants don't know the concept, therefore if we have delays or changes, I can just act it is all part of the plan." (Research journal entry, February 1, 2020)

This journal entry shows well how much I wanted the sprint to be successful. I ended up not feeling stressed as the week went on as I noticed that the schedule was manageable and mostly there was no sense of too much urgency. All the team members were determined to work hard and excited to be part of the project, therefore I had nothing to worry about.

7.3   Monday: Map

On Monday, before we kickstarted with the sprint, I had to still take care of some details with setting up the room, writing the day's schedule on the whiteboard, laying out snacks on the table and making sure nothing had been forgotten. Slowly, curious team members entered the room one-by-one, having the whole team settled a little after eight in the morning, ready to start with the sprint week.

> "I have made the plan for Monday and made sure that I have everything I need. I have set a tight schedule for each activity so that the whole thing should take 3 hours. This way we have 1 hour for delays and things that need further explanation or discussion. I have prepared for how I will present the sprint and lead each section. My worst fear now is that we will not be able to make decisions by Monday noon." (Research journal diary, February 2, 2020)

The day began by the team members introducing themselves to each other. Most of them are long-time employees who have at some point worked at the payroll department and therefore know each other, but there was one that was from different background and therefore it was the best to have introductions around the table to make sure everybody knew each other by name and what their expertise were. Then, I introduced the concept of the sprint shortly, what it was and why we were going to use it during the project. The HR Service Manager then proceeded to tell about the new unit and the short and long-term plan for it. The HR service unit was so new that it had not yet been talked about much inside the firm, therefore it was important to make sure everyone was on the same page from the start.

Following the introduction of the HR unit we started discussing and deciding on the long-term goal for the unit. This did not take long and did not need much discussion. From the previous unit introduction is was clear that the long-term goal was to provide the customers a comprehensive set of HR services, both scalable and customized depending on the company needs. After this, I asked the team to take a more pessimistic perspective and imagine, how the new unit could fail if it was let. While the team was talking, I flipped the statements into challenging questions on the board. For example, when it was discussed how it would damage the unit's success if the internal communication within the company would stall, I wrote "How can we ensure

that inter-unit communication works smoothly?". For this exercise we had a timer on for fifteen minutes. Customer experience was considered at this point from many angles from what is the bare minimum to what would create exceptional service experience.

The customer research the company has conducted points to the direction that the customers that are the happiest with the services love the proactiveness, consulting and care they get from their accountants. The lack of these elements is also the most common reason for unhappiness among the customers. (COO interview, April 15, 2020.) However, it is more desirable at the starting point to shift focus to the development of the scalable pieces of the package like software that bring returns without human power. Before investing in a new unit in terms of recruiting personnel to give the best customer value, the unit needs to prove itself by starting to bring revenue. The team saw recruitment and resources as the most critical issues that could cause the new unit to fail if not considered properly, although these were not the issues chosen to be solved in the end. They were left to be considered to a point when they are more relevant, as the more current issues were to first have the service packages as well as some customers on board to know how much resources are needed.

Before nine o'clock in the morning we moved on and started mapping the challenge and the service process. It was noted that there are quite many actors involved in the sales and production of the HR services: multiple roles from both the company's and the customers' side, as well as partners and outside stakeholders. This brought up a lot of conversation and lead to a realization of the growing importance of internal communication and documentation that must be up to date for the best customer experience. Multiple internal roles are needed for each step of the process, and the messy look this created on the map was awakening. Approximately at 9:30 AM we had a little break, but the conversation on the subject continued non-stop.

After the break, the first sprint day continued with the expert interviews. Everyone had time for a ten-minute speech, while others asked questions, made their remarks and wrote How Might We (HMW) question notes. The concept of the HMW questions was quite easily absorbed by the team members and needed only a little explaining. The

predefined sentence structure was a bit awkward to use for some, who then ended up just writing notes as they saw best. The set time for each expert statement was supposed to let one speak their mind and have others asking everything they can and then just listen, but most did not get to use their whole time window due to polite "may I interrupt you a little" from others that started a conversation multiple times. Although this might have become an issue, everyone seemed to be content with the amount they got to speak in the end.

> "I do not think the discussions today were pointless even though time was spent beyond the given time frame. The reason of the exercises was to also get everyone on board, therefore it was good to have some free conversation … Anyway, we were ready with the day's tasks at 11:45, perfectly on time." (Research journal entry, February 3, 2020)

It was a bit hard to try to control the conversation from going sidetracks as well as trying to encourage people to let others use their designated speech time uninterrupted, since there were a few talkative extroverts in the group. Furthermore, it was a bit awkward to begin with the expert interviews when most had already spoken their minds on the issues during the uncontrolled conversations. The idea of having to give a speech might have also dumbfounded some. However, we made it through all the exercises in time and made the decision on the week's direction at the end of the first day of the sprint.

7.4   Tuesday: Sketch

Tuesday morning started with browsing existing ideas on the market. Team members presented their findings. Many of them had thought of similar solutions, mainly because everybody ended up looking for information from the same places. The practice was useful though, since it stemmed new ideas not yet discussed the day before. The whiteboard filled with ideas that could be developed further at some point, if not immediately.

