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Service design in the later phases

Exploring user insights, handovers, and service design roadmapping in the transition from service concept to implemented service

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Abstract

Human-centricity and user involvement have become increasingly emphasized in Norwegian legislation related to service development in the health and public sectors. At the same time, service design has emerged as a relevant and increasingly popular alternative to accommodate the requirements of user involvement. This article-based PhD thesis explores and contributes to how service designers' processes and practices might be improved and supported in relation to the *later phases* of service design processes.

The study is rooted in service design practice, and takes an *expansive research through design* approach. The main methods include participant observation in service development projects, interviews with service designers and clients, and design investigations with service design MA students and their external clients. Insights from these methods have been combined with theoretical perspectives in an iterative process to produce both practical and theoretical contributions.

The study shows that thus far there has been an emphasis on the earlier phases of service development, both in service design research and practice, while the later phases have received less attention. Service designers are seldom involved in the later phases, and therefore a critical aspect of these phases is the final *handover* from service designers to the development team. Findings indicate a need for both an improvement in, and a harmonization of, service design handovers. One potential answer to this is embodied in what I call *service design roadmapping*, an approach explored and introduced in this thesis. While roadmapping is well-established in other disciplines, this is not the case in service design.

The thesis contributes to a deeper understanding of the later phases through practical explorations and theoretical discussions of the phenomenon called *user insight drift*, the service design handover, and service design roadmapping. Service design roadmapping is a contribution to service design practice that can support service designers and their clients in the transition from a service concept to an implemented service. The approach might help to change the focus of service designers and their clients from the earlier phases toward considering the process as a whole by also focusing upon the later phases.

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I have been privileged to be a part of the Centre for Connected Care (C3), and thank the C3 partners for supporting and contributing to my work. I would also like to thank the Research Council of Norway and the Oslo School of Architecture and Design (AHO) for funding this PhD. I particularly want to thank Rachel K. B. Troye, leader of the Institute of Design at AHO, for generous support.

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My gratitude goes to all the users, civil servants, healthcare professionals, service designers, students, and researchers who have contributed to this thesis. The knowledge and expertise that you have shared has been essential for understanding the landscape of service design for the Norwegian public and healthcare sectors.

Dad, thank you for encouraging me to apply for the position and for constantly motivating me to follow through. I am grateful for every conversation. Mum, thanks for your persistent support. Dear friends and family, thanks for being wonderful.

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Frida Almqvist
Galgeberg, January 2020

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Chapter 1
Introduction

The underlying motivation for this study originates from professional experiences during my training in service design at the *Oslo School of Architecture and Design* (AHO) and my engagement as a service design researcher at the research initiative *Design for Public Services* (DOT).[1]

During my training at AHO, there was a clear emphasis on the earlier phases of the design process, especially on user involvement, co-design, and user insights. The end of our process, and the result we focused on developing, was the service concept. This was also the case during my time as a service designer and research assistant at DOT. The in-service education we developed and ran for various Norwegian municipalities focused on insights, ideas, concept development, and, to some degree, testing. We did however not focus on how to move from that point in the process to an implemented service. The introductory workshops that we developed for learning the basics of service design and our collaborative toolkit called *Time for service design?* (DOT, 2015), also specifically address and emphasize the earlier phases. While I was not aware at the time of our focus on the earlier phases, the research I have conducted within this PhD program sheds a new light on these experiences.

[1] *Design for offentlige tjenester* in Norwegian.

I first started thinking of the later phases of service design processes in 2015, when I attended a presentation by a qualitative market researcher. Her line of work concerns what service designers would call the insight phase. She described an incident related to an insight report that her company had handed over to a client. Before handing over the report, she and her colleague had distinct ideas of what the insights might lead to. Yet, when she saw the final product, she assumed that the client had ignored the insight report entirely. A year later the client approached her company again, expressing that they had followed the insight report to the letter, and could not understand why their products did not appeal to the target group. Her first reaction was to question what had been written in the insight report—had they perhaps been vaguer than they had realized at the time? After rereading the report, she still felt that what the client claimed to have translated so literately from the report into their final product was not in the report at all.

Her description of this incident got me thinking; are there challenges like this in service design? My first assumption was that since service designers most often translate the user insights into ideas and concepts, this mismatch between the identified user insights and the final results probably does not occur in service design processes. Then I realized that I did not know much about what happened after a concept has been delivered, which made me wonder if incidents like the one shared by the market researcher did occur in service design, just at a later stage in the process. When looking into some of the core service design literature, I could not find answers to these questions. In fact, the later phases of the process seemed to have been forgotten.

The remaining part of this chapter introduces the main elements of this thesis and the themes that are elaborated upon in the following chapters. First, my professional background and the research context of service development in the Norwegian public and healthcare sectors are described. The research questions are presented before the research through design approach and the research methods are introduced. This dissertation is a thesis by publication consisting of four appended publications. These publications are summarized and the main contributions are introduced. Lastly, the structure of this thesis is described.

1.1 Research context

This research studies the commercial context of service design, in which service design consultants are involved in Norwegian public and healthcare service development.

1.1.1 Service design for the public and healthcare sectors

An increase in the number of people living with chronic diseases, an ageing population, the growing expectations from the population, and an urgent need to reduce costs all present huge challenges for the public and healthcare sectors globally (Chamberlain & Craig, 2017). In order to meet these challenges, scholars and public organizations have expressed that changes are needed in service development processes and the way in which services are delivered (Cottam & Leadbeater, 2004, p. 36; Ministry of Health and Care Services, 2013). Involving citizens in the development and delivery of services is considered to be a central aspect for achieving the needed changes (Cottam & Leadbeater, 2004; Ministry of Health and Care Services, 2014). As stated in a report developed by the UK-based innovation foundation NESTA, "it is no longer about public services being done to, or for, somebody, but rather with them" (Clarence & Gabriel, 2014, p. 16).

There is much enthusiasm for service design in the public and healthcare sectors, where it is considered a relevant approach to handle the complex challenges of these sectors (Bason, 2010; Mager, 2016, 2017; Mulgan, 2014). Meanwhile, service design has been criticized for running processes that do not lead to actual change due to a lack of implementation competence (Mulgan, 2014). Addressing these shortcomings is vital for the field of service design to remain a relevant approach for service development in the public and healthcare sectors.

1.1.2 Research setting and professional background

The research for this thesis has been carried out as a part of the *Centre for Connected Care* (C3) and draws on experiences from working as a service design researcher at DOT.

The year before my PhD project started, I began working as a service designer and research assistant at the research initiative DOT, located at AHO. DOT was established in September 2013 and had been initiated by Rachel K. B. Troye, the leader of the design institute at AHO, and Simon Clatworthy, a professor in service design at AHO. The team consisted of the senior service designer and leader of DOT, Kaja Misvær Kistorp, service designer Emilie Strømmen Olsen, design researcher Lise Amy Hansen, and myself. I worked at DOT alongside my PhD project until the initiative was put on hold during the fall of 2016.

During the three years of the initiative, DOT collaborated closely with public and municipal organizations, along with practicing service designers (both service design consultants and in-house service designers) and academic and governmental institutions. DOT was involved among other things in research and development projects, in-service education, and arranging workshops. While the initial aim was to design services for all areas of the public sector, the majority of the projects were healthcare oriented.

C3 is a Norwegian center for research-based innovation funded by the Research Council of Norway for an eight-year period, starting in September 2015. C3 aims at developing, establishing, and spreading patient-centered service innovations for the healthcare sector through systematically involving and empowering patients. The center consists of 17 actors from healthcare and research institutions as well as both national and international industry actors.[2] Through an open innovation model, 29 projects became C3 projects in the initial phase of the center (see Chapter 3 for descriptions of two of the C3 projects in which I participated).

[2] *Public partners:* Oslo University Hospital (also a research partner), Akershus University Hospital (also a research partner), Larvik municipality, Oslo municipality, Sunnass University HF, and Revmatikersykehuset in Lillehammer. *Private partners:* Abelia, Induct, Dynamic Precision, Accenture, Dignio, Sykehuspartner, Siemens, and Oslo Med Tech. *Research partners:* University of Oslo, BI, and AHO.

1.2 Overarching aim and research questions

The overarching aim of this study has been to explore and to contribute to service design processes and practices as a part of the whole service development process in the Norwegian public and healthcare sectors.

Using an expansive research through design approach (see Section 3.1.2), I articulated a broad and overarching research question at the start of my research. Four sub-questions emerged during the explorative research process, each of which contributed to narrowing the research focus. The first question was:

1.
How might service design methods better support the development of Norwegian public and healthcare services?

With this overarching question in mind, I wanted to investigate how service design, and particularly its co-design processes, are performed throughout the different stages of the service design process in the context of Norwegian public and healthcare service development.

At this stage of my research, I had begun to form the assumption that the later phases of service development were somewhat overlooked in service design. However, before focusing on the back-end in my research, I wanted to explore the entire design process, so that I could place this assumption in a fuller context.

When looking into the service design processes as described in research, I found that thus far there has been a focus on the earlier phases of service development, while the later phases have received less attention. This was echoed in service design practice, in which the earlier phases have also been

emphasized. In other words, my initial assumptions regarding the later phases were confirmed; there was a need to look more into these phases. Drawing on this finding, the following question emerged:

2.
What challenges do service designers face during the later phases of service design when taking part in public and healthcare service development in Norway?

My initial research indicated that service designers are seldom involved in the later phases and identified a critical aspect of these phases to be the handover from the service design consultants to their clients. My work then explored what a service design handover is, and might be, by asking:

3.
How are service design handovers developed and taken into use seen from the perspective of those producing the handover (the service designers) and those receiving the handover (the clients)?

Findings here indicated a need for both an improvement in, and a harmonization of, service design handovers, which led to the question:

4.
How can one support development teams receiving service design handovers so that they may make use of this material in the later development phases?

Roadmapping[3] was identified as an approach that might be useful for service designers when they support service development teams in the challenging transition from a service concept to an implemented service, if adjusted to the field of service design. This led to the articulation of the question:

5.
What might a service design roadmapping approach be, and how might such an approach function as relevant support in the transition from service concept to implemented service?

In collaboration with service design MA students, I explored how roadmapping might be adjusted to meet the needs of the later process phases of service design. Moreover, I developed practical guidelines for a service design roadmapping approach (see Appendix IV).

1.3 Research approach and methods

I used an expansive research through design approach as a means both to understand and to contribute to how service designers might deal with service development in the Norwegian public and healthcare sectors (see Chapter 3).

Through literature reviews, I explored various perspectives of the design process. I conducted semi-structured interviews to discover the contrasting perspectives of civil servants, healthcare personnel, service design researchers, service design consultants, and service designers working in-house in the public or healthcare sectors. I participated in ongoing projects to gain insight into service development projects in the Norwegian public and healthcare sectors. While participating I shifted between being an actively involved service designer and an observer. Lastly, I ran design investigations to develop and to further explore service design roadmapping, an approach with potential to support the later phases of service development.

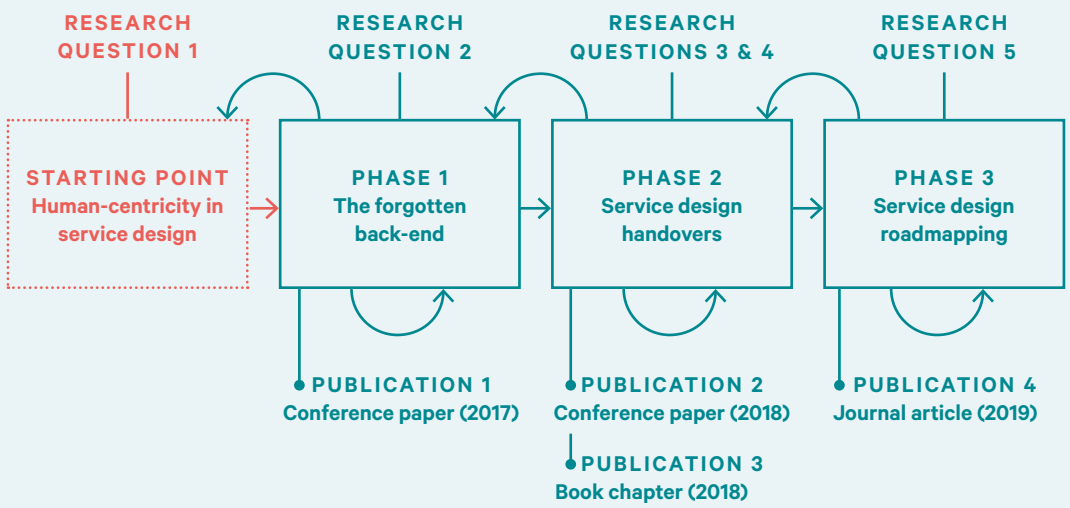
[3] Roadmapping is a well-established approach within product and technology development (e.g., Phaal & Muller, 2009).

1.4 Summary of publications

This is a thesis by publication consisting of an exegesis (*kappe* in Norwegian) and four publications. The exegesis offers a summary of the research, expands on the main research findings, and describes the overarching narrative of the contributions presented in the four publications. The content of each publication is summarized below; full versions of all the publications can be found in the appendix.

My research process consisted of the starting point and three main phases, as seen in Figure 1.1. The research phases are further described in Chapter 3. In response to my explorative and iterative research process, the research questions emerged during the process, rather than before the research was initiated. The focus of each publication relates to the research questions that emerged at the time of writing. Some of the research questions are addressed in more than one publication. All the publications address aspects of the overarching research question: *How might service design methods better support the development of Norwegian public and healthcare services?*

Figure 1.1
My explorative and iterative research process, consisting of three main phases.



Publication 1: Peer reviewed conference paper

Almqvist, F. (2017). The fuzzy front-end and the forgotten back-end: User involvement in later development phases. *The Design Journal, 20*(Suppl. 1), 2524–2533. https://doi.org/10.1080/14606925.2017.1352765

This paper forms the contextual framework for this thesis by claiming that there is a need for further exploration of the later phases of service development processes. In contrast to the earlier development phases, the later phases have so far received limited focus in academia as well as in service design practice. The publication draws on a set of interviews and observations. I introduce the concept of *user insight drift* by arguing that during any project with user involvement, there is a chance for drifting away from the initially identified user needs.

The paper identifies various areas relating to the later phases that are relevant for further research (research question 2), and one of these in particular influenced my further work. I identified the *service design handover* as a significant element within the later phases.

Publication 2: Peer reviewed conference paper

Almqvist, F. (2018). Service design in the later project phases: Exploring the service design handover and introducing a service design roadmap. In A. Meroni, A. M. O. Medina & B. Villari (Eds.), *ServDes2018: Service Design Proof of Concept: Proceedings of the ServDes.2018 Conference* (pp. 666–678). Milan, Italy: Linköping University Electronic Press. Retrieved from http://www.ep.liu.se/ecp/150/056/ecp18150056.pdf

The focus of this paper is on the service design handover (research question 3). Drawing on interviews and observations, the publication describes how service design handovers are developed and received in practice. The paper discusses a gap in service design research, namely how those receiving service design handovers can make better use of the material in their further process. I introduce the concept of *service design roadmapping* and suggest that aspects of roadmapping from other fields (e.g., Phaal, Farrukh, & Probert, 2004) might be relevant for service design, specifically in relation to the handover and the later phases (research question 4).

Publication 3: Book chapter

Almqvist, F. (2018). Service design during the later development phases: Introducing a service design roadmapping approach. In M. A. Pfannstiel & C. Rasche (Eds.), *Service design and service thinking in healthcare and hospital management* (Vol. 1, pp. 69–84). Berlin: Springer.

This book chapter draws on the same interviews and observations as the second publication and focuses upon service design handovers (research question 3). However, it examines one specific service design handover genre; the plans for implementation. The publication discusses the paradox that while my interview respondents agree on the importance of planning ahead in projects, very few service design consultancies have approaches for developing plans for implementation, and such plans are rarely a handover deliverable in service design processes. Moreover, the publication juxtaposes the respondents' description of plans for implementation (in relation to process, content, and format) to an account of the key components and features of technology roadmapping. The paper reflects upon the similarities and differences between the two. Drawing on these observations, some initial prerequisites for a roadmapping approach for service design are suggested (research question 4).