> "I decided to make PowerPoint slides for today. Yesterday, it was a bit hard for the team to follow if I simultaneously explained and drew on the board both the tasks and what was discussed. It was a good call; I think I will make one for each day." (Research journal diary, February 4, 2020)

The team decided to divide to sketch two different solutions that were not competing with each other but were targeted for two different customer groups. To split the team into two workgroups, I tried to convince the team into having a silent poll by writing their names and the wished task on a piece of paper, but got blocked right away, for the method sounded too slow. Raising hands was used instead to imply which task each wanted to work on, which worked fine since three people out of seven raised their hands for the first solution option, leaving four people working on the second. The concern with the method was that people would not properly process their thoughts on what they wanted to work with and be caught by the surprise decision. On the other hand, no method is perfect and this one worked probably as well as anything else would have.

The day proceeded with the 4-step sketch activity. People got to work with enthusiasm, when they got the chance to put their thoughts on paper. I explained that the first part would be for them to collect material for their sketches. During the first 20 minutes of collecting key info and notes, people mostly wrote down their thoughts and ideas, not much looking around the room for collective notes and inspiration, however some looked up for information on their devices. Furthermore, some had been vigorously taking notes throughout the sprint, therefore maybe there was not any need to look for the notes on the whiteboards anymore. In the middle of the exercise I reminded them that this part was for information-gathering and I received some nods back as a response. When time was up, one joked that she was content with her accomplishments with the solutions at this point.

Proceeding to the second part of the activity of generating ideas and drafting rough solutions, there was some confusion, how this was different from the first part. As I had suspected, this was because they had already used the first part on drafting instead of trying to collect information. This was a bit frustrating since I did not know how I could have been clearer but figured that this was not the worst thing that could happen since everyone was just too excited to start working to listen to the instructions. The team got quickly back to work to polish their ideas.

The third part of the sketching activity was the "Crazy 8s", which needed a bit more explaining for the team to understand the concept and the reasoning behind it. I split a paper to eight rectangles and explained that everyone had to try to come up with eight different versions of their solution, having one minute to work on each sketch, eight minutes in total. I told that the purpose of the exercise was to force them to think outside of the box for some more unconventional ideas. I put a timer on for one minute and restarted it until eight whole minutes were full. After eight minutes had passed there were mixed reactions; some had enjoyed it and thought it was great tool for idea generation, others had found it mentally exhausting and lost their grip with the last few frames.

The last part of the activity, drawing solution sketches, was in my opinion completed prematurely but otherwise went as planned. I explained the three-scene model that should be used and emphasized how important it was for the draft to explain itself. I encouraged the team members to focus more on writing the scenes open than fancy drawings. People worked on their sketches while chatting cheerfully. Nobody spent too much time on polishing their solution sketch, perhaps because they knew it was the last exercise of the day and they would get to go to lunch as soon as everyone is finished. Therefore, when the first ones were ready others did not want to keep them waiting for too long.

> "I saw that some of them did not see the importance of the sketching ideas. I thought I was being clear with that this was the time for everyone to design their best ideas and finetune them, but still people seemed to think it was not important and rather just some fun warm-up exercise. Maybe I should have prepped the team better somehow." (Research journal entry, February 4, 2020)

No timer was put on for the last solution sketch exercise because it was the last one and there was plenty of time left, but if given the chance to do it again, perhaps it would be better to give a time frame of 30 to 60 minutes, since it might indicate better how much effort people are expected to put into their final sketch. Timewise, about one hour was spent in the morning to find and present existing solutions in the market. The division of the tasks was decided in a few minutes, and finally a bit over an hour was spent with the 4-step sketch in total. The project activities were therefore finished early on Tuesday.

It was clearly challenging for some of the team members to focus on individual work most of the day and would have wished to share their sketches with others already during the first part of the 4-step sketch exercise to combine their work and develop it further together. However, they listened to the reasoning that they should trust the process with this and focus on developing the ideas to the final form first individually, and that the next day would be for the discussions and showing the results. Some team members seemed a bit drained by all the independent work and wished they could have shared and generated ideas together more.

7.5   Wednesday: Decisions

The third day of the sprint was for making critical decisions and building a storyboard. Before the team arrived, I had put their solution sketches up from the day before. As the sprint day began, team members studied each sketch with their morning coffees, while I explained the day's agenda. I gave each of the team members 24 dot stickers to mark the most exciting parts of the sketches. People understood the idea fast and studied the sketches more carefully, putting stickers on to the ideas pleasing them the most. I also gave guidelines to write questions or remarks on sticky notes and to put them under the solution sketches that needed perhaps more clarification, but nobody ended up doing this.

We then proceeded to go through the solution sketches together. I narrated the stories written in the sketches while another team member wrote down the most promising ideas that had got a lot of dot stickers as the presentations kept going. Each sketch was then discussed briefly, and the author of each sketch was given a chance to explain their work if something was misunderstood. These discussions did not take long, and the three-minute timeframe given for one sketch was mostly maintained. People had focused in their sketches on the customer experience and the meaning they give to the service rather than technical details in customer interface.

Next, one larger dot sticker was given to each team member, excluding the deciders. I told them that the stickers were to be used for a poll that is meant to help the deciders make their decision on the parts they wanted to be included in the next day's prototype.

Everyone chose their favorites and briefly explained why, and with all the knowledge collected so far and three stickers each, the deciders made the call on their choices. Both deciders had the same vision for the prototype, therefore three parts of all the solution sketches ended up in the storyboard.

During the break one team member was called for work because of an emergency and had to leave for the rest of the day, uncertain whether she could come back at all for the rest of the sprint. There was a realization that now three members could be missing from the next day Thursday, four on Friday. This put some pressure on the remaining team and limited the size of the prototype that could be built.

Rest of the time was reserved for making the storyboard. This turned out to be more challenging than expected. The team pondered for a while what the prototype should be and ended up planning a sales situation, with the material needed for it, including the marketing material. At this point a person from the sales team was invited to give some insight on the sales process of the company, which took some time but was beneficial. After a while, the team hit another roadblock with the service packages that would be offered in the prototype. It turned out that not enough thought had been given to what products could be production-ready in the timeframe given as a restriction to get the new unit running as fast as possible. One of the deciders had to leave for another meeting before the storyboard session started and was then skeptical of the decisions that had been made while she was missing. The questioning and discussion following stalled the progress a bit.

> "I got worried when the progress started stagnating and the team spirit dropped. [The COO of the case company] checked on us in the afternoon by a video call and gave positive feedback on what had been done so far, which was nice to hear, while it also gave pressure to get good results on Friday's customer interviews. My supervisors believe in me and the success of this project, providing already busy employees for it and expecting products to launch the new unit with. Therefore, it is important for me to meet the expectations since it was not only the me whose reputation depended on it, but also the supervisors' who had trusted in the idea of arranging the sprint." (Research journal entry, February 5, 2020)

At the end of the third day, the team was feeling a bit overwhelmed with the amount of work that was left for the following day with the resources there was. The direction

for the rest of the week was not as clear as hoped at this point. However, before calling it a day we agreed that the problems we had with the storyboard could be solved the next day as we would start building the prototypes.

7.6   Thursday: Prototype

Thursday was spent creating the prototypes. The one member who had to leave the day before in the middle was able to come back, which was a relief, since the team was still missing two members that day. Two façade websites were built for the different customer groups with different HR service needs. Although I had been more in the background in the role of the facilitator so far, I saw that at this point extra hands were needed and decided to jump in with building the prototypes. The workload was shared between two building the websites and four coming up with the content. The first prototype was a company website offering HR services. One team member had prior website coding experience; therefore, she saw it easier to build the fake website on an existing template than creating it on a presentation slide show. It is recommended in the concept to use the least amount of coding as possible and instead use tools like Keynote or PowerPoint (Knapp et al., 2016, p. 186). However, coding a website with a few subpages was probably as fast for her as it would have been to learn to use a presentation tool for it, and the final look was close to perfect.

On the contrary, since I was responsible for the small customer segment website and had no experience in coding, I decided to use PowerPoint to create a fake web page with only one functioning button, which I thought would be enough for the purpose of testing. The prototype was quite easily built, first making a screenshot of an existing customer interface page – with some modifications made in Microsoft Paint – a wallpaper for the slideshow. Then, it was left to add a second slide opening behind a "button" created using a zoom effect, offering the service being tested.

> "I almost feel ashamed of how basic the prototype was compared to [teammate's] full web site, though my website also looks very realistic and even fooled the team as well, as they tried to access parts on the web page that were not actually there" (Research journal entry, February 6, 2020)

Written descriptions of the service packages on the websites were the most important part, therefore the rest of the team focused on copywriting. At the end of the day, the content was inspected together, by making corrections and editing the language to be more concise, before inserting them to the fake websites. Already the process of building the fake websites brought new issues that had not been considered before, as it also answered some questions that were left open from the storyboard session the day before. We had already answered some critical questions just by thinking by doing.

> "I was happy to see the team has cheered up compared to yesterday. People got to work with things I think they felt familiar with, which I think created confidence that we could do this" (Research journal entry February 6, 2020)

About thirty minutes was spent first in the morning deciding on how to build the prototypes, which tools to use and how the workload would be divided. Then, one hour was spent working on the assigned tasks, after which there was a little break to review what had been done so far. Some changes were made to the prototype by deciding to focus on the websites instead of the sales meeting idea and by making alterations to the interview plan. One of the deciders was supposed to do the interview first but had eventually no time to prepare. Since she and I were the only ones who were going to be there for the whole day, it was decided that we would jointly conduct the interviews. I had the process and tips from the concept and the HR Service Manager had a great opportunity to ask the questions she needed to make decisions about her unit. At noon, the prototypes were close to being finished, although the coded website ended up taking a bit overtime to be perfected. We felt confident about what we had accomplished and excited to show the results to the customers.

7.7   Friday: Test

On Friday morning, we set up the interview gear, which was essentially a laptop and a speaker attached to the screen on the wall in the same conference room. I walked the team through the schedule and note-taking procedure. The notes would be taken by writing one interesting point, phenomenon or comment on one sticky note, marked in the corner whether it was a positive, negative or a neutral note. After each interview we would collect and analyze the notes.