Publication 4: Journal article

Almqvist, F. (2019). *Exploring the later phases of service development: A study of handovers and roadmapping in service design projects within Norwegian public healthcare*. Manuscript submitted for publication.

The final article presents an overview of the research leading up to the development and specifications of service design roadmapping. It describes and analyzes the three research phases of the thesis: (a) the initial interview study and observations, which resulted in the first publication; (b) the second interview study and observations, which resulted in the second and third publications; and (c) the explorative design investigations of a service design roadmapping approach (research question 5).

The two rounds of design investigations were conducted with service design MA students. Experiences from the students' roadmapping processes are discussed and some of their roadmaps are assessed. The publication presents a set of practical guidelines for service design roadmapping and discusses some identified benefits and limitations of the approach.

1.5 Contributions

This thesis offers four contributions, each of which relates to one or more of the research questions.

First, I identify the later phases of service development as an important area in need of more research. This broad observation has influenced the development of the three following contributions.

Second, I identify and exemplify the phenomenon I term user insight drift. This phenomenon can be challenging for service designers and their clients, particularly in the later phases of service development processes (research question 2).

Third, I offer a deeper understanding of the service design handover, a significant part of the later phases (research questions 2 and 3).

Fourth, I elaborate upon service design roadmapping, a practical approach that has potential to support service design consultants and their clients before and during the later phases (research questions 1, 4, and 5). As a part of this contribution, I have developed practical guidelines for how to apply the service design roadmapping approach. These guidelines are included in Appendix IV.

1.6 Structure of the thesis

This introductory chapter is followed by five chapters, the four included publications, and the appendices.

Chapter two

This chapter introduces the main background themes for this thesis. The first theme is Norwegian public and healthcare service development, and the second is some fundamental aspects of service design. The chapter frames these themes in a critical discourse with the reviewed literature.

Chapter three

This chapter positions this study within an explorative research through design tradition and provides details about the employed research methods, including literature reviews, interviews, observations, and design investigations. It also describes the ethical considerations, benefits, and limitations of the study, and the question of validity and generalizability.

Chapter four

This chapter summarizes and elaborates upon the research findings related to the following research areas: the forgotten back-end, the service design handover, and service design roadmapping. In addition to drawing on the publications, this chapter also includes material from interviews and observations that has not been previously presented in any of the publications.

Chapter five

This chapter describes the main contributions of this thesis and discusses the implications of these contributions for service design practice and research.

Chapter six

Summarizes the contributions, suggests opportunities for future research, and concludes on the research.

Publications 1–4

Copies are provided of all the included publications.

Appendices

This section contains a list of publications that are not included in the thesis, the interview guides, and a printed copy of the service design roadmapping guidelines that were developed as part of this research.

Chapter 2
Background

The starting point for the study was this overarching research question: *How might service design methods better support the development of Norwegian public and healthcare services?* This chapter describes the main areas that formed the background for the initial research explorations, serving as a backdrop for the arguments presented and discussed in Chapters 4 and 5. The areas are Norwegian public and healthcare service development, service design, and three aspects of service design—the process, the methods, and co-design.

Due to the nature of the explorative approach used in my work, the literature in this chapter provides the background to the initial research phase. The theoretical background for the research phases that followed is presented in Chapter 4 in order to build a clearer narrative when discussing the research findings.

2.1 Norwegian public and healthcare service development

There is a move toward reforming service delivery in the public and healthcare sectors to become more human-centered as a response to the challenging demands being made upon these sectors (WHO, 2016). These challenges include an increase in the number of people living with

chronic deceases and multiple diagnoses and an ageing population, while at the same time the healthcare system is expected to deliver more with fewer resources (OECD, 2017).

Human-centered, people-centered, citizen-centered, and user-centered are overlapping terms describing an approach in which people are observed in their community, the perspectives from the relevant actors are considered, and these insights lead to improved or new services based on people's needs (Meroni & Sangiorgi, 2011, p. 38). Design researchers have argued soundly for the move from user-centricity to human-centricity, arguing that a human-centered approach "looks beyond a limited definition of 'use' requirements to include the whole range of human experience all its facets and scales" (Meroni & Sangiorgi, 2011, p. 38). In comparison, scholars within healthcare have argued for people-centricity, rather than person- or patient-centricity, since this broader term encompasses the people within their community, not just their role as patients (Tsekleves & Cooper, 2017; WHO, 2016).

In agreement with these arguments and in acknowledgment of the nuances of the different terms, this thesis draws on the overlapping bodies of literature and uses the term *human-centered*.

2.1.1 From human-centricity to user involvement

In Norway, regulations and legislation clearly emphasize human-centricity as central in public and healthcare service development processes (Ministry of Health and Care Services, 2013, 2014, 2015; Sundby & Hansen, 2017). The Norwegian Ministry of Health and Care Services has stated that user involvement can lead to the development of more relevant service offerings (Ministry of Health and Care Services, 2014, p. 32). A Norwegian white paper from 1997 exemplifies that involving users in service development processes has been considered essential for decades:

> We emphasize that user participation is something more than a democratic right. User participation is a quality assurance when developing services and a means to transfer experience-based knowledge to decision makers and service providers. This can either be from individual users or from organizations.[4] (Ministry of Labour and Social Affairs, 1997)

The Norwegian public and healthcare sectors have gradually established structures for securing user involvement as a part of service development (e.g., Oslo University Hospital, 2020). It is mandatory that municipalities in Norway consider patients' needs when developing new healthcare services; in specialist care, similar measures have been taken to ensure user involvement (Ringard, Sagan, Saunes, & Lindahl, 2013, p. 46).

While human-centricity and involvement are becoming more embedded in the framework for service development in these sectors, scholars describe a gap between how it is described in theory and how it is translated into practice (Engström, 2014, p. 2; Fudge, Wolfe, & McKevitt, 2008; Morrison & Dearden, 2013, p. 179). In cases where the involved participants are unable to influence the final outcome, there is a risk for *tokenistic* user involvement (Morrison & Dearden, 2013, p. 179), in which users' voices are heard, but they do not have an actual say in the process and their opinions do not lead to changes (Arnstein, 1969, p. 217). There is also concern that the *act* of involving users sometimes overshadows the focus on improving services based on user involvement, meaning that user involvement might be reduced to a "tick-box exercise" (Mclaughlin, 2009, p. 1107).

2.1.2 Service design in the public and healthcare sectors

There is an increasing interest in co-design and service design in the public and healthcare sectors (Pirinen, 2016). In Norway, these sectors have adopted collaborative, human-centered toolkits for service development that draw on service design (DOT, 2015; Norwegian Association of Local and Regional Authorities, 2015). The public and healthcare sectors have also become a common context for service

[4] The quotation was translated from Norwegian to English by the author.

design agencies on a global scale (Mager, 2016, p. 13; Sangiorgi, Prendiville, Jung, & Yu, 2015, p. 36) as well as in Norway (DOT, 2015; Sanner, 2017; Sundby & Hansen, 2017). According to Kirsikka Vaajakallio and her colleagues (as cited in Wetter-Edman, 2014, p. 93), this growing interest in design relates to the focus on human-centricity.

2.2 Service design

The concept of service design as an academic field and discipline originated in the early 1990s (Mager, 2007, p. 354).[5] The rising interest for service design among designers has been explained as a consequence of the increasing importance of the service sectors in many developed economies (Meroni & Sangiorgi, 2011, p. 9). During the last decades of the previous century, there was a dramatic shift from manufacturing products to providing information and services (Mager, 2009, p. 28). Service sectors now represent approximately 65% of the global gross domestic product (World Bank, 2019). Many of the early contributions to the service design field occurred in Italy and Germany (e.g., Erlhoff, Mager, & Manzini, 1997; Pacenti & Sangiorgi, 2010), specifically at Politecnico di Milano and the Köln International School of Design. New research environments gradually emerged in Sweden, Norway, the UK, and the US (Segelström, 2013). Since its introduction, service design has become a recognized discipline that no longer has to argue for its own existence. In 2020, the seventh ServDes conference will be held, a conference focusing purely on service design research.[6] The number of service design agencies and design agencies offering service design is still increasing, as is the number of schools that offer introductory seminars or BA or MA educational options in service design.

[5] Since the emergence of service design has been thoroughly covered by other scholars (e.g., Secomandi, 2012, p. 13; Segelström, 2013, p. 21–28; Vink, 2019, p. 20–30; Wetter Edman, 2011, pp. 59–70), the development of the field will not be presented in detail.

[6] See https://www.servdes2020.org/ for more information about the ServDes conference.

There is no consensus around an absolute definition of service design. As humorously stated by Marc Stickdorn, "If you would ask ten people what service design is, you would end up with eleven different answers—at least" (2011, p. 29). Some underlying reasons for this can be that service design is still an emerging, interdisciplinary field. Despite there being disagreements over the definition of service design, there are some core characteristics that are central to most definitions.

Service design is human-centered and holds a holistic view of users (Kimbell, 2009, p. 157; Manzini, 2011; Stickdorn & Schneider, 2011, p. 31ff), while also considering the complexity of the actors who are related to the service (Sleeswijk Visser, 2013). Meaning that service designers focus upon the end-users, but also upon stakeholders in the client organization (Segelström, 2013, p. 52). In order to design for service experiences that happen across several touchpoints and over time (Clatworthy, 2011), service designers systematically use methods and tools in iterative, co-design processes that lead to new or improved services (Holmlid, 2009; Holmlid & Evenson, 2008; Meittinen & Koivisto, 2009; Segelström, 2013, p. 27).

From the core characteristics of service design described above, the following aspects are highlighted in my work: the iterative service development *processes*, the *methods* that service designers use, and *co-design*, namely designers' involvement and collaboration with people not trained in design. Before looking more into these facets, I give a brief introduction to the three contexts in which service design has been conceptualized and the theoretical perspective of *design for service*.

2.2.1 Three conceptualizations of service design

According to Eun Yu (2016), the theoretical understandings of service design have developed mainly within three contexts (as cited in Yu & Sangiorgi, 2018, p. 40). Within *new service development*, or NSD (e.g., Edvardsson & Olsson, 1996), service design is an underlying component. Within *service innovation*, service design has been regarded as a set of activities (Yu, 2016). Within the design communities, however,

service design is considered a holistic approach to service development (Yu, 2016).

My work focuses upon service development from the perspective of service design practices and processes as conducted by service design consultants. Although the research might have implications for the areas of NSD and service innovation, they have not been my focus.

2.2.2 Design for service and service dominant logic

Design for service is a recent, significant theoretical contribution to service design research. Design for service proposes that since services depend on multiple conditions that are impossible to control, services cannot be designed (Kimbell, 2011, p. 45; Meroni & Sangiorgi, 2011, p. 10). Rather, the conditions for the ongoing delivery of service can be designed: "what is being designed is not an end result, but rather a platform for action with which diverse actors will engage over time" (Kimbell, 2011, p. 45). While service design is seen as the discipline, design for service is first and foremost a model of thought, an approach to service design (Meroni & Sangiorgi, 2011, p. 10).

Design for service draws on *service-dominant logic*, a perspective that emerged within marketing in the early 2000s (Vargo & Lusch, 2004, 2008). In brief, service-dominant logic considers services to be fundamental to economic exchange, rather than tangible goods (Vargo & Lusch, 2004). Service-dominant logic introduces a significant shift in the perception of users. Rather than perceiving value as something embedded solely within products, service-dominant logic suggests that value is defined by and co-created with the users (Vargo & Lusch, 2004, p. 6). This perspective transforms users from passive consumers to active value co-creators (Wetter-Edman, 2014, p. 40). In line with design for service, service-dominant logic suggests that services cannot be designed (Kimbell, 2011; Vargo & Lusch, 2004).

In my research, I focus on co-design (see Section 2.2.5) and service development, rather than co-creation and service delivery. This means that it is foremost the aspects of design for service that concern *development* that have implications for my work. The assumption that it is not possible to design a final service (Kimbell, 2011, p. 45) influences the understanding of what service designers actually can develop during a process. This has important implications for the outcomes of the design process and the content and form of the material that the service designers' hand over to their clients.

The following sections give an overview of the process, methods, and co-design in service design in order to position the discussions in Chapter 4 and 5 in a theoretical context.

2.2.3 The service design process

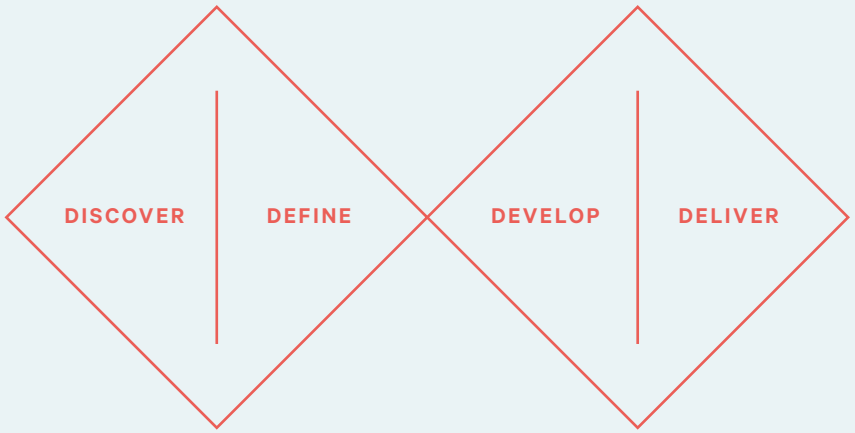
The design process and ways to describe it have been studied for over 50 years (Tzortzopoulos, Cooper, Chan, & Kagioglou, 2006). Many models draw on the British Design Councils' *double diamond design process* (2015a), as visualized in Figure 2.1. According to the British Design Council, the double diamond design process draws on many models containing aspects of convergence and divergence, proposed by several researchers from the 1960s to the 2000s (Ball, 2019). The British Design Council emphasizes the contributions of Herbert Simon, Bela Banathy, Thomas Marcus, Thomas W. Maver, Barry Boehm, Paul Souza, and Nigel Cross. Except for Simon's work, all the design process models can be found in the compendium by Hugh Dubberly (2004). The most apparent visual similarity to the double diamond design process can perhaps be found in the model by Bela Banathy (1996, p. 75). Although there is an agreement that the design process is iterative (Lawson, 1980/2001, pp. 31–38; Swann, 2002, p. 53), the process is often visualized as linear, aiming for understandability (Vink, 2019), as exemplified in Figure 2.1.

Due to their generic character, design process models have been applied to a broad range of design fields, such as product design, interaction design, and service design. Considering that the generic design models are used in service design, I use these as a starting point for looking at the service design process. There are variations between the process models used in service design, such as the number of

phases and what the phases are called. However, there seems to be a general consensus regarding the content of such models (cf. Meittinen & Koivisto, 2009, p. 13ff).

In the double diamond design process model, the earlier phases can be described as the *discover* phase and the *define* phase. These phases are often referred to as the *fuzzy front-end* (eg. Koen et al., 2002). *Discover* contains the insight work to understand the context and the current situation. *Define* includes the identification of what might be designed (Sanders & Stappers, 2013, p. 22) and the development of ideas, suggestions, and a *service concept* (see Goldstein, Johnston, Duffy, & Rao, 2002). The fuzzy front-end and the earlier phases have been thoroughly studied due to their important characteristics (see Publication 1).

Figure 2.1
The double diamond design process (Design Council, 2015). Visualization by author.

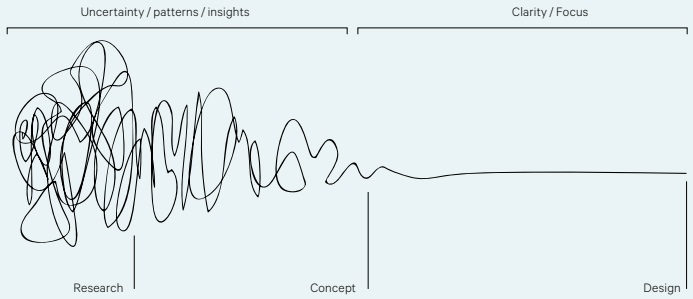


The two later phases of the double diamond are *develop* and *deliver*. *Develop* includes further idea generation, and testing of the developed concept through prototypes of the service (see Blomkvist, 2014). *Deliver* covers the final adjustments and testing of the concept, and can include piloting of the service concept (Design Council, 2015a). While the model describes the process in strictly separate phases, many activities are intertwined and run across phases in an iterative manner (Design Council, 2015b).

As a part of their argument for the importance of the earlier phases, Peter Koen and his colleagues claim that the fuzzy front-end has been represented in a too simplified manner in theoretical models (2002, p. 7). I have found that the same can be said of the later phases. In theoretical representations of the design process, the back-end is typically represented as a rather straightforward and narrow phase.

In the double diamond design process, the descriptions of the deliver phase (cf. Design Council, 2015a) do not clearly define when this phase ends in terms of what the final output of a service design process ought to be--a tested service concept, a piloted service, or an implemented service. Seen in light of my interest in the transition from a service concept to an implemented service, sometimes referred to as the back-end stages (Tatikonda & Zeithaml, 2002, p. 206), I find the deliver phase as a too narrow representation of the later phases. As seen in Illustration 2 in Figure 2.2, IDEO's Human-centered design process model includes implementation as a final process phase. But, in line with Newman's design squiggle seen in Illustration 1 (Figure 2.2), the final phase in IDEO's model is depicted as less complicated and more straight-forward than the previous phases. In Stanford d.school's design thinking process model the final phase is testing, meaning that the later phases are more or less absent in this representation. Meanwhile, my research shows that the later phases is in fact more complex and iterative (see Chapter 4).

As previously mentioned, NSD is one of the contexts where a conceptualization of service design has emerged (see Yu, 2016). The field of NSD has been criticized for reducing design to merely being a contributing factor in the earlier phases, through



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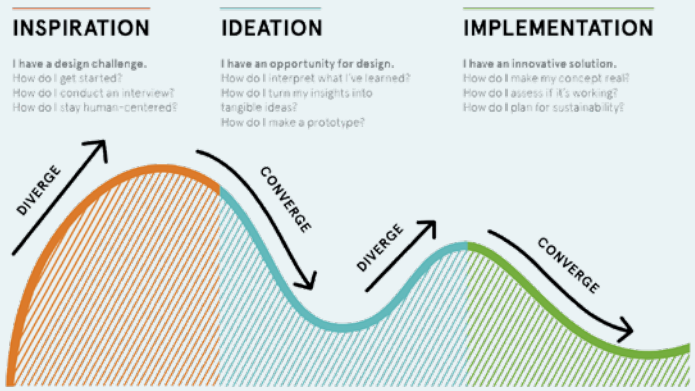

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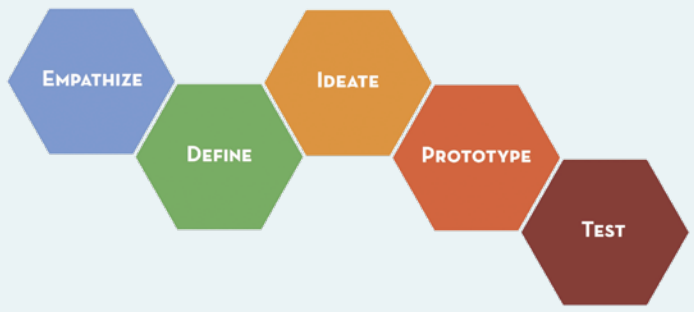

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Figure 2.2
Three theoretical models representing the design process. Illustration 1 shows the *process of design squiggle* by Damien Newman (2010). Illustration 2 shows IDEO's *human-centered design process* (n.d.). Illustration 3 shows Stanford d.school's *design thinking process* (n.d.). The Stanford d.school used this process model up until five years ago as part of their introduction to the design process. Since then, their pedagogy has evolved from this process model toward focusing on teaching design abilities.

idea and concept development, and for not considering design as relevant in the later stages of realization and implementation (Holmlid, Wetter-Edman, & Edvardsson, 2017, p. 95; Johnson, Menor, Roth, & Chase, 2000, p. 5).

In this work, I suggest that the simplified representation of the later phases in theoretical models (see Figure 2.1 and 2.2) contributes to a narrower perception of when service design is relevant during a service development process. In other words, since the later phases are typically represented in a simplified and too straightforward manner, the popular design process models might in fact enhance the view found in NSD that service design is most relevant in the earlier phases, and less relevant in the later.

In service design practice this can be critical, since the design process that you choose to follow will to some degree impact the design outcomes and deliverables of your project (Stickdorn & Schneider, 2011, p. 126). Due to the way the later phases are represented in the popular theoretical models, service designers who draw on these models might end up emphasizing the earlier process phases and use less time on the later. Moreover, such models might also mislead clients into thinking that service design does not have much to offer in the later phases.

The indication of an imbalance between the focus on earlier versus later phases, as found in the mentioned theoretical models, is confirmed in my research. I found that the later phases have not received as much attention as the earlier phases, either in service design research or in practice (see Chapter 4).

2.2.4 Service design methods

Design methodology emerged as a field of inquiry in the 1960s (Rittel, 1984). The *design methods movement* that evolved at the time focused on describing the design process and its methods in a systematic and teachable way, much informed by management theory and computer techniques (Cross, 2007, p. 1). This first generation[7] of design methods was later

[7] See Horst W. J. Rittel for more about the different generations of methods (1984).

rejected by some of its founders, who argued that the design process and its methods were being forced into a logical, machine-like framework that did not fit the *wicked problems*[8] and complexity of real life (Cross, 2007, p. 1). The second generation of design methods that started to emerge during the 1970s attempted to move away from the scientific view of design and the omnipotent designer (Rittel, 1984) toward participatory processes where the problem owners are actively involved (Bayazit, 2004, p. 21).

Service design is clearly linked to the second generation of design methods, being both human-centered and co-creative.

As pointed out by some scholars, service design research has focused mostly or, according to some, even too much upon contributing to the development or refinement of methods and tools (Sangiorgi, 2009, p. 418; Vink, 2019). Meanwhile, most of the service design methods support the earlier phases of the design process, while only a few support the later phases (cf. Bækkelie, 2016; Martins, 2016). While acknowledging that there has been perhaps too great a focus on developing service design methods for the earlier phases, my work offers an approach to support service designers' and their clients' in the later phases, an area that has received limited attention in service design research (cf. Raun, 2017, p. 80).

In this thesis, the focus lies on service design methods for co-design that might support the later phases of service development processes.

2.2.5 Co-design in service design

Co-design, co-creation, and participatory design are overlapping concepts that tend to be used synonymously (Mattelmäki & Visser, 2011). According to Elizabeth Sanders and Pieter Stappers (2008, p. 7), co-design and co-creation lie within the area of participatory design, an area that emerged in Europe during the 1970s. While co-design specifically refers to collaborative design development processes,

[8] Problems that due to their complexity have no single solution (Rittel & Webber, 1973).

co-creation refers to any collaborative creative activity (Sanders & Stappers, 2008, p. 6).

Co-production, a form of co-creation that describes the collaboration between end-users and front-line staff in the actual *delivery* of a service (Cottam & Leadbeater, 2004), lies outside the scope of this thesis.

Though the sources I draw upon use various terms, this thesis uses the term *co-design*. Relying upon the definition by Sanders and Stappers (2008, p. 6), co-design is here understood as creative processes in which designers and people not trained in design work together in design development processes.

The underlying aim of co-design processes can be described as twofold with both pragmatic and moral intentions (cf. Carroll & Rosson, 2007, p. 243). I here use a definition of *participatory design* by John Carroll and Mary Rosson to describe the aim of co-design. For, as Tuuli Mattelmäki and Froukje Sleeswijk Visser (2011) have argued, co-design draws on the same fundament as participatory design.

The *pragmatic* intention is about making sure that the solutions are based upon, and meet the needs of, the involved end-users and other stakeholders (Carroll & Rosson, 2007; Schuler & Namioka, 1993). The *moral* intention suggests that end-users and others who are directly affected by the proposed changes have a right to be involved in the development processes and to have a substantial say in how the final outcomes turn out (Carroll & Rosson, 2007).

These intentions underlie why human-centricity and involvement is emphasized in Norwegian regulations and legislation for the public and healthcare.

At the initial stage of my work, my focus was on co-design and end-users in service development processes and included both the pragmatic and moral intentions of involving end-users in co-design. As my research progressed, I started focusing upon the forgotten back-end of service development. My emphasis upon end-users was gradually replaced by a focus on the development team and stakeholders involved in

implementing a service concept. This shift in focus reduced my emphasis on the moral intentions of actively involving end-users in the process (see Carroll & Rosson, 2007) and I instead became more interested in the pragmatic aspects of implementation. However, the moral aspect remained a part of my research by feeding into the argument for why it is relevant to explore and develop support for the later phases of service development processes. This was through the assumption that the underlying intention of every action by the stakeholders involved in these phases ought to be that the final solution is still based upon and meets user needs. Since I found that few methods support service designers during the later phases and that development teams can find the final handover from service designers challenging to use, I decided to focus on exploring and developing support for the transition from the earlier phases, throughout the development process.

There is still a lot to be explored in terms of the moral and pragmatic intentions of co-design in the later phases, which are issues I wish to pursue in further research.

2.3 Summary

Existing research identifies a strong movement toward using service design for developing human-centered services in the public and healthcare sectors.

My initial research indicated a lack of knowledge in service design research about the later development phases. The manner in which service design deals with these phases is likely to influence the relevance of the field for the public and healthcare sectors.

In this thesis, I explore the later phases and the transition from service concept to implemented service, from a service design perspective. Since the later phases of service development is a wide area that has not yet been thoroughly studied by service design research, I chose an explorative approach to obtain an overview of the area before deciding where to intervene.

At the time, I was not alone in identifying this gap. What was rather unexplored a few years ago has now become a more acknowledged topic in the service design discourse (e.g., Overkamp, 2019; Raun, 2017).

Chapter 3

Research approach and methods

This chapter first describes the research approach, then the research methods and the process of data analysis. Ethical considerations are discussed and some contextual benefits and limitations are highlighted. Lastly, the research findings are positioned in terms of validity and generalizability.

3.1 Research approach

The overarching aim of my study has been to gain a deeper understanding of service design processes and practices and to develop suggestions for how to improve them. In other words, it has been a study of *service design praxiology*.

In the initial phases of my research, I identified the later phases of service development as an important, yet almost forgotten area in service design practice and research. My practical experiences from service design were fundamental in identifying this area as a significant point of departure for my study. Looking into this relatively uncharted area of service design practice and research, I applied an expansive mode of research through design.

Since the later phases were relatively unexplored, I had no way of knowing in advance which aspects of these phases might be most significant to study. Hence, I started with a broader research question that gradually evolved into

consecutive sub-questions as the explorative research study developed. By using research through design, I made sure that the direction of my research was always rooted in service design practice and that I was focusing upon topics of interest not only for service design research, but also for service design practice.

3.1.1 Service design praxiology and four areas of interest

The main object of this research is the processes and practices of service design; in other words, this work is a study of service design praxiology (cf. Cross, 1999, p. 6). Design praxiology is one of the three main categories into which Nigel Cross (1999) classifies design research: *design epistemology*, the study of designerly ways of knowing; *design praxiology*, the study of design processes and the development of methods that might aid the designer; and *design phenomenology*, the study of the configuration and form of designed artifacts. While Cross' classification of design research was developed within an industrial design and product design tradition, the three categories are on an overarching level. Because of this, I find the categories relevant for and applicable to service design research.

Within service design praxiology, four areas were consecutively explored during the study. These areas emerged through an explorative process in consequence of each other. In other words, the areas were not defined at the beginning of the research. Rather, one area has led to another. The exploration of each area resulted in a broad set of research findings; based on the analysis of these, the research process moved forward to explore a new area.

The first area relates to human-centricity with regards to how user involvement and co-design is conducted in service design practice and the role of user insights throughout the process. When exploring this first area, I found that the later phases of service development have so far not received much attention.

The second area narrows in on the later phases of service development and identifies the service design handover to be important in relation to these phases.

The third area deals with the service design handover from service designers to their clients. When studying this area, planning and plans for implementation are identified as relevant for further explorations.

The fourth area focuses upon plans for implementation and the transition from a service concept into an implemented service. This area of study explores how roadmapping, a visual strategic planning process that has been established in other disciplines (Phaal & Muller, 2009), might contribute to improved service design processes and practices. See Chapter 4 for a description of the main research findings.

Given my focus on service design praxiology and my aim to contribute to service design practice, I chose a research through design approach. Drawing on my service design skills, this approach placed me close to the object of interest, namely service design processes and practices. Participating as a service designer in service development processes, together with development teams, provided me with a deeper understanding of the context and how to contribute to it. Based on this understanding, which was infused with perspectives from qualitative interviews and from research, I was able to develop, prototype, test, and evaluate suggestions that might improve service design processes and practices.

3.1.2 An expansive mode of research through design

There are several typologies aiming to clarify and position design research.[9] One of the central discussions that has lasted for decades circles around the various typologies: research *into*, *about*, *for*, *through*, and *by* design (see Jonas, 2007, p. 191). These discussions evolved from the contributions of Christopher Frayling (1993) and Bruce Archer (1995). Many other scholars have later contributed, aiming to clarify similarities and differences between various modes of design research (e.g., Findeli, 1999; Friedman, 2002; Jonas, 2007; Sevaldson, 2010). While the purpose of discussing these

[9] For a detailed description of the development of design research, see pp. 32–34 in Wetter Edman's dissertation (2014).

typologies has been to clarify differences between modes of design research, some scholars argue that the prepositions have instead obscured the understanding of design research (Krogh, Markussen, & Bang, 2015).

In this thesis, I use the term *research through design*, which is here understood as the use of design practice as an approach for developing new knowledge (Sevaldson, 2010, p. 11). Ilpo Koskinen and his colleagues define research through design[10] as:

> design research in which construction—be it a product, system, space, or media—takes center place and becomes the key means in constructing knowledge. (2011, pp. 5–6)

Drawing on this description, a central feature of a research through design approach is for the design researcher to be involved in a design process as a means to generate knowledge. Because my research interest has been service design processes and practice, the main means of *constructing* knowledge (to use the same phrase as Koskinen et al.) has been the exploration, articulation, and design of suggestions for improving service design processes and practice.

In the initial stages of my research, I found that the later service development phases have received limited attention both from service design academia and in practice. From this starting point in a relatively uncharted area, I chose to use an expansive form of research through design (Krogh et al., 2015).

An expansive perspective means that my process resembles that of a geographer mapping an unknown territory, rather than one that follows a stricter, more linear path (Krogh et al., 2015). My ambition has been to uncover various qualities of the later service development phases through exploration and, by doing so, to contribute to new knowledge and to widen the perceptions of what service designers should consider and include in service design practice. The explorative nature of this approach leads to a broader understanding of several issues, rather than an in depth understanding of one topic.

[10] In their book, Koskinen et al. have chosen to call the approach *constructive design research* (2011).

The research through design approach I take is grounded in pragmatism and pragmatist inquiry, which are well suited because they are rooted in experience and focused on the practical consequences of research (Rylander, 2012, p. 36).

In my study, service design practice has been a driving force, both when identifying the starting point of my research and throughout the entire research process. The beginning point for my work was based upon the identification of a problematic situation in service design practice, namely the later phases of service development. Problematic situations like this is what the American pragmatist John Dewey would refer to as "indeterminate" situations (1938, p. 105). According to Dewey, a problematic or indeterminate situation is ambiguous, unsettled, and in some way difficult to handle (1938, p. 105). In order to achieve practical consequences, the aim of my inquiry has been to construct knowledge that might improve and transform this situation (the later phases) into a less problematic one and to support service designers in their practice (Goldkuhl, 2012a, p. 93).

In line with pragmatism, my work has not only been concerned with the present and *what is*, but has also emphasized what *might be* (Goldkuhl, 2012a, p. 86).