Originally, in total four interviews were arranged, three being distance meetings with Skype and one being local. The one who was supposed to attend the interview locally canceled, and two other interviewees announced that they had to leave earlier than originally planned. However, a new face-to-face interview was arranged on the go for the afternoon to test the second prototype only. These shifts in schedule led to a more scattered day and long breaks in between. This was a bit disappointing from the sprint point of view since there were fewer interviews people had time to attend, but on the other hand team members could take some time to work on their other responsibilities mid-day.

The first call was made 8:30 in the morning. The first interviewee was very talkative and had a lot to say about their current processes, what they were lacking and mirrored the services pictured on the façade web site to their current state. Our strategy was to let the interviewees do the talking, as they got to go through the fake website. This was done by sharing the screen and giving the controls to the interviewee. This way we could protect the prototype from being sent outside of the company while also receiving genuine feedback as they could browse as they would normally a website.

During the interview, the team took vigorously notes and, in the end, we had a thick stack of sticky notes to put up next to first interviewee's name on the wall. Although the concept suggests having only one interviewer engaging with the interviewee (Knapp, 2016, p. 204), a problem emerged when other team members wanted to ask something, and there was no protocol for this. Therefore, in future sprints it should be considered prior the test situation, how should people other than the interviewer ask their questions from the interviewee. In the end, the interviewer might not catch every interesting detail to come up with a follow-up question.

There was almost a two-hour-break between the first and the second interview. The rest of the day went on the same routes, the interviewees enjoyed talking about the needs that came with their positions and comparing them with the offerings that had been set up for them. As the team had been promised the sprint would not take their time after noon, after lunch it was only the facilitator and the HR Service Manager who were attending for the last two interviews.

The last interviewee was the only one reviewing the second solution we built. He was the only interviewee with a chief position and was far more critical on the service presented to him than the HR directors who had been interviewed earlier. The biggest reason for this difference may of course have been that the service that he was offered was different. Still, it might have been better to reconsider the choice to ask only the HR people of the target businesses for the test day. Of course, they know the HR processes in their organizations the best, but because of that reason they are also the ones whose workload would be helped the most with the new services. However, the feedback could have been different in case the interviewees had been chief officers of the companies. Even though the HR directors probably have leverage inside their organizations on the systems and service acquisitions, they do not make the final calls on the new service contracts.

> "We did the last interview a few hours ago. I stayed with [HR Service Manager] to arrange the thoughts on the last two interviews. I still have to collect the main findings to show the team on Tuesday. Then the room must be cleaned from all the sticky notes and wall art. I feel really happy about the project, we really did it, even though there were tough moments, we made it to the end." (Research journal entry, February 7, 2020)

Conducting my first sprint was consumptive in terms of time and energy as it included a lot of studying and prepping. I was happy to have succeeded in the role of facilitator and for the team for working hard and coming up with solutions for the new unit. As I closed the lights in the sprint room in Friday evening, I felt exhausted but happy.

7.8   After sprint

After the last interview on Friday, I made a briefing of the customer feedback collected. Since there were team members absent the whole Friday or parts of it, the first chance to discuss the results of user tests came the next week. A meeting was set up on next week's Tuesday morning to *evaluate*, to go through the main points of customer feedback and feelings of the participants of the whole sprint process. I had collected the findings I thought were the most important, but I was happy to hear how others interpreted the interview results. Overall, the managers in charge got good insights from the team, making the direction for the new unit clearer.

I sent the team members a link to a survey to give feedback on the sprint anonymously. Five team members responded and all of them had experienced the sprint in a positive way. The team enjoyed especially having a multitalented team to work with and the practicalities of the sprint, like putting a timer on discussions and tasks and structured schedule with participative tasks. The team found the concept effective and recognized new tools they could also implement in their everyday work, especially by utilizing the knowledge and know-how of others in the organization better. Two of the participants did not answer to the survey.

The participants were asked again two months after the sprint whether they have started to apply different design thinking tools or mindsets learned during the sprint week. One team member that had kept her own notes on every step of the process told that she had applied the storyboard method for planning meetings. She found the method useful as it forced to think about complex issues chronologically, therefore clarifying what is important and in what order should topics and problems be brought up for everything to make sense. Otherwise no responses were received of the usage of the design thinking methods presented in the sprint.

A very casual call meeting was arranged two months after the sprint with the HR Service Manager, to hear her post-project thoughts. The sprint had helped her both to fine-tune existing ideas as well as to generate new ones, giving a kick-start for the new unit. She agreed that the concept is quite time consuming and needs quite much planning and resources, even with the shortened sprint days. To sum it up, it was a good experience and useful at the point of new business launch, but it should be evaluated whether it serves the purpose to use it in the future projects. (Personal communication, April 9, 2020.)