The choice of a pragmatic research through design approach was made after reviewing other approaches. Large parts of this work could have been carried out by combining a constructivist worldview with ethnography. According to Göran Goldkuhl, a constructivist worldview is an interpretive stance that aims to contribute with knowledge that can be appreciated as interesting. My interest in contributing to service design practice, however, is more related to the pragmatist stance, which aims to discover knowledge that is appreciated for being relevant in practice (Goldkuhl, 2012b, p. 144).

Ethnography can provide a deep understanding of the messiness and complexity of service design processes and practices (e.g., Law, 2004/2008, p. 18). While relevant for my study, ethnography has its limitations in terms of my focus on what service design processes and practices *might be*, since ethnography describes *what is* (Ingold, 2008, p. 88). In other words, this approach would not have provided me with an incentive for developing suggestions that might improve service design practice and processes.

I chose research through design and pragmatism as my research approaches because of my aim to contribute with suggestions for improving service design practice and processes that are grounded in practice and experience.

3.1.3 Moving between design practice and design studies

To further explain my research process, I draw upon the *interaction design research triangle* developed by Daniel Fallman (2008). Fallman's model was developed specifically for interaction design; however, due to its general content and character, it is a good explanatory model to position design research. The triangle consists of the three areas: design practice, design studies, and design exploration (see Figure 3.1).

Design practice is close to or identical with the processes that a designer would be involved in outside of academia, e.g., working for clients as a design consultant in a commercial organization or within an in-house design department (Fallman, 2008, p. 6).

The description of *design studies* draws on Cross's model of design epistemology, praxiology, and phenomenology (1999) and are described as the "study of how designers work, think, and carry out design activity, including the study of the methods and processes designers use" (Fallman, 2008, p. 9). According to Fallman (2008, p. 9), design studies try to understand and describe, instead of create and change. Moreover, design studies are seeking the general rather than the particular (Fallman, 2008, p. 9).

Figure 3.1
The basic elements of the interaction design research triangle (Fallman, 2008, p. 8). The arrow indicates the movement between design studies and design practice within the project. Figure altered by the author.

The aim of *design exploration* is to challenge accepted paradigms (Fallman, 2008, p. 9). The explorations can result in artifacts that themselves comment on a phenomenon or contribute to ongoing societal debates (Fallman, 2008, p. 8).

As seen in Figure 3.1, my work has looped back and forth between design practice and design studies, changing perspectives between the two. Starting with my professional experiences in design practice, I then moved into the area of design studies to validate or challenge indications, and later findings, from the area of design practice. I returned to design practice for further explorations. These shifts back and forth between the two continued throughout my research.

In the area of design practice, Fallman argues that the designer researcher should first and foremost be involved as a designer rather than an outside observer (2008, p. 6). In my work, I have been involved in the role of a practicing service designer, but also in the role of an outside observing researcher. My role has shifted from being an actively involved service designer to being more of an observing outsider depending on the nature of the research issues.

For example, when observing service development processes (see Section 3.2.4), I was interested to know more about how such processes are typically conducted in the Norwegian public and healthcare sectors. I therefore acted as an outside observer in several of these processes without making corrections or suggesting solutions that I believed would influence the direction of the process (cf. Patton, 2002, p. 327). I asked questions, for example, about the planned handover deliverables and activities, but did not suggest changes to be made. In other processes, I took an active role as a service designer as a part of design interventions.

The combination of different degrees of participation allowed me to gain a deeper understanding of the current situation and of relevant directions for improvements.

3.2 Research methods

The following sections describe the various research methods. Then there follows a section on modes of documentation.

3.2.1 Research timeline

The main methods for my research have been literature reviews, qualitative semi-structured interviews, participant observations, and design investigations. I have been involved in the observations and design investigations both as an active service designer and an observer. Figure 3.2 shows which methods have been used in each phase of my research and which phases the four publications have been informed by.

The first publication draws on a literature review, a first round of interviews, and observations. The second and third publications draw on literature reviews, two rounds of interviews, and observations. The fourth publication draws on all previously mentioned data in addition to data from two iterations of design investigations.

Figure 3.3 shows a timeline of when the different methods were used. Of the 13 service development processes I was involved in, I have chosen to present three in this thesis. The three processes are included in the timeline, and the background for each process is described later in this chapter.

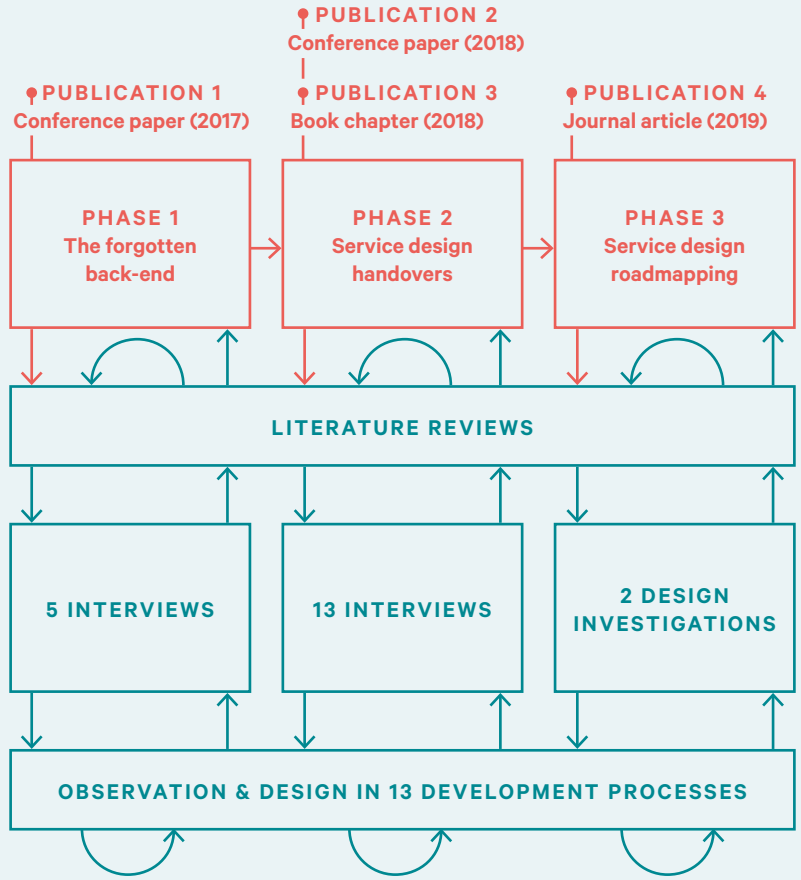


Figure 3.2
Model showing the research methods used in each of the three main phases of my research.

3.2.2 Literature reviews

Literature reviews were conducted throughout the project as a part of the framing, planning, and analyzing of each research phase. The three research phases (see Figure 3.2) led to insights that challenged, validated, and deepened the knowledge of concepts found in the literature. Chapter 2 draws mainly from the first and second literature review to describe the initial backdrop for the explorative research phases that followed. Chapter 4 describes the central aspects of the three latter literature reviews as the backdrop for each of the research phases and their findings.

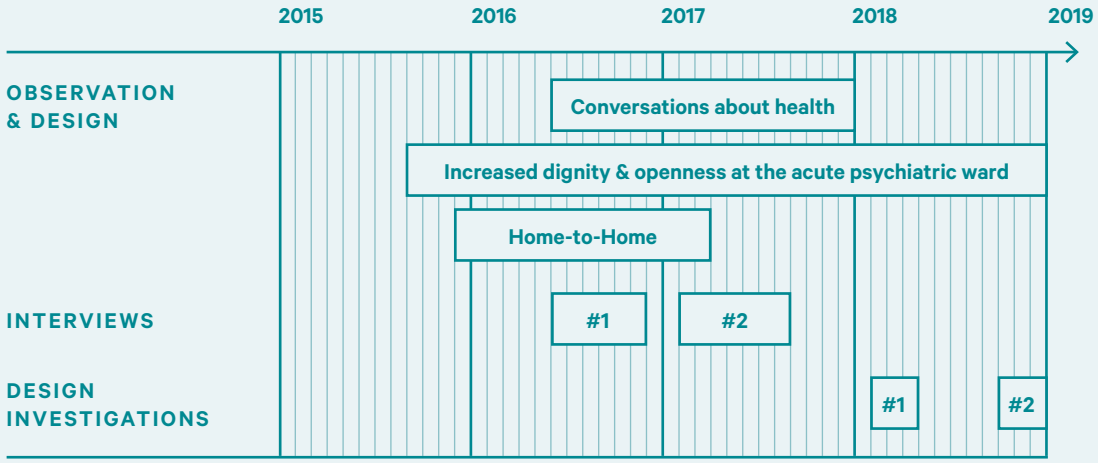


Figure 3.3
Timeline showing when observations, interviews, and design investigations were conducted. Interviews #1 and #2 refer to the two rounds of interviews and design investigation #1 and #2 refer to the two iterations.

The literature reviews explored the following topics:

— service development in the Norwegian public and healthcare sectors;
— the service design process and methods, specifically the later phases of service development;
— service design handovers and plans for implementation; and
— technology roadmapping and design roadmapping.

The initial review explored the larger context of my research, namely service development in the Norwegian public and healthcare sectors (see Chapter 2). The starting point for this review was a reading list provided by my supervisor. This list was supplemented by suggestions from stakeholders in C3 in addition to searches in research databases and design research journals. Some of the search queries used were: service design healthcare, service design public, user involvement healthcare, and user involvement healthcare service development.

The second review focused upon the service design process and its methods (see Chapters 2 and 4). The review gradually narrowed in on the later phases of service development.

The starting point for this review was also a reading list provided by my supervisor. When I decided to focus on the later phases, I added literature to the reading list based on suggestions from scholars in my professional network, who were also interested in the later phases of service development. The suggested literature was supplemented by literature from research databases, design research journals, blog posts, and websites. Some of the search queries included: design process, service design process, service design methods, service design later phases, service design methods later phases, and service design back-end.

The third review explored the service design handover and gradually focused on plans for implementation (see Chapter 4). This review used some of the central service design handbooks and literature (identified during the first review) as a starting point for gaining insight into what a handover is, and might be, in terms of process and methods. I also conducted searches in research databases and design research journals. Some examples of search queries were: handover, service design handover, service design deliverables, service design material, service design implementation, implementation plans, and service implementation plans.

The fourth review looked deeper into technology roadmapping and design roadmapping (see Chapter 4). For this review, I conducted searches in research databases and design research journals. Some of the search queries were: roadmap, roadmapping, technology roadmapping, service design roadmap, service design roadmapping, and design roadmapping.

Early on in this review, I identified Robert Phaal as one of the key researchers in the area of technology roadmapping (Arshed, Finch, & Bunduchi, 2012, p. 7). Phaal's work and the resources presented on his website *Cambridge Roadmapping* provided a solid starting point for the literature review (Phaal, 2019).

Figure 3.4
Overview of interview informants in Study A (June–Nov 2016) and Study B (Feb–Aug 2017).

3.2.3 Interviews

In order to develop a deeper understanding of service design processes and practices, I chose the qualitative semi-structured interview (Kvale, 1996) as one of the research methods. This method was chosen because it enables knowledge construction between the interviewee and the interviewer and lets the interviewee share perspectives and experiences that do not answer direct questions from the interview guide, but that relate to the issues of research (Kvale, 2007).

Two rounds of interviews with civil servants, service design researchers, and service design practitioners were conducted during the project period. Figure 3.4 shows an overview of the 5 informants from the first round of interviews and the 13 informants from the second round. Each informant was interviewed once, meaning that the interview data I refer to in my work concerns these 18 interviews.

The informants were recruited using snowball sampling (Crouse & Lowe, 2018). I recruited the first informants through my professional network and during some of the DOT, C3, and AHO related activities. The other informants were selected mainly through snowball sampling; in other words, I asked each informant to suggest other people they considered relevant for me to interview. Through this approach, several relevant interview respondents were identified.

Considering that I wanted variation in the data material, one disadvantage of using snowball sampling could have been that the informants did not necessarily cover a representative selection of opinions and experiences. In response to this, I tried to choose respondents with different experiences and areas of responsibility from as many different organizations and design agencies as possible. Moreover, I mainly chose to interview respondents who were not involved in the processes

ID	Study	Informant occupation	Experience
1	A	Junior service design consultant	Some healthcare service development experience
2	A	Freelance junior service designer	Some public sector service development experience
3	A	Senior service design consultant	Considerable healthcare service development experience
4	A	PhD fellow in service design	Considerable healthcare service development experience
5	A	Senior service design researcher	Substantial private and public sector service development experience
6	B	Senior freelance consultant, without service design background	Receiver of service design handovers
7	B	Senior management consultant, without service design background	Receiver of service design handovers and has collaborated with service designers in projects
8	B	Civil servant and service designer, working with service design in public services at a strategic level	Receiver of service design handover and developer of guidelines for service design handovers in public service development
9	B	Senior service design consultant, with previous experience from working as a civil servant	Producer and receiver of service design handovers
10	B	Civil servant, working with healthcare services	Receiver of service design handovers
11	B	Healthcare employee, working at a hospital	Receiver of service design handovers
12	B	Senior service design consultant	Producer of service design handovers
13	B	Senior service design consultant	Producer of service design handovers
14	B	Senior service designer, working at a hospital	Producer and receiver of service design handovers
15	B	Civil servant, working with service design in public services at a strategic level	Receiver of service design handovers and developer of guidelines for service design handovers in public service development
16	B	Civil servant and service designer, working with service design in public services at a strategic level	Receiver of service design handovers and developer of guidelines for service design handovers in public service development
17	B	Senior service design consultant	Producer of service design handovers
18	B	Civil servant, working with healthcare services	Receiver of service design handovers

I observed. Only two of the interview informants participated in the service development processes that I observed.

The three main criteria for selecting informants in the first round of interviews were that (a) they all had a service design background; (b) they all had experience from the public or healthcare sectors; and (c) both practicing service designers and service design researchers were represented among the informants.

The two main criteria when recruiting informants for the second round of interviews were that (a) they all had experience from the public or healthcare sectors; and (b) both informants with experience of *producing* service design handovers and informants with experience of *receiving* handovers were represented.

Desiring a diversity of perspectives and opinions, I recruited informants that represented different agencies and organizations. The service design consultants represent four of the leading service design agencies in Norway. The healthcare professionals represent two of the larger Norwegian hospitals. The civil servants represent various departments of the Norwegian government, directorates, and public organizations. The service design researchers represent two Scandinavian research institutions.

All interviewees received and signed a consent form before the interviews were conducted. The Norwegian Centre for Research Data has approved of the study. Read more about ethical considerations in Section 3.4.

For the first round of interviews, I had three main themes in mind when conducting and transcribing the interviews and when reading through the transcripts: (a) In which phases are service designers most influential today? (b) What is challenging about the later phases? (c) Are there examples of user insight drift?

During the second round of interviews, I had four main themes in mind: (a) In which phases are service design consultants involved during service development? (b) What is a service design handover? (c) How are service design handovers produced, received, and used? (d) Are there examples of user insight drift?

While in a slightly different form, the main themes are the same as the central questions included in the interview guides (see Appendices II and III).

The first round of interviews is described in Publication 1 and informed the three publications that followed, while the second round is described in Publications 2, 3, and 4.

Due to the rich nature of the interview data, different aspects of the interview results from the second round of interviews were presented in the three later publications. The second publication uses the interview results to describe perspectives about what the service design handover is, and what it could be, from the point of view of the service designers and their clients. The third publication shares the interview results related to planning and plans for implementation. The fourth publication discusses the interview results that pinpoint some context specific traits related to service design for public and healthcare service development.

The first round of semi-structured interviews lasted between 30 and 120 minutes and was conducted from June to November 2016. The second round lasted between 20 to 90 minutes and was conducted from February to August 2017. Open-ended, semi-structured interview guides were used in both interview studies (see Appendices II and III). The interview guides were adjusted after the initial interviews in order to follow up on emerging themes and issues. In both rounds of interviews, the respondents were asked to share experiences from and critically assess projects they had been or were currently involved in.

All interviews were audio-recorded,[11] and later transcribed verbatim by the author. Most of the interview quotations used in this thesis are translated into English by the author, since most interviews were conducted in Norwegian.