8   DISCUSSION AND CONCLUSIONS

This chapter will *specify what was learnt* during the sprint project as well as draw the conclusions regarding the empirical findings, theory and managerial implications. Figure 5 shows the research process as it was completed. There can be many cycles of action research until satisfactory results are achieved (Myers, 2013, p. 62). This research had two cycles, one within the other, as can be seen in figure 5:
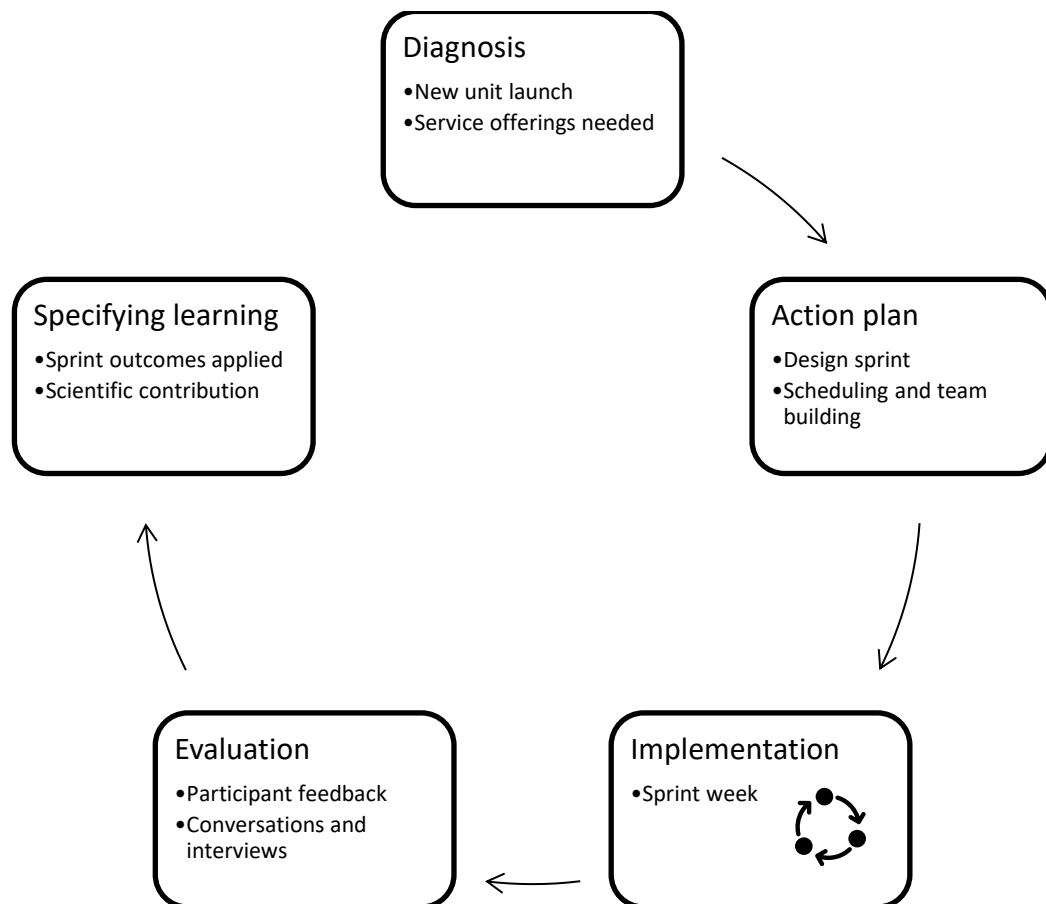

Figure 5. Completed action research process (adapted from Myers, 2013, p. 62).

Action research suited the nature of the project well as the sprint itself had its own cycle of action. The sprint started with diagnosis: what is the current state and goals of the HR unit. This was followed with planning with sketching and implementing in the form of building prototypes, which were then evaluated with the customers. The learning outcomes were specified in the conclusive meeting. This chapter will focus on the learning outcomes of the whole research process.

8.1 Organizational issues with design thinking and innovation

To answer the research sub-question of how the organization and the team affect the desired sprint outcomes, this part discusses the organization, its culture, resources and readiness for the implementation of design thinking principles. The following subchapter focuses more on the team and the cultivation of creative, explorative mindset in it. After, the main research question will be considered.

Centralization of innovation in organizations has been linked to a culture that rejects design thinking and other creative concepts (Dunne, 2018). However, the reason for centralization in the case company might still lie in the nature of the industry. The accounting industry is highly regulated in Finland by different policymakers and legislation, therefore the work of accountants is largely directed by these regulations. (Aho, 2019, pp. 15–21.) Or, as my mother who is a seasoned expert in financial administration stated when I introduced the topic of my thesis to her: "Creative accounting leads to jailtime".

However, as the tools in the field become more automated as technology advances, work hours of the accountants could be better utilized in creating better user experience (Aho, 2019, pp. 24–25). In the interview with the COO of the case company, he agrees that different development models and tools work the best when the whole organization is committed to using them. This makes interfunctional development easier as everyone speaks the same language as there is a common methodology in use. An example was given of the utilization of the A3 method from Lean manufacturing that is commonly used everywhere in the organization: it is easier to communicate to other functions on the progress that has been made when everyone knows what the tools used are while it also allows people from different departments to join projects without having to first explain to everyone, what the tools are about. (COO interview, April 15, 2020.) This supports the idea that the whole organization needs to be on board when applying design thinking to get the best use out of it (Brown, 2009, pp, 73–75).