[11] An Olympus WS-853 digital voice recorder was used to audio-record the interviews.

In most cases, notes were made during the interviews. These notes captured the main topics of the interview as well as other aspects of the conversations, such as facial expressions. The notes were taken into account when analyzing the interviews. The process of analyzing the interviews is described in Section 3.3.1.

Informal conversations

In addition to the semi-structured interviews, I had informal conversations with informants in the projects I observed, with service designers and non-designers in my professional network, and with students and colleagues at AHO throughout the PhD project. These conversations were casual, friendly conversations, in which the informants were not at all times aware that I was collecting data (Spradley, 1979, p. 58). Most of these conversations were off the record, meaning that they were not audio-recorded and that no notes were taken during the conversation. This was a deliberate choice to "keep writing from intruding and affecting these relationships" (Emerson, Fretz, & Shaw, 2011, p. 23) to avoid distancing myself from the ongoing experience, and to avoid contributing to feelings of betrayal among the informants who shared their personal views and experiences. The essence of each conversation was described in a research diary (see Section 3.2.6) as soon as possible after the talk.

These conversations contributed to the recruitment of informants to the semi-structured interviews. The informal conversations also helped to contradict or validate findings from my research (see Section 3.6.1).

One example of how the informal conversations contributed can be found in my discussions with employees at the *Norwegian Agency for Public Management and eGovernment* (Difi)[12] and *Design and Architecture Norway* (DogA) about the initiative *StimuLab*.[13] StimuLab aims to stimulate the public sector to use service design and other innovative methods to develop citizen-oriented services and systems in Norway. Our meetings helped to validate my findings regarding the later phases and the service design handover. Moreover, their interest in integrating service design roadmapping as a part of their framework at StimuLab indicated the relevance of this approach for service design in the public sector.

[12] Called Norwegian Digitalisation Agency since January 1st 2020

[13] Read more about StimuLab at https://www.digdir.no/innovasjon/stimulab/786

3.2.4 Observations

Another method I used to ensure a deeper understanding of the contextual conditions of service development in the public and healthcare sectors was observation (Hammersley & Atkinson, 1983/1993). During the observations I shifted between different degrees of involvement: passive participation, moderate participation, active participation, and complete participation (see Spradley, 1980, p. 58ff).

Being a service designer put me in the position of studying a group of which I was already a member. Complete participation can be described as a researcher fully acts as a member of the group that she aims to study (Hammersley & Atkinson, 1983/1993, p. 94). One challenging aspect of complete participation relates to bias. When the researcher identifies with the group she is studying, there is a danger that the researcher fails to question certain perspectives due to bias (Hammersley & Atkinson, 1983/1993).

Aiming to circumvent this potential bias, I chose to also study the perspectives of non-service designers in service development processes with and without involved service designers. The non-service designers' perspectives on service development processes and their experiences and perceptions of service design added a constructive variation to the data material. This variation contributed to a deeper understanding of service design processes and practices.

Another challenging aspect of complete participation relates to studying a field that is well known to the researcher. This argument is further developed in Section 3.5.1.

During my entire PhD period, I was involved in 13 service development projects in the Norwegian public and healthcare sectors. I have chosen to describe the background for three of these projects that added both contrasting and coinciding perspectives to the data material (see Section 3.6.1). The remaining projects that are not accounted for here have been important in validating my research findings.

Two of the projects are related to C3—*Conversations about health,*[14] (which was a project within the larger initiative *Health center for the elderly*)[15] and *Home-to-home*.[16] The *Increased dignity and openness at the acute psychiatric ward*[17] project related to DOT, while the Home-to-home project was initiated in collaboration with DOT and evolved into a C3 project. The backdrop for these three projects is described below. Related findings from the Increased dignity and openness at the acute psychiatric ward project are presented and discussed in Chapter 4. The other two projects have not been explicitly described in Chapter 4 due to confidentiality, but these two projects provided important insights into how services are developed without service designers in the public and healthcare sectors. Being involved in the projects gave me first-hand experience of service development from inside these sectors.

In addition to the 13 projects, I was involved in many meetings, workshops, and informal conversations related to service development in the public and healthcare sectors throughout the PhD period. Notes and reflections from these situations have also informed the research (see Section 3.2.3).

14 The Norwegian title of this project is *Helsesamtalen*.

15 The Norwegian title of this project is *Helsestasjon for eldre*.

16 The Norwegian title of this project is *Vel hjem*.

17 The Norwegian title of this project is *Økt verdighet og åpenhet på akuttpsykiatrisk avdeling*.

Project 1: In Increased dignity and openness at the acute psychiatric ward

The acute psychiatric ward is a small unit at the Oslo University Hospital (OUS) where people suffering from various acute psychiatric conditions live for a short period of time. This service development project was a collaboration between service designers at Eggs Design, interior architects at Brandl Architects, the development team at OUS, user representatives, and DOT. The aim was to provide an increased feeling of dignity among the patients and better working conditions for the employees. During the project, a proposal for new routines and a new interior were developed. The new routines have been implemented and the new interior was finalized during the fall of 2017. Results from a comparative study of acute psychiatric wards at two other hospitals[18] indicate that the new interior addresses the needs of patients and employees much better than the previous interior did.

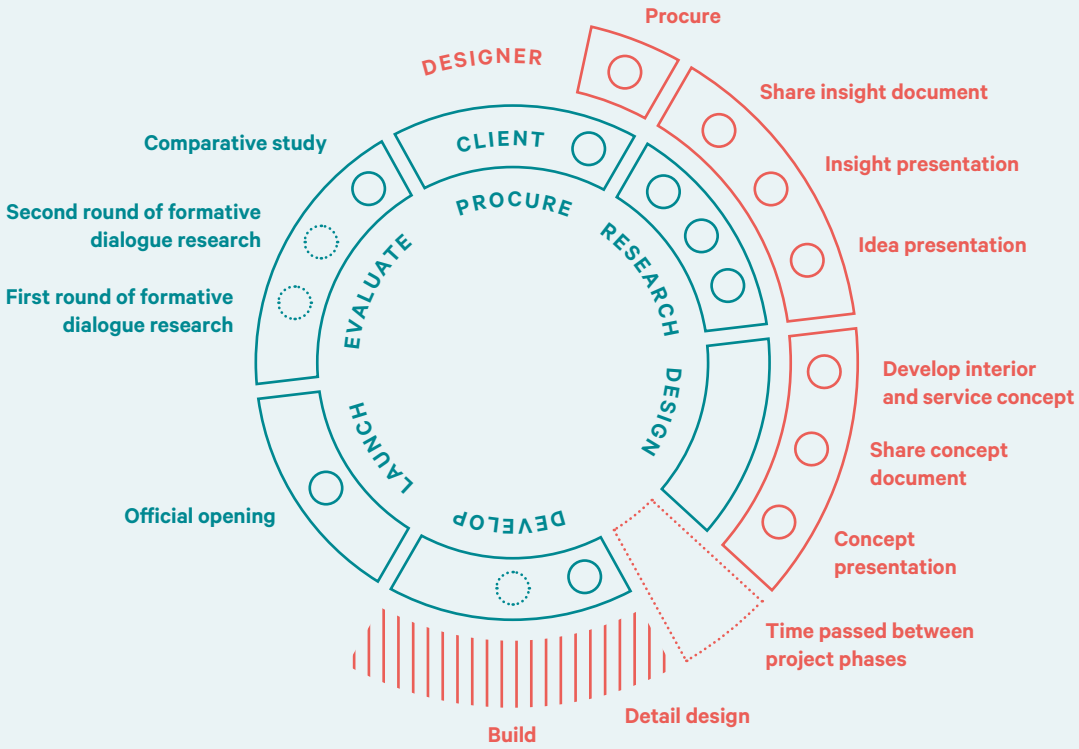
The circular diagrams in Figure 3.5–3.7 draws on the work by Daniela Sangiorgi and her colleagues (2015), who developed their model based on the NSD process cycle as developed by Johnson et al. (2000). The diagrams represent the processes from end-to-end, highlighting some main activities and are based upon conversations with the team members, process documentation and my observations.

Project 2: Health center for the elderly and Conversations about health

The *Health center for the elderly* initiative was conducted in the Grünerløkka district as a collaboration between Oslo municipality and Kirkens Bymisjon at Engelsborg Ressurssenter.

The focus area of the health center was, first and foremost, what was called *Conversations about health*. The center invited Grünerløkka inhabitants aged 67 years and over to informal conversations about their current and future life situations regarding health, housing, and everyday life. The overarching

18 Vor frue Hospital and Lovisenberg Hospital, and Attendo Paulus nursing home.



Increased dignity and openness at the acute psychiatric ward
August 2015 – December 2018

From procurement to implementation and evaluation. A cross-disciplinary service design driven project at the Oslo University Hospital.

ca 25 hours of observation, informal conversations, and structured interviews.

14 informants
1 project leader, 1 user representative, 2 service designers, 1 academic service designer, 1 interior architect, 3 employees, 2 actors with professional expertise in psychiatry, 2 reference project actors, 1 additional project manager

11 meetings

Figure 3.5
The main phases and central activities in the development process, starting with the procurement of Eggs Design and Brandl Architects. The figure only shows the involvement of the service designers and the client. The outlined circles show activities that are important to include when representing the process, that were mainly conducted by stakeholders outside of the development team. Such as building the new ward.

aim of these conversations was to empower the inhabitants to be able to live longer at home. Over approximately two years, the Conversations about health ran as a service pilot for the Health center for the elderly at Engelsborg Ressurssenter.

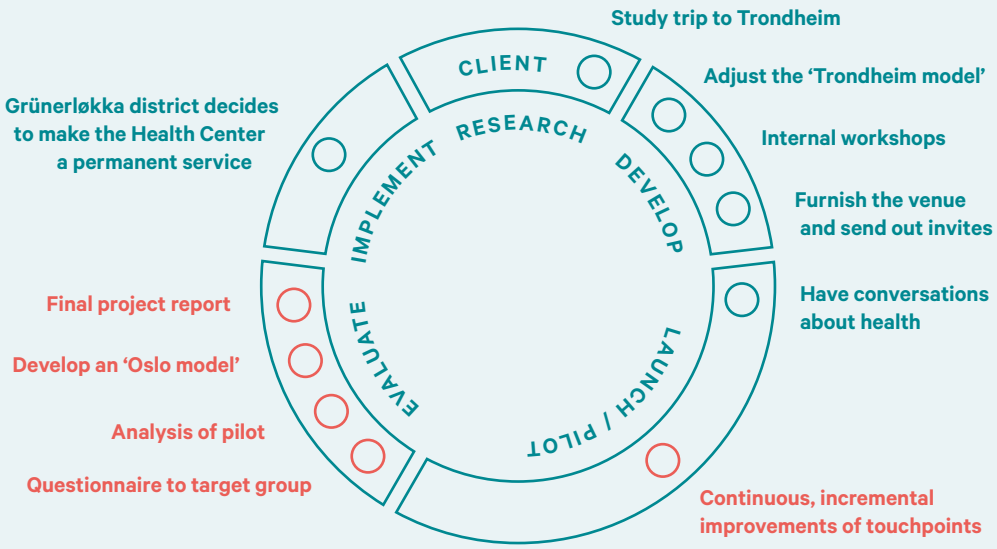
As shown in Figure 3.6, no service designers were involved in this project, apart from me. The red circles indicate my involvement in the process. During these phases, my involvement shifted between being an actively involved service designer in the team, and a more passive observer.

Project 3: Home-to-home
The overarching focus of the project was to develop improved, human-centered services for elderly patients with multiple chronic conditions at OUS. The starting point was that the care these patients received was not optimal due to many transitions between the various caretakers, which might lead to a confusing and scattered patient experience. The project studied transitions between clinics internally at the hospital and between the hospital and Oslo districts. In addition to interviewing patients, their next of kin, and other relevant stakeholders in the system, a quantitative analysis was made to gain a better understanding of the costs related to the treatment of this target group. Using a service design approach, the aim was to develop an improved model for collaboration across services based upon user insights.

The project application was written in collaboration with DOT in 2015. In this initial planning phase, the intention was to involve DOT in the project. After the project had received funding, however, it was decided to involve internal actors instead of DOT. In other words, the project was planned as a service design project, but ran without the involvement of service designers.

3.2.5 Design investigations

The design investigations also contributed to the research with a valuable shift in perspective, what Fallman (2008) would refer to as a move from *design studies* to *design practice* (see Section 3.1.3). The design investigations validated, challenged, and further explored my findings from the design studies within the context of service design practice.



Conversations about health
June 2016 – December 2017

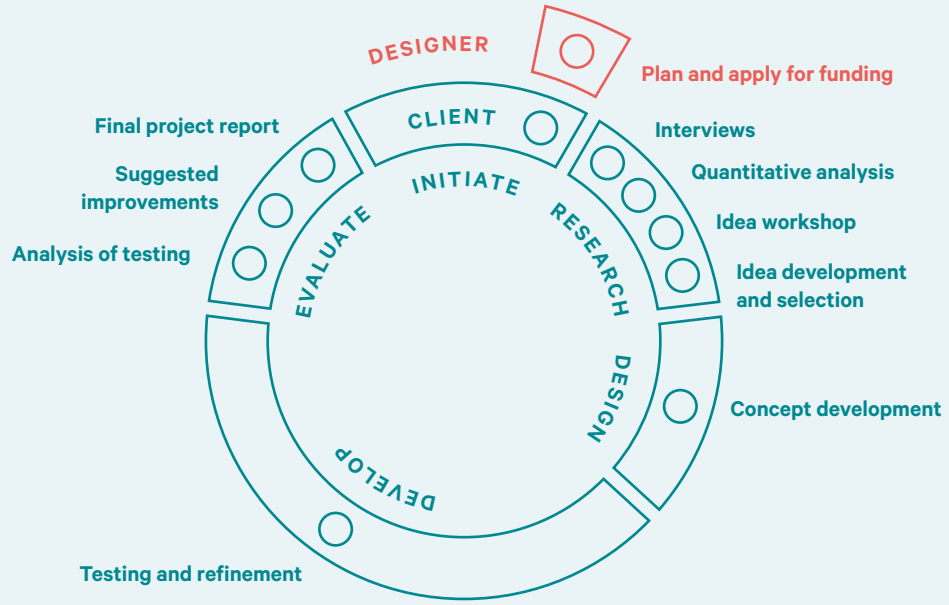
From project description to pilot and implemented service. A service development project in the Grünerløkka district, developed in collaboration between Kirkens Bymisjon and Oslo municipality.

ca 150 hours of observation, informal conversations, semi-structured interviews, and collaboration.

10 informants
1 project leader, 4 team members, 5 actors in the two involved organisations

38 meetings

Figure 3.6
The figure shows the main phases and central activities in the development process. The red circles indicate my involvement.



Home-to-home
December 2015 – March 2017

From project application to suggested service improvement. A service development project at the Oslo University Hospital, developed in collaboration between Stab Samhandling and Idépoliklinikken.

ca 10 hours of observation

10 informants
1 project leader, 1 PhD fellow, 2 academic service designers, 5 team members, 1 member of the steering committee.

4 meetings, 1 workshop

Figure 3.7
The main phases of the development process, highlighting the central activities.

The main interest of the design investigations was to look into a *roadmapping* approach for service design that might support the handover and the later service development phases.

As a starting point for the design investigations, I developed an initial draft of a service design roadmapping approach, as a means to explore how an approach might initiate and facilitate conversations about the transition from a service concept to an implemented service in a service development process. In line with Findeli's description of research through design (in his words, *project-based research*), the design investigations were used as a means for exploration in the research process:

> Although the importance of the design project needs to be recognized in project-grounded research, it should never become the central purpose of the research project, otherwise we fall back into R&D. Therefore, the design project and its output find their place in the annex of the dissertation, since practice is only a support for research (a means, not an end), the main product of which should remain design knowledge. (Findeli, 1999, p. 111)

At the same time, the developed service design roadmapping approach (the *output*) is considered to be a contribution both to service design practice and to research.

Design investigations with service design students

The service design roadmapping approach was tested and further developed in two iterations in collaboration with service design students in two service design MA courses during 2018 (see Figure 3.8). While I decided to explore service design roadmapping in two MA courses, this choice of setting for the design investigations was not due to an interest in service design education or pedagogy per se. Rather, I was interested if the approach would be applicable to service design practice, and how those involved would react to it. I chose to conduct the design investigations with MA students rather than with service design practitioners for a number of practical reasons that are described later in this chapter (see Section 3.5.3).

Both courses ran for 10 weeks, but the design investigations were mainly conducted during the last two weeks. General aspects of the course structure and specifications on the how the design investigations were conducted are described in the method section of Publication 4.

Since the design investigations ran parallel to the students' service design projects, there was a limited amount of time for introducing and using roadmapping in the MA course. Due to the time constraints, I needed to develop a quick introduction to the approach.

During the second week of the course, I gave a 20 minute introductory presentation about the later phases, handovers, and roadmapping. This presentation did not go into detail about roadmapping and roadmaps, but prepared the students for what would come later in the course.

At the beginning of the ninth week of the course, I held a roadmapping workshop. During a 30 minute presentation, I conveyed the main challenges related to the transition to the later phases of service design processes and discussed why roadmapping might be a relevant approach in this specific context. To ensure that the students would be able to become familiar quickly with how to use the roadmapping approach, I developed guidelines for a service design roadmapping approach (see Appendix IV). After the introductory presentation, the students used the guidelines to develop their first roadmaps during a half-day workshop. These initial drafts were later revised in collaboration with the students' clients during roadmapping sessions (see Figure 3.9).

After each iteration, I improved the roadmapping guidelines based on an analysis of the course's process and output.

Figure 3.8
Overview of hours spent on observation, the number of informants involved, and the design output (number of roadmaps) from the two design investigations.

Design investigation 1 Spring 2018	Design investigation 2 Fall 2018
ca 50 hours of observation, tutoring, workshops, presentations, and informal conversations.	**ca 35 hours of observation, tutoring, workshops, presentations, and informal conversations.**
37 informants 11 students, 2 tutors, 1 censor, 1 client, 22 actors involved in roadmapping sessions.	**37 informants** 14 students, 2 tutors, 1 censor, 3 clients, 15 actors involved in roadmapping sessions.
4 roadmaps	**4 roadmaps**

Figure 3.9
Process photos from the two design investigations. Photos 1–4 show the first iteration in the spring of 2018. Photos a-d show the second iteration in the fall of 2018. Photos 1, a, and b show the workshops I held with the students in which the students were introduced to the roadmapping approach and developed their first roadmap drafts. Photos 2, 3, 4, c, and d show the roadmapping sessions with the clients, held by the students.

3.2.6 Documentation

Documentation has mainly consisted of keeping a research diary on a steady basis and making visual fieldnotes during observations. Other forms of documentation that have been used during parts of the project include taking photos (e.g., Figure 3.9) and collecting sketches and printed matter from the design processes.

Research diary

A research diary was kept throughout the project, in an analogue format and in a digital format. The dairy contains reflections on previous activities as well as reflections on ongoing work. It also contains initial interpretations of the gathered data, regarding literature, interviews, observations, design investigations, and the overall progress of the research project.

In the analogue diary, entries were written on a daily or weekly basis interlinked with entries that covered other aspects of everyday life. The digital diary was kept in the cloud-based service *Evernote*, in which approximately 400 entries were made during the research project. A few excerpts from the research diary are used in Chapter 4 to shed light on my train of thought during the process.

Documenting my own thought development has been especially useful later in the process when reflecting on findings and the research progression in retrospect. Keeping a research diary also helped to build the habit and skills of writing (Mills, 1959/2000, p. 197).

Visual fieldnotes

Fieldnotes can be described as the initial step of translating experiences into text (Clifford, 1986, p. 115). They were made while observing the service development projects, initially

in the form of *scratch notes*—short phrases and abbreviated words. The notes were later written as full fieldnotes (see Emerson et al., 2011, p. 52ff).

The notes often included visualizations (see Figure 3.10). Depending on the topic and the context, the notes were sometimes more visual, sometimes less.

3.3 Analysis

This section describes the process of analysis for the interviews, observations, and design investigations.

3.3.1 Analyzing the interviews

The interviews were analyzed and interpreted in several iterations. The first level of interpretation began during the interviews when I made scratch notes of the main areas of interest. Based on these notes, shortly after each interview I wrote down my immediate thoughts, reflections, and reactions in the research diary. During transcription of the interviews, I wrote down comments and highlighted certain parts of the text, such as statements I found especially intriguing, perceptions that stood in contrast to those of other interviewees, and accounts I wanted to look more into.

After transcribing all interviews, I followed the analysis method of *meaning condensation* as described by Steinar Kvale (1996, p. 194), which was initially developed by Amedeo Giorgi (2012). While reading the transcripts on paper, I articulated *meaning units* (Kvale, 1996, p. 194) and wrote these in the margins. Each meaning unit consisted of a short descriptive title and, if needed, one or more clarifying sentences.

I then looked for variations and patterns across meaning units from all the interviews using a printed matrix in which all the notes from the transcripts had been gathered. Connections between meaning units were highlighted and this material was used as starting point for a further analysis through writing.

This process of analysis was conducted after the first round of interviews (5 respondents), before a second round of interviews (with 13 new respondents) was conducted and analyzed.

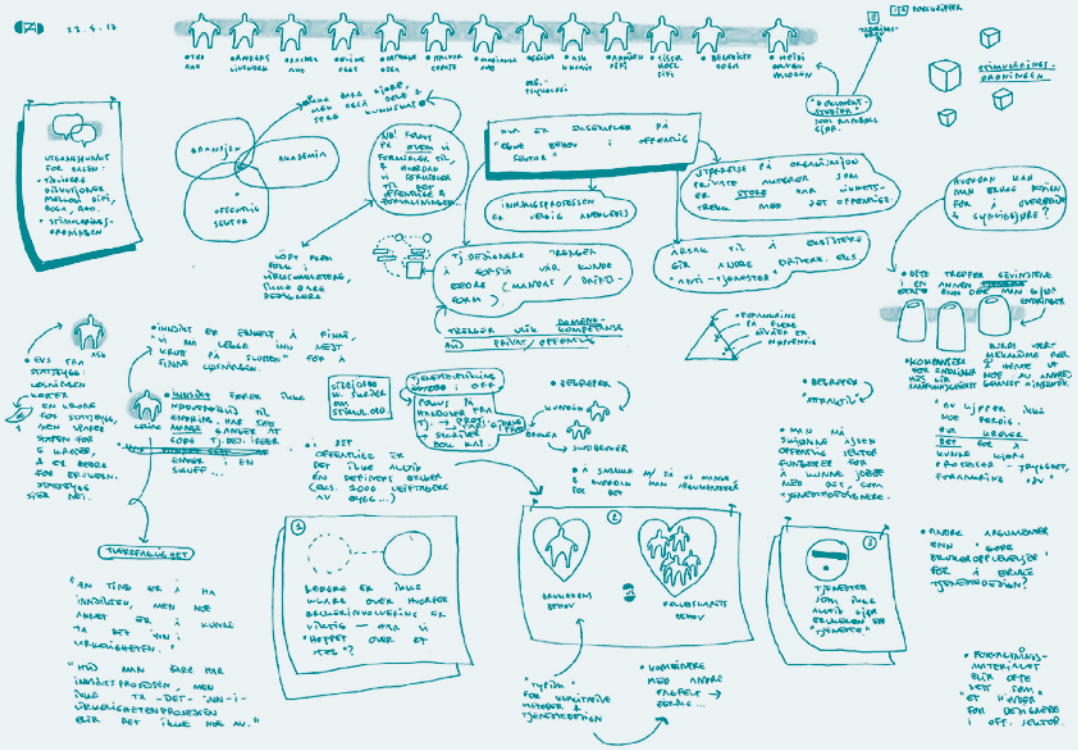


Figure 3.10
Visual notes from a meeting between Difi, DogA, AHO, and service designers from various design agencies, in which experiences from StimuLab and service design in the public sector in general were discussed.

Figure 3.11 illustrates the progression from interview questions to one research insight. See Chapter 4 and the second and third publication for a fuller description of this insight.

3.3.2 Analyzing the observations and design investigations

The process of analyzing the observations and design investigations followed the same stages I used when analyzing the interviews with *meaning condensation* (Giorgi, 2012; Kvale, 1996). The main source for the analysis was the fieldnotes

Interview excerpts	Condensed meaning unit	Insight
Interview question: How are service design handovers received and taken into use?		
"I think there is something challenging about the process, maybe not the documentation, but perhaps one should have a deliverable on how to use this information afterwards if you don't have any service designers onwards." (Civil servant and service designer, working with service design in the public sector. Sharing experiences from a service design process.)	— The handover process is more challenging than the handover deliverables. — A plan for the later phases as a kind of handover deliverable.	There is a need for planning collaboratively how the development team can proceed in the later phases after the service design consultants leave.
"In retrospect, I think . . . [that the designers] should have delivered a much more concrete solution that considered the economic resources available. When we established the project, we said that 'we want these questions answered, within this budget.' [We said that we wanted] one overarching concept where costs were not considered, and one concept that related to our actual budget. The latter, we didn't get. We accepted [that we only got the visionary concept], but I shouldn't have accepted that. . . . [After the service designers had left,] we didn't have any tools to make even one little thing, since we didn't have anything concrete. We hadn't [discussed the question] 'if we just want to do something, with these resources, what should we do?' And in a way, I think—although I don't know what the other team members think—that there should have been a much more concrete ending of the first [process] phase. I think this is an issue that applies to many development projects." (Project leader at a hospital. Sharing experiences from a service design process.)	— Challenging to receive deliverables without pragmatic 'how to' recommendations. — Visionary concepts vs. more concrete concepts. — Difficulties knowing where to start. — Had not planned for what would happen after the designers left. — Can be hard to make use of the service design material in the further process.	
"There haven't been any [discussions about] what we are going to use this [material] for. There has been nothing like that. We get so many research reports and strategies, so [the service design handover deliverables] will just become part of everything else. . . . Instead, we should have discussions like—OK, how can we integrate this, how can we actively use it?" (Civil servant and service designer, working with service design in the public sector. Sharing experiences from a service design process.)	— Challenging to receive deliverables without pragmatic 'how to' recommendations. — Difficulties knowing where to start.	
Interview question: How are service design handovers produced?		
"Ultimately, 'how' we deliver things becomes quite important. We think, at least for now, that delivering a sort of roadmap, a plan, is more [important] than [saying] 'yes, here you have the concept, we got this result, it worked like that'. Rather, [we] try to use time to draw the road ahead." (Service design consultant.)	— Preparing the client for the transition from concept to implemented service. — Developing a plan for the road ahead is important in the final handover.	
"It is extremely important that we make a plan for [how the material we deliver] will be embedded, and . . . that we involve the decision makers along the way. The plan should not be like [a surprising] 'tada!' It ought to be co-created during the project, and be just as the client expected. It is extremely important not to think of the plan as 'our' deliverable, . . . since it's the clients' responsibility to do the job; unfortunately, we are just stopping by." (Service design consultant.)	— Preparing the client for the transition from concept to implemented service. — Co-designing plans with the client to make sure they are prepared and feel ownership. — Developing plans during the process, not at the end of the process.	
"The people who are left when we leave are the most important. . . . [We must] strengthen the plans [receivers] have in their continuous work, . . . our job is to provide [them with] the tools they need to get their plans done." (Service design consultant.)	— Empowering the client in their further process.	

Figure 3.11
An example of meaning condensation and the transition from interview question to articulated research finding.

made during the observations of service development projects and while conducting the design investigations. One aspect that influenced this analysis was the difference in the data collected from the interviews and from the observations and design investigations. While the interview data was mainly text, the data from the observations and design investigations consisted of text as well as photos, visual fieldnotes, process sketches, sketches of handover material, and the students' final roadmaps. The visual aspects of the fieldnotes contributed to the documentation, but also to the initial analyses, a dual quality of visualizations that Sevaldson has characterized as follows:

> The potential of true visual thinking emerges not only from documenting thoughts but by visualising and dynamically forming the analyses and developing the thinking from the visualisation. (2011)

The textual parts of the fieldnotes covered descriptions of the context, those present and their interactions, my personal reactions and reflections while observing, transcriptions from interviews, and notes from informal conversations.

Figure 3.12 shows a phase in the analysis of the first design investigation. Prior to this phase, the fieldnotes were digitized and, during the digitalization commented upon. The material was then printed. Then the selected photos were cut out and combined with text. The result of this phase is what you can see in Figure 3.12. Here, important passages in the notes have been highlighted, connections in the material have been indicated, and meaning units have been articulated on pink post-its. This process of analysis was conducted after each of the two design investigations and at the end of the service development projects I followed.

After articulating the meaning units, I created larger categories of meaning units that related thematically. I began developing arguments through writing, using one category of meaning units at the time as a starting point. Through writing I identified connections and tensions within the various sources of data, but also across the different sources.

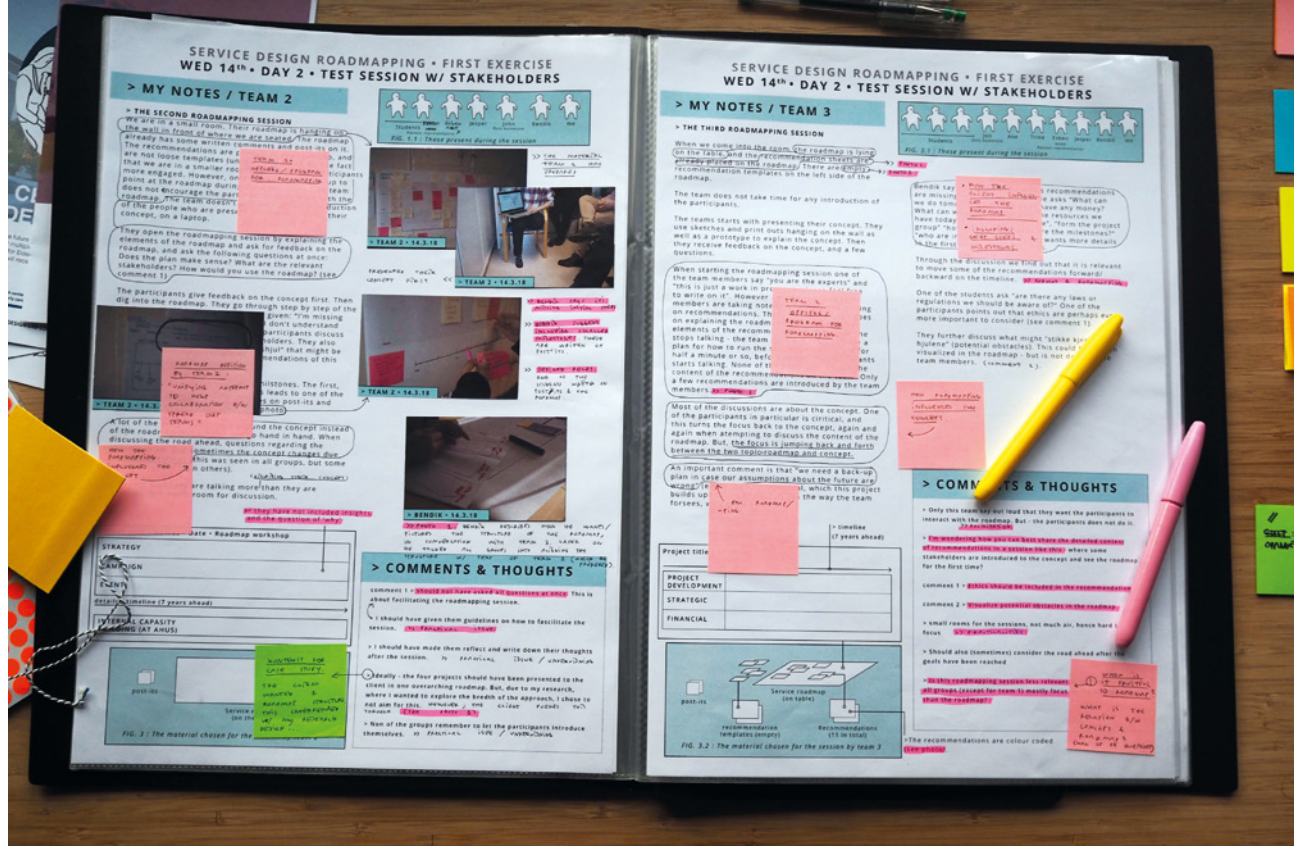


Figure 3.12
Analyzing fieldnotes from the design investigations.