For design thinking to flourish in an organization, freedom to explore and experiment and resources to develop ideas should be given to everyone bottom-up (Leonard & Swap, 2005). The case company already promotes giving power to team-level decision-making and invests in the training and support of team leaders for it (COO interview, April 15, 2020). Therefore, the foundation is already there to start encouraging people to use the creative mindset and tools of design thinking to develop the services as well as internal processes, if that is something the executives want to promote in the organization.

8.2 Cultivating explorative mindset in teams

Although the importance of thinking outside of the box was emphasized before starting with ideation and sketching, it was not enough to convince people to look behind the existing solutions in the field. Emphasizing the importance of it more or even conducting some sort of creativity exercises before the actual sprint exercises could have helped people get riskier with their ideas, as the team might have lacked the skills and confidence for this kind of creative work to come naturally as they are not commonly used in the company. Some creativity might have been also lost when squeezing the schedule, although most of the team felt the more limited time being enough.

The solutions team members sketched were in the end quite similar, which could indicate that the challenge was not complex enough to get the best potential out of the sprint. Pollock (2017) had noticed that sprints suit best the kind of challenges that have no obvious answer to begin with, and when there is one, the solutions tend to look all the same and not many different ideas are brought up (Pollock, 2017). Although the challenge on hand was complex, the solutions looked still the same in the end. One reason might be that the team focused mainly on the big picture of the service unit, when more distinct ideas could have cultivated from focusing on the details.

One of the main principles of design thinking is the interpretative user research: going to the field and exploring (Fulton Suri, 2008). As the sprint week has very little room for exploration, it might be the most beneficial when used alongside organizational

culture that promotes design thinking principles in the daily life. A design sprint team that has had time to delve into the lives of the customers might be better prepared for the innovative challenge than those who dive into the sprint straight from operative tasks. The project might have provided more radical solutions if applied in an organization which employees have adopted the design thinking mindset and are accustomed to using design thinking principles every day. Even though open-ended exploration might lead to dead ends while using precious resources, focusing too much on efficiency can suffocate experimentation and innovation, preventing radical changes ever happening, causing stagnation (Brown, 2009, p. 72). Therefore, if there is a need to reach for something more than just incremental change, it should be considered what kind of message is delivered when launching development projects like sprints.

On a more positive note, the team had internalized well the importance of customer experience. As discussed in one of the earlier chapters about designing experiences, meaning is a service attribute that brings value to the customers and cannot be replicated by the competitors (Verganti, 2009, pp. 105–106). The solution sketches revealed that multiple team members had ended up designing specifically the meaning users give to the new services. Looking at the final sketches, images of customers had been drawn on many of them with feelings and worries, and how they would feel relieved, when the issues had been taken care of and they have a caring HR specialist on their side. Even though it was emphasized to keep the customer point of view in mind, creating actual customer personas was not mentioned before or during the project. Since customer persona creation exercise is not generally applied in the payroll organization, it was interesting to see how many of them had taken this road. Perhaps they had a real customer of theirs in mind when sketching the solutions.

8.3 Challenges in facilitating a sprint

This part discusses the learning points that came to realization to me from acting as the facilitator during the sprint. Therefore, these issues and how to overcome them help to answer the research question about how the facilitator can contribute to

achieving desired results in a design sprint. By knowing the possible and probable obstacles, facilitators can be better prepared to them in the sprint.

We will start with the problem that already cause worries at the planning phase of the sprint: time restrictions. Studies have shown challenges when trying to reduce the time reserved for the sprint (Ferreira & Canedo 2019). In our case, the time to conclude the activities was sufficient most days. One of the team members in our sprint stated that she could not imagine how the sprint was supposed to a full 5-day workweek, and that the four hours that were reserved – minus breaks – felt like a suitable time to work on the daily sprint tasks. On the other hand, someone else thought more time would have been needed to achieve more completed results. As in the role of the facilitator, the tight schedule forced to cut conversations short, and more time to discuss the challenge would have been beneficial in this kind of a case, where the initial setting was already quite vaguely defined.

During the week, some of the sprint team members talked about how they were struggling with focusing on their regular work after lunch, when the sprint day was over. They said that the sprint process was fast-paced and required dynamicity and novelty in thinking, in the end draining some energy. Therefore, it could also be considered whether it would be better to have for example three days for intense sprint work, leaving rest of the week free for the other work.

When arranging a temporary project, it is important to consider the departmental schedules and deadlines, which becomes more challenging to balance when there are multiple departments involved (Thomsett, 2002). Therefore, before asking people from other departments to join the sprint, their supervisors were given a call to ensure their team schedules would allow some of the employees to be absent for the sprint week. This way it was made sure that the team leaders were up to date and on board with the plans. Thomsett (2002) states that even though the schedules are decided in advance and the team members as well as their managers agreed on them, these kinds of urgent changes might always occur. The regular work people have is still the priority for them and their departments, therefore it is good to consider and prepare for.

The ideas that came up during the sprint and were developed further after the project were the kind of services that are provided by many companies in the business already, the difference being in putting the solutions into better packages that represent company brand and values. During the Tuesday morning when the team browsed existing solutions, no-one looked outside of the field or even the current market to look for ideas, even though it was said that they could go search inspiration from anywhere. Service design projects have found it beneficial to compare industries that can seem very different on the outside but are in the end struggling with similar issues (Cass & Sanderson, 2019). Accounting, HR and payroll are services that offer one group of people's expertise to another. Therefore, looking into other consultancy firms for example in the field of law, marketing, recruiting and design to mention some could have brought up more innovative ideas. Overall, obtaining the design thinking mindset prior sprint might have cultivated more unorthodox ways of exploring the opportunities.

The phase of synthesis in a design project – the Wednesday activities in the sprint case – is not talked about as much as other phases in literature, even though it is a common stage of hitting a brick wall of not knowing how to build the solutions on the best ideas discussed is earlier phases. It is common for people to feel frustrated and struggle at this phase when the creative hype of the research and inspiration phase has changed to uncertainness of the time to make decisions. (Speicher, 2017; Cruchon, 2017.) Knowing this is quite regular phenomenon in projects requiring design thinking would have prepared to have something encouraging in the back pocket at the time of slump during the storyboard session of the sprint. Getting familiarized with different techniques to build a storyboard could have been helpful as well (see for example Cruchon, 2017).

According to the concept, the facilitator is supposed to stay unbiased during the sprint (Knapp et al., 2016, p. 36). Mostly, it was manageable to stay in the background and only give the tools and instructions, but when the team started struggling with the storyboard, it felt better to offer insights than let the conversation wither. Also, since there were two members missing on Thursday, help was needed to build the prototypes and to get everything done in time. Although being helpful at the time, the issue was

that because of the role of a facilitator, the team might have put more trust in the insights and opinions given that they would in a normal situation have. The concept of the sprint was unfamiliar for the team, therefore they trusted to be guided and to be told what to do and followed the instructions carefully most of the time. Still, this should not be the case when the facilitator is giving her thoughts on the output of exercises. Therefore, it would be suggested for others who plan to facilitate a sprint in their own field of experience, to be careful not to steer nor dominate the conversation.

These interviews taught that if it is in any way possible, it should be considered to arrange the customer interviews in person in future projects. Since there was not even video connection during the Skype interviews, the observations had to rely entirely on verbal communication. It can be quite hard to capture the initial attitudes and feelings of interviewees' words without seeing their faces. The one in-person interview was found useful especially due to the authentic reactions that could be read from the interviewee's face before he even said anything.

8.4   Conclusive thoughts

Before answering the research questions, we should look back into the desired results. The goal of the sprint was to design the flagship product and test its potential with the audience to gain knowledge what should be developed further. In the end not one flagship product was developed to the final form. Instead, a line of complementary digital products and services were designed on the basis on what is feasible given the project and unit launch schedule and viable in terms of business, that finally were tested for desirability with the customers. Even though the focus shifted on the way, the sprint was considered successful as it accelerated the launch of the unit forward.

Regarding the other desired outcome of spreading design thinking mindset and tools, it was noted that a single project is not enough to bring benefits of design thinking into a company. This conclusion is drawn based on the team members' response on whether they had used any principles or tools learned during the sprint afterwards, that the one isolated design thinking project ended up not being enough to increase design thinking mentality in the sprint participants in the organization. As theories suggest, leadership

and top-down promotion is required for organizations to adopt design thinking mentality and processes (Brown, 2009; Leonard & Swap, 2005). Still, projects like this can introduce the concepts and therefore create conversation, whether they are something that could be utilized in more depth inside the organization.

To conclude the findings to answer to the main research question, how can a facilitator contribute to achieving desired results in a design sprint, the importance of the role is fundamental, especially in organizations that are not familiar with design thinking principles. The results depend on facilitator's ability to coherently explain the meaning and potential behind the explorative actions, as well as teach the out-of-the-box mindset in a very restricted timeline. As these are skills and can therefore be practiced, a facilitator becomes better capable to contribute with the assigned role the more experience they have.

The sub-question on how the culture at the organization and sprint team influence the desired results has been also discussed in depth in the previous parts of this chapter. As a conclusive statement it can be said that the established systems and culture as well as the team have great influence on whether the desired outcomes are met. As the case organization and team members were from the start open for trying new ideas, the atmosphere during the sprint was open and relaxed while there was close to no resistance to the new, unfamiliar concept. This allowed good discussions, fast decision-making and smooth collaboration, resulting in reaching the goal of user-approved solutions. However, the lack of experience in design thinking and perhaps even creative insecurity made it harder to unlock the explorative and experimentative force that I had hoped.