I then discussed and further developed the findings through informal conversations with peers, practicing service designers, civil servants, healthcare professionals, and people from the service development processes I observed (see Section 3.6.1)

3.4 Ethical considerations

The research has been approved by the *Norwegian Centre for Research Data*,[19] meaning that sensitive data has been collected and stored according to their legal and ethical guidelines. All participants in the interviews, observations, and design investigations have been informed and have

[19] Reference number: 648227

consented to participate. Audio recordings of interviews were conducted with the agreement of the participants and all data have been anonymized. When citing the interviewees and participants in the design investigations, contextual information and details that might lead to the identification of the informant have been excluded. The identifying numbers of the respondents (called "ID" in Figure 3.4) are not linked to the interview quotes presented in Chapter 4. For the sake of anonymity, all informants are referred to as *her* no matter their gender. All excerpts from the fieldnotes and other passages describing the Increased dignity and openness at the acute psychiatric ward project have been discussed with and accepted by the project participants.

Informants from informal conversations—service designers, civil servants, and healthcare employees from my professional network, as well as colleagues, were often not aware that they contributed to the data collection. In some instances, the informants would initiate a conversation explaining that what they were about to say was "between the two of us." Though some of these more delicate topics have informed the progression of my work, I have decided to not include excerpts from these conversations in any publications.

3.5 Benefits and limitations of the study

In this section, I reflect upon the contextual benefits and limitations of my research.

3.5.1 Designer and researcher

Throughout my work, I have been in the dual position of being both a practitioner in the service design community and, at the same time, a member of the academic community (cf. Maréchal, 2010, p. 43ff). Combining these two roles of service designer and researcher is one of the strengths of my expansive research through design process (Krogh et al., 2015) since I contribute to a further understanding of the underlying challenges of service design research from a *service design perspective* (cf. Jonas, 2007, p. 188).

According to Wolfgang Jonas (2007), theory building in design research has mostly been *about* design, developed by scholars from reflecting disciplines such as cultural studies and philosophy. He argues that research *through* design is relevant when aiming to develop theoretical contributions that treat the underlying challenges of design, rather than treating symptoms on a short-termed basis (Jonas, 2007, p. 188).

There are both benefits and limitations of investigating a field or community that is well-known to the researcher. For example, knowledge of the field of study can give the researcher an immediate understanding of phenomena that outsiders cannot perceive (Malterud, 1998, p. 132). This feeds into Jonas'(2007) argument that a strength of research through design is that researchers with a design background can dig deeper into the challenges of design than non-designers are able to do.

A challenge that cannot be entirely avoided when studying a well-known field is that the researcher can consider many things to be obvious:

> In researching settings that are more familiar, it is, of course, much more difficult to suspend one's preconceptions. . . . One reason for this is that what one finds is so obvious. (Hammersley & Atkinson, 1983/1993, p. 92)

In response to the challenges of studying a known topic, I tried to include contrasting perspectives in my data material. For example, I chose to observe some service development processes in which no service designers were involved.

3.5.2 Being a designer and researcher at C3

My affiliation with C3 proved beneficial, but also led to some limitations in my research.

One of the benefits was access to a broad network of healthcare professionals, experts, and other researchers with overlapping interests. The center provided access to the

Norwegian healthcare context and ongoing development projects in healthcare (C3 projects) that would otherwise have been challenging to gain access to.

One consequence of the affiliation with C3 was an expectation of me being involved in C3 projects. There were a limited number of projects to choose from and the projects were not entirely in line with my primary research interests. However, my involvement in these projects led to a broader contextual understanding of service development in the Norwegian public and healthcare sectors.

3.5.3 Service design students as co-researchers

The design investigations were conducted in collaboration with service design students in an MA course at AHO. There were both benefits and limitations to exploring the roadmapping approach in an MA course setting.

The main limitation was that the students were not as experienced as practicing service designers. The students appeared not to see the same need for methods to support the later phases as did many of the experienced service designers that I have been in contact with during my study. Most students have limited experiences with external clients and have seldom experienced the challenges of the handover and the later phases in practice.

However, there were many benefits of collaborating with students in the design investigation. First, it was possible to run the design investigations in a course that had tutors and a set agenda, which meant that I had few responsibilities for anything other than the design investigations. Second, all the students followed the same process in the course, meaning that I could introduce the roadmapping approach to all of the teams at the same time. This meant that the volume of data produced was larger and my introduction efforts kept to a minimum. Though some planning was needed in advance of the course start date, conducting the design investigations in the course made it possible to explore my research interest quickly. It was possible to complete two iterations of the service design roadmapping approach within the timeframe of my PhD. Third, in comparison to running design investigations within a design agency, the students' projects and hence, the data material, was not limited by confidentiality.

Due to these advantages, I consider that the benefits tipped the scales in favor of conducting the design investigations with students.

3.6 Validity and generalizability

This section describes the validity and generalizability of my findings.

3.6.1 Validity

Validity is a much-debated issue in qualitative research, which can be described as the accuracy and trustworthiness of the research data and findings (Lincoln & Guba, 2011). Throughout my process, I have applied various strategies to support the validity of the research findings. The main procedures have been spending a prolonged time in the field, member checking, peer review and debrief, data triangulation (see Morse, 2015), and sampling. These procedures are described below.

Spending prolonged time in the field

Throughout my research, I have spent a lot of time in the field in order to develop an in-depth understanding of service development in the public and healthcare sectors from various perspectives.

Member checking

One measure taken to secure the accuracy of the research findings has been to perform follow-up interviews and informal conversations with the interview informants, MA students involved in the design investigations, and project members from some of the service development projects I was participated in.

Peer review and debrief

All of my publications have been peer-reviewed. Peers have also been involved in other steps of the process, such as in conversations about collected data, meaning units, and findings, discussions of early drafts for publications, and critical reflection of the design investigations. In order to validate the research findings, I have had ongoing discussions and informal conversations throughout my process with practicing service designers from various Norwegian design agencies, healthcare professionals, and civil servants from various departments in the government, directorates, and other organizations.

Data triangulation

I employed data triangulation, which is one of the four forms of triangulation identified by Norman Denzin (1970/1989, p. 237). Data triangulation can be described as combining data from different data sources or different perspectives from participants in order to develop justified themes (Creswell & Creswell, 2018, p. 200). Denzin emphasizes that data sources are to be distinguished from methods for generating data and argues that in data triangulation one method can be applied to study contrasting perspectives, either in time, space, or among people (1970/1989, p. 237).

The four forms of triangulation overlap. For example, *data* triangulation can be said to resemble *methodological* triangulation, also referred to as *methodologic, mixed-method, multimethod*, or *methods* triangulation (cf. Thurmond, 2001, p. 254). Both data and methodological triangulation typically combine two or more research methods. According to Michael Quinn Patton, there is, however, a clear distinction between the two. While data triangulation tends to be conducted using qualitative methods (Patton, 2002, p. 559), methodological triangulation uses both qualitative and quantitative methods to study the same phenomenon (Patton, 2002, p. 556).

In each of my research phases (see Figure 3.2), I collected data that contained a variety of perspectives and opinions on the same issues by choosing respondents with different points of view (cf. Patton, 2002, p. 559). In the first research phase, I interviewed service design researchers and service design practitioners. In the second research phase, I interviewed service design researchers, service design practitioners, and non-designers. In the third research phase, I carried out two design investigations, one in which service design students developed public services and a second in which other service design students developed private services. Throughout all these research phases, I observed and participated in service development processes conducted by service designers and by non-designers.

Within each research phase I also compared data across the different methods, such as interviews with observations and design investigations with observations.

The variations within the data (both within the data from each method and across methods) proved to be important for the analysis, creating contrasts in the material and illuminating different aspects of the later phases of service development.

Sample size and redundancy

Regarding the question of sample size related to the validity of the research, Patton argues that it "depends" how many informants is enough in a qualitative research project (1990, p. 184). The number will depend on the aims and objectives of the research, what one wants to know, and what can be done within the practical scope of the inquiry (Patton, 1990, p. 184). When it comes to the relationship between validity of the data and the question of knowing when the sample size is large enough, Patton suggests:

> The validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size. (1990, p. 185)

My understanding of Patton's notion of *information-richness* is informed by Yvonna Lincoln and Egon Guba (1985, p. 202),

who argue that the main consideration for sample selection is *redundancy*—when new data does not contain any new information. In my work, I have applied both of these notions.

The goal of information-richness informed the choice of respondents and the choice of research methods. For example, I identified relevant interview respondents using snowball sampling, while at the same time I selected respondents to achieve maximum variation (see Patton, 1990, p. 182).

In order to gain a richer understanding of the later phases of service development, I chose to combine interviews and observations. Due to the variation among the respondents, the interviews gave deep insights into a broad range of perceptions and experiences related to the later phases and handovers. This method also gave me the opportunity to ask follow-up questions about certain issues.

One of the limitations of using interviews was the respondents' ability to self-report on work they do every day (Blandford, 2013). When describing routine tasks, important details can be left out since they are taken for granted or perceived to be obvious by the respondents (Agar, 1996, p. 159).

According to Flick, one can argue that "practices are only accessible through observation; interviews and narratives merely make the accounts of practices accessible" (1998/2006, p. 215). Due to my interest in service design processes and practice, I also chose to observe service development processes. Observations gave insights into how practitioners work and these insights fleshed out several findings indicated in the interviews. Meanwhile, the opportunities for longer discussions were limited due to time-constraints. After all, the stakeholders I observed were busy working most of the time. By letting questions that arose in an observation inform the next interviews, the two methods informed each other.

I applied *redundancy* as a part of the criteria for considering when I had conducted enough interviews, for example, to move forward. When I found in my initial notes from the interviews that the topics and themes started to repeat, I decided to move on to transcription and analysis through meaning condensation (Kvale, 1996, p. 194). The notion of redundancy was also confirmed in my analysis of the material, where I found that themes, meaning units, and categories were repeated in the collected data.

3.6.2 Generalizability

In qualitative research, generalizability is rarely considered to be a main goal (Creswell & Creswell, 2018, p. 202). I argue that it is relevant to discuss the question of generalizability due to my underlying aim of contributing to service design practice and processes. Generalizability can be described as:

> extending research results, conclusions, or other accounts that are based on a study of particular individuals, settings, times, or institutions, to other individuals, settings, times, or institutions than those directly studied. (Chmiel, 2014, p. 540; Polit & Beck, 2010)

On the one hand, my research findings are rooted in a data set that is geographically and contextually particular, since most of the data has been collected from the Norwegian public and healthcare sectors, and mostly from the Oslo area. Also, data from the design investigations are particular in the sense that they rely on the work of students, rather than practicing service designers (see Section 3.5.3).

Yet on the other hand, my choice of issues to study, the variation in the data, and the level of analysis might make my research contributions more generalizable. First, the contributions are the outcome of explorations into central aspects of service design. Second, I have striven for variation when collecting the data (see Section 3.6.1). Third, I aimed for a general, rather than case specific, level of description when developing the analytical categories in order to obtain contributions that are transferable to service design settings outside of the Norwegian public and healthcare sectors.

My contributions have emerged from, and feed back into, the international research discussions of design process models and the general view on what service design is (see Chapter 2). It can therefore be argued that my research contributions have

relevance and are likely to be transferable to service design outside of the Norwegian public and healthcare domains. My hope is that my research will contribute to a broader international body of knowledge covering the later phases of service design.

3.7 Summary

This chapter presents the qualitative research approach applied to my work consisting of a pragmatic worldview, an expansive mode of research through design, and methods that translate this research approach into practice. The main methods have been literature reviews, qualitative semi-structured interviews, observations, and design investigations. The data was analyzed using the process of meaning condensation (Giorgi, 2012).

Chapter 4
Research findings

This chapter describes the main research findings from the four publications included in this thesis. The findings are elaborated upon with additional photos, fieldnotes, and quotations that have not been previously presented. While the presentation of findings in this chapter is rather linear, this is a narrative decision, for the process has been both explorative and iterative (see Chapter 3). Hence, the findings are not always presented in chronological order, but rather in the order of the main arguments that have driven the research forward. The overarching question that initiated the research was: *How might service design methods better support the development of Norwegian public and healthcare services?*

4.1 The forgotten back-end

During initial explorations, I found that service design practice and academia have focused on the earlier phases of the process and the fuzzy front-end (e.g., Alam, 2006; Bruce & Cooper, 2000; Clatworthy, 2013; Koen et al., 2002). The earlier phases and the *fuzzy front-end* tend to dominate the contents of service design handbooks and toolkits due to the significant traits of these phases and their implications for the rest of the development process (e.g., Clatworthy, 2014; Curedale, 2016; Martins, 2016, p. 13; Stickdorn & Schneider,

2011; Tassi, 2009). Meanwhile, I got the impression that the later phases of the process are seldom given much focus. This impression was strengthened during informal conversations with my supervisors, colleagues, and members of my professional network as exemplified in this excerpt from my research diary:

> During tutoring, we discussed my interest in user involvement, and that I have been unsure of what part of the design process I should focus on. After talking a bit, [my main supervisor] confirmed that it is relevant to dig deeper into something I have seen indications of, and which I find intriguing—much has been written about and much focus has been placed on the first part of the diamond (in the double diamond), but not necessarily as much on the second. (Research diary, 7 January 2016)

To explore this knowledge gap, an initial literature review was conducted, focusing on the service design process and methods in the later phases (see Chapter 2). The focus of this literature review was closely linked to service design praxiology (see Cross, 1999, p. 6), meaning service design processes and practices.

Background

I found that the later phases of service design development processes have received limited attention both among service design academics and in practice (Publication 1). An indication of this imbalanced interest in the beginning versus the end of the design process can be seen in representations of the design process (see Chapter 2, Figure 2.2). In Newman's illustration for example, the earlier phases are represented as uncertain, complex, and fuzzy, while the later phases and the move from concept to design are clear and straightforward (see Illustration 1 in Figure 2.2).

Implementation is an overarching phenomenon that is tightly linked to what goes on in the later development phases. Service designers have been criticized for lacking implementation competence and for sometimes developing service concepts that do not lead to actual change (Mulgan, 2014, p. 4). Meanwhile, implementation is perceived as challenging by many service design practitioners (Hansen & Jackson, 2015; Ivey-Williams, 2017; Keller, Woodley, Lafrance, & Grimes, 2013; Kronquist, Koivisto, & Vaajakallio, 2014). The interest in the later phases and implementation seems to be growing in service design research (Overkamp & Holmlid, 2017; Raun, 2017; Yu & Sangiorgi, 2014).

Drawing on this finding, I decided to carry out a study of the research question: *What challenges do service designers face during the later phases of service design when taking part in public and healthcare service development in Norway?* This question was explored through five qualitative semi-structured interviews and observations in service development processes (see Chapter 3 for a description of how the research methods were applied). The five interviewees were service design researchers and service design consultants.

Findings

The main findings from this research phase included the phenomenon of user insight drift, that service designers are mainly involved in the early phases, and that the service design handover is significant.

4.1.1 User insight drift

The research showed that some services turn out very differently than the service concepts. I found that one issue that might influence the human-centricity of an implemented service is what I call *user insight drift* (see Publication 1 for the introduction of this concept). The term draws on the notion of *design drift*, a term used in software development research (Robillard, Lavallée, & Gendreau, 2014). Design drift has been described as changes in the design concept that occur throughout the development process, especially in the transition from concept to implemented design (Robillard et al., 2014). User insight drift describes the issue of design concepts that drift away from the initially identified user needs.

In my research, I found that user insight drift inevitably occurs in any service development process in which users are involved and that drift itself is not necessarily something negative (cf. Robillard et al., 2014).