According to the experience of facilitating the sprint at the case company and the feedback received from the participants, it was a useful concept for the needs of the project. The outcomes of the sprint conducted in the case firm were more incremental in nature and perhaps evolutionary, but not necessarily something to bring revolutionary growth. Jacoby and Rodriguez (2007) define evolutionary growth as something that can be achieved by adapting current offerings to fit the needs of new customers or by extending the line of offerings to serve current customers better

(Jacoby & Rodriguez, 2007). Therefore, as new service offerings were developed for the current target market of companies that need payroll services, the innovation efforts of the sprint could be put to the basket of evolutionary growth attempts. However, if the need had been to create something radical that would for example had helped the organization to enter new markets, the results would had not been sufficient, although the baseline approach to the sprint project would have probably been different as well in that case.

Although the sprint process has various elements and principles that are similar to design thinking process models and is pictured as a dynamic version of design thinking and lean approaches, in the end it is a project model for intense problem-solving for rather specific situations (Mendonça de Sá Araújo et al. 2019). Design thinking on the other hand is something more of a mindset that has to be nurtured in an organization to create a common creative mindset for problem-solving, as it is utilized as a process for all kinds of design and development projects (Brown, 2009, p. 16). Therefore, sprints should not be considered as condensed design thinking mini projects that possess all the benefits of the methodology, but rather as an integrated tool that has its time and place. Furthermore, as there are so many different mindsets to learn and tools to use in the field (for example found in IDEO.org, 2015; Stickdorn & Schneider, 2017) that are valuable for different situations and projects, it would be beneficial to explore further than just one methodology to find new solutions that suit the design and development needs of the organization.

8.5   Limitations, comparability and future research

Every organization is different, therefore the results of one experiment in one company cannot be outright generalized to others' even if they are in the same field or with similar structures. A project that occurs in a specific organization in a set timeframe with certain people cannot be directly copied and run in another setting. This is also the restriction of this research: the scope being narrowed to one project and one company. However, the process description and results are still comparable: they can be used to learn about the concepts and using comparison to learn about one's own

organization. They are also translatable, as the methods and characteristics of the project are described in detail that allows conducting comparisons confidently.

The results and interpretations of the research support the theories on the subject and findings in other similar projects, although there are also differences in procedures and outcomes as the situations vary. Therefore, if repeated, some similar findings are probably going to emerge, but due to different circumstances also new and even contradicting results are likely gained. Further research on design sprints on different organizations with different goals and resources is needed to evaluate the applicability and benefits of the concept in wider scope. A topic worth researching further is also the facilitator's role as a teacher; what kind of skills and experience are needed and are there ways for a facilitator to increase innovative mentality inside the sprint team to cultivate exceptional innovations.

To sum it up for future sprint facilitators, there are some learning take-aways that could be beneficial to consider. Firstly, getting familiar with others' sprint stories prepares for some of the obstacles that many facilitators face, while also giving ideas on different tactics and techniques for different sprint activities that could suit the problem at hand better. As said earlier, it would have been calming to know beforehand the probable pain points in the process to be better prepared when those exact moments occurred in this sprint as well. Secondly, although it should be made sure that everyone is invested in the project, surprises happen and cannot always be avoided. Changes and adaptations to the process can be made throughout the sprint, therefore stressing about surprise work emergencies is useless. However, having the deciders to put their focus solely on the sprint for that week is highly recommended, as it is probably their responsibility to carry the results forward after the sprint and should therefore make sure that the direction stays what they intended throughout the sprint. Overall, it is a fun and useful methodology that is worth trying out.

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PARTICIPANT SURVEY QUESTIONS

Asking for feedback from the participants after the sprint

Questions are translated from Finnish to English.

Overall, how do you feel now after the sprint? – 5 answers

What did you especially like about the sprint? – 5 answers

Did you learn something during the sprint week? Are you going to apply any of your new know-how in your work? Please elaborate. – 5 answers

Is there something that was missing from our sprint week? – 1 answer

Did something feel unclear or unnecessary? Why? – 3 answers

Would you participate in a similar project again? Why/Why not? – 5 answers

OUTLINE OF THE FIRST SEMI-STRUCTURED INTERVIEW

Interviewing the COO of the case company April 15, 2020

Questions are translated from Finnish to English.

How do you know what the customers want?

What do the customers feel when knowing they are this company's customers and using the services?

How do you foresee, what the customers will want and need in the future? What about services they cannot yet articulate, but there is a vision of how those could be part of the whole selection?

What kind of agile development tools methodologies are in use at different departments of the company? Why? What do you think about them?

> (Examples of agile development tools if cannot think of any: SCRUM, lean development, Lean Startup)

What kind of creative tools are in use at different departments of the company? Why? What do you think about them?

> (Examples of creative tools if cannot think of any: design thinking, design sprints, brainstorming,)

If you could use your favorite agile or creative tool anywhere else in the organization, what would you choose and where? What opportunities do you see there?

Appendix 3

OUTLINE OF THE SECOND SEMI-STRUCTURED INTERVIEW

Interviewing the Director of Digital Services of the case company April 20, 2020

What kind of tools and models are in use in the development work of the Digital Services unit?

How much do you cooperate with end users during the development projects?

What kind of design methods do you use?

Do the developers have any projects of their own or time for explorative activities?

Do you utilize problem finding in developing new services to gain competitive advantage towards other actors in the field?

How familiar is the concept of design thinking to you?

How do you see the future of the development unit and the whole organization?