Yet from the perspective of user involvement and co-design, I argue that user insight drift can be challenging in cases where a service concept has drifted too far from the identified user needs. Then there is a risk that user insight drift can result in *tokenism* (Arnstein, 1969), rather than human-centered services, in cases when the essential user insights can no longer be traced in the final service.

Below are examples of user insight drift from my participant observation in the Increased dignity and openness at the acute psychiatric ward project. The examples relate to the two topics: needs that cannot be met and decision-making in the later phases. Most of the material in these two examples has not been presented in any previous publications.

Needs that cannot be met

Sometimes during a development process, it is decided that certain features of the service concept need to be changed, even though the same features have been identified as important by end-users and other participants. During my observations of 13 service development processes, I noticed that this is not an unusual occurrence. It can be seen, for example, in the Increased dignity and openness at the acute psychiatric ward project.

The three groups who were considered users of the ward were patients, next of kin, and employees. In the text below, I refer to these three groups as *users*. In addition, I refer to a *user representative*, a former patient, who had an essential role in the development team of professionally representing the patient group at every step of the process. Other involved participants in the project are referred to as *stakeholders*.

The development team uncovered that what employees and former patients cared most about improving at the ward, in addition to renovating the interior in general, was the hospital beds (see Figure 4.1). For patients spending many hours in their rooms, the bed can be a constant, visible reminder of their condition. The employees and former patients expressed that they wanted to avoid seeing the bed, and some wanted ordinary beds instead of hospital beds. This insight influenced the early sketches of the new interior, in which it was suggested that the bed could be an ordinary bed, hidden in the wall when not in use (see Photo 2 in Figure 4.1). Later in the process, it turned out that it was necessary to move away from the idea of ordinary beds because of hygiene and medical requirements. The bed, for example, has to be hard enough to withstand the weight needed for a CPR procedure.[20]

While the beds in the refurbished ward did not align with the needs articulated in the earlier phases of the project, the remaining aspects of the concept led to grand changes of the interior, reducing the importance of hiding or changing the beds. This understanding is supported by the evaluation reports (Ness, Ibabao, & Karlsson, 2017), which describe that those involved perceived both the process and final results as a success, in what is described as "real" user involvement (Ness et al., 2017).

Decision-making in the later phases

Another aspect of user insight drift is drift caused by decisions made in the later phases. Two intertwined variables that might influence decision-making are new stakeholders getting involved in the process and contradictory aims and expectations among the stakeholders. Both variables were apparent in the Increased dignity and openness at the acute psychiatric ward project.

In this project, the management and another part of the organization had not been involved in the earlier phases, but got deeply involved later in the process. The new stakeholders had limited insights into the earlier phases of the process and hence, had slightly different agendas than that of the

[20] CPR, or cardiopulmonary resuscitation, is a lifesaving procedure performed in emergency situations when the heart stops beating.

Figure 4.1
Photos from before and after the changes were implemented at the acute psychiatric ward. Photo 1 shows one of the rooms before the interior was changed (photo by Sandra Aslaksen). Photo 2 shows an interior sketch by team members from Brandl Architects. Photo 3 shows the final interior in one of the rooms.

development team. The project leader described how there was a shift in focus in the process from the point when the new stakeholders became involved:

> "Our management got involved . . . and then there was suddenly a completely different [set of] expectations coming in. Then the entire maintenance department at the Oslo University Hospital got involved. . . . And then [our project] was suddenly seen as [just another] renovation project. . . . I have been to almost all of the meetings, and I have had to fight to keep the focus of the project up against, in a way, what *they* think. But I think they have listened, I do." (Project leader)[21]

According to the project leader, the maintenance department had a different view on user involvement than the shared understanding that had emerged among the original development team members. The project leader described how the differing perspective on users manifested in the language used by the new stakeholders:

> "Just take their choice of words [when discussing different solutions at our meetings, such as the word] *vandal proof*. You can imagine our patient representative jumping up from her chair, saying, 'you *can't* use that word!' . . . Now, [the department] has changed a little, but it has taken time." (Project leader)

[21] To visually differentiate between quotations from other scholars and quotations from my interviewees, I have chosen to put all interview quotations in quotation marks.

When the maintenance department got involved, many decisions regarding details had to be made. The project leader gave an example of how the aims of the original development team members and the new stakeholders sometimes contrasted:

> "There were a number of technical people, people who [focused on lighting], who came up with some comprehensive [solutions. For example, a solution in which] you can change the lighting based on the light outside, and many other tech gadgets. . . . And our project did not have that focus. But some stakeholders made huge efforts to get that through. Without me having realized or understood why." (Project leader)

In one of the meetings I attended, the intention was to decide on a number of details and to discuss costs, since a tight budget limited what could be implemented. My fieldnotes from the meeting further illustrates the tensions between the original development team and the new stakeholders in the decision-making process:

> There were a lot of issues on the agenda for the meeting. The person responsible for reducing and controlling project costs got frustrated, since the employees and the patient representative started discussing the details of each issue—in terms of how the different choices would impact the overall user experience. One of the employees brought up the question of having an additional meeting with patients and user representatives in order to get feedback on some of the choices that they needed to make. The person responsible for costs insisted that, "you can't bring in new things now . . ."
>
> At the end of the meeting, a number of solutions based on previously identified user needs had been set aside due to costs. At the same time, new technical suggestions had been brought up by the new stakeholders, suggestions that had no apparent link to previously identified user needs. As the user representative expressed, "It seems to me as if the project is drifting away from our starting point—instead of focusing on user needs, we are mostly discussing technical solutions and if we can afford them." (Excerpt from my fieldnotes, Fall 2016)

As noted in the introduction to this section, user insight drift is a phenomenon that will occur in any service development process where users are involved. The examples above illustrate some of the parameters that might increase the user insight drift, for better or for worse. Sometimes, the identified user needs cannot be met since other issues are considered more important. Decision-making in the later phases will have an impact on the form of user insight drift. As seen in the example above, decision-making can be influenced by the involvement of new stakeholders, since these are likely to have a new perspective or a different understanding than the rest of the team. This contrast in aims, expectations, and perspectives can be fruitful, but it can also result in solutions that no longer answer to user needs.

4.1.2 Service designers are mainly involved in the early phases

The first research phase indicated that service design consultants predominantly work in the early phases, while few have been involved in the later phases of service development (Publication 1). The finding was further confirmed throughout my research in interviews, informal conversations, and observations.

This finding coincides with studies showing that design agencies are mostly involved in idea generation and identifying user insights (Lee, 2016, p. 232; Sangiorgi et al., 2015, p. 38).

4.1.3 The handover is significant

This phase of the research also identified the service design handover as significant for the later phases, especially the final handover from the service design consultants to the client before the designers leave the development process.

Considering that service design consultants are seldom involved in the later phases (see Section 4.1.2), the handover material has the potential to support the development team in the transition from service concept to implemented service. According to Eun Yu and Daniela Sangiorgi, the implementation of services depends on this transition to be successful (2014, p. 202). Meanwhile, delivering a thorough description of the service concept is not enough to secure a successful service implementation. According to Lotte Raun, service designers cannot hand over a concept and expect it to be implemented, since the service concept is just an invitation to change, not a plan for implementation (2017, p. 257).

Due to these findings, the next research phase focused upon the service design handover to gain a deeper understanding of how handovers are developed and received in practice, and how handovers might be improved.

4.2 Service design handovers

The previous research phase identified the service design handover as being important for the forgotten back-end. Moreover, there are rich accounts of service design methods for developing handover material, but there is little research specifically on how service design handovers are produced and received (Publication 2). I therefore carried out this second explorative phase to gain a deeper understanding of handovers.

Background

Service design handovers are here understood as something taking place continuously throughout a process, in the form of *activities* and *deliverables* (Publication 2). The handover is an overarching concept that covers all interactions of knowledge transfer between the service design consultants and clients up until when the consultants leave. Every interaction between service designers and their clients can be seen as service design handover activities, when insights, results, and other information is generated or transferred. Informal discussions, workshops, and presentations are examples of handover activities. The handover deliverables can be divided into *project documentation* and descriptions of the *service concept*, the future solution (see Figure 4.2 in Section 4.2.5). Project documentation summarizes aspects of the project, while the descriptions of the service concept can be seen as the main deliverables of many final handovers.

My growing interest in exploring what a service design handover is, or might be, led to the following question: *How are service design handovers developed and taken into use seen from the perspective of those producing the handover (the service designers) and those receiving the handover (the clients)?* The question was investigated through 13 qualitative, semi-structured interviews and participant observation in service development processes (see Chapter 3 for a description of how the research methods were applied). The 13 interviewees were service design consultants, healthcare personnel, civil servants, and service designers working in-house in the public or healthcare sector.

Findings

The main findings related to the exploration of service design handovers were: the challenging transitions between project phases, the perceptions of service design being limited to the earlier phases, how the service design handover material was used later in the process, a need for planning ahead for the later process phases, and the lack of service design methods for focusing on how to move from a service concept toward an implemented service.

4.2.1 Challenging transitions between project phases

Development processes often run 10 years or more from end-to-end in the healthcare sector (cf. Bauer, Damschroder, Hagedorn, Smith, & Kilbourne, 2015). This can also be the case in the public sector. Underlying reasons for the length of development processes in these sectors can be, for example, political or strategic priorities, conflicts due to hierarchy, limited resources, and complex organizations where change takes time. While processes tend to cover a decade or more from end-to-end, there will often be pauses between process

phases during that time period. I found that there is often a longer period of time that passes between different project phases in the public and healthcare sectors (Publication 4). As stated by one of the interviewed civil servants:

> "It is often a long way . . . from when a [service design] report is submitted until a new project is initiated to run a pilot of the concept." (Civil servant with experience of receiving service design handovers)

The transitions between phases, in which longer periods of time often pass without any progression in the development process, can be perceived as an indirect result of the Norwegian procurement processes (for more about the procurement processes see Anskaffelser.no, n.d.). Due to the Norwegian system of public procurement, development processes are often cut short since processes are defined into projects with strict phases and limited budgets.

Because projects take place over a long period of time, new stakeholders tend to become involved, sooner or later. One challenge, which is connected to this, relates to recruiting and motivating new employees when other employees quit their jobs. One of my interviewees, a healthcare professional, held the main responsibility for a service development project that lasted nearly a decade. This interviewee emphasized the challenge of maintaining momentum and motivation during the project:

> "There have been countless replacements. During the last two years, [almost] the entire group of nurses who joined in the beginning has been [replaced]. . . . So it's a big challenge, . . . because I don't know if I've still got the strength to get everyone onboard. I feel that it's an exhausting process to engage people. . . . I'm good at engaging people once, twice, three times, but when it starts on the fourth time, then [laughs] I want to use my energy on something else." (Healthcare professional with experience of receiving service design handovers)

Another challenge of new stakeholders becoming involved can be that since they have not taken part in the previous process phases they might have aims and expectations that are not in tune with those of the original development team. An example of this was described above in the discussion of user insight drift and decision-making in the later phases.

4.2.2 Service design considered relevant only in the earlier phases

The previous research phase indicated that the later phases have been forgotten, while the emphasis has been on the front-end in both service design practice and research. Interviews and observations conducted in this research phase validated this assumption, and also identified perceptions among service designers and their clients that might enhance the focus on the earlier phases.

The interviewed service designers suggested that their clients perceive service design as being a relevant approach only in the earlier phases of service development. As expressed by one of the senior service design consultants:

> "Some civil servants [and healthcare professionals] seem to perceive service design as only being the early phases of service development." (Senior service design consultant with experience of producing service design handovers)[22]

According to the same interviewees, this perception explains why service designers are seldom involved in these phases. At the same time, some service designers also suggest that the idea of service design merely being relevant in the earlier phases is in fact enhanced by service designers themselves (Publication 4). As stated by one of the interviewed senior in-house service designers, service designers tend to emphasize the importance of getting involved as early as possible in the process:

[22] This interview quotation has been presented previously in Publication 4.

> "The challenge is that [the service designers] focus on getting in *early*. Then the first point of entry is perhaps that you meet up in some sort of workshop setting, maybe for an introduction and explanation of what service design is. The fact that [the service designers] always start at the beginning of the process is a challenge in a way. Because, then [the earlier phases] are what you [as a designer] get very thorough knowledge of." (Senior in-house service designer with experience of producing and receiving service design handovers)

Another senior in-house service designer working in the public sector described an additional consequence of service designers wanting to be involved early, which related to the limited budgets in the public sector:

> "If we are going to involve designers . . . during an entire development process—from the moment we think that 'this is something we want to change,' to the point where we have actually implemented it—it is going to be an expensive process. . . . We have experienced that the [service] design consultants we tend to involve, stereotypically speaking, want to be involved early in the process. Perhaps because their opinion is that if we do any preparations before they get involved, we might miss some [key] issues or aspects. So, then we get started, spending the money as long as we have any. Being a municipality, it can be challenging to secure funding for the further phases of a project, even though the project is relevant. There may be other priorities." (Senior in-house service designer with experience of producing and receiving service design handovers)

Few service designers in my study have experience with the later phases of service development in the Norwegian public and healthcare sectors. Limited involvement in the later phases means they have few examples to show to potential clients and makes it harder to argue for why service designers ought to be involved in these phases. It also makes the final handover more significant, since the handover tends to become the last opportunity for the service designers to inform the further development process.

4.2.3 Making use of service design material in the further process

Several of my respondents emphasized that it was challenging to make use of the final handover deliverables they had received (Publication 2). As expressed by one of the in-house service designers:

> "I think there is something challenging about the process, maybe not the documentation, but perhaps one should have a deliverable on how to use this information afterwards if you don't have any service designers onwards." (Civil servant and service designer, working with service design in the public sector, with experience of receiving and producing service design handovers)[23]

What was perceived as especially difficult was the question of where to begin in the transition from a service concept to an implemented service. In one of the service development projects I observed, the project leader reflected about a challenging transition between two project phases:

> "In retrospect, I think . . . [that the designers] should have delivered a much more concrete solution that considered the economic resources available. When we established the project, we said that, 'we want these questions answered, within this budget.' [We said that we wanted] one overarching concept, where costs were not considered, and one concept that related to our actual budget. The latter, we didn't get. We accepted [that we only got the visionary concept], but I shouldn't have accepted that. . . . [After the service designers had

[23] This interview quotation has been presented previously in Publication 2.

> left,] we didn't have any tools to make even one little thing, since we didn't have anything concrete. We hadn't [discussed the question] 'if we just want to do something, with these resources, what should we do?' And in a way, I think—although I don't know what the other team members think—that there should have been a much more concrete ending of the first [process] phase. I think this is an issue that applies to many development projects." (Healthcare professional with experience of receiving service design handovers)[24]

Making use of the received material was identified by some respondents as especially challenging in service development processes, particularly in processes with a higher level of complexity, longer timeframes, and more visionary concepts.

4.2.4 A need for planning ahead

The research identified a multifaceted finding about the need for planning the later phases of the process before the service design consultants leave the development project. The interviewed service designers highlighted the importance of planning ahead together with the clients; some suggested that one approach is to develop plans for implementation:

> "The people who are left when we leave are the most important. . . . [We must] strengthen the plans [clients] have in their continuous work; . . . our job is to provide [them with] the tools they need to get their plans done." (Service design consultant with experience of producing service design handovers)

Planning ahead was regarded especially important in projects with a higher level of complexity, several stakeholders, and a more visionary service concept. The interviews indicated that plans for implementation ought to be co-designed and developed continuously from an early stage in the project. They should not be developed and delivered right before the service design consultants leave the project. My third publication presents what the interviewees describe as important aspects of implementation plans in terms of the process of developing a plan, and the content, and format that might be relevant for such plans.

Although both service designers and their clients agree on the importance of planning ahead, few service design handovers seem to include plans for implementation. On the one hand, the observation and interview studies indicated that few Norwegian service design consultancies have defined approaches for developing plans for implementation. On the other hand, the data showed that expectations and requirements related to the final handover were rarely explicitly formulated in service development projects in the public and healthcare sectors (Publication 2).

4.2.5 Few service design methods support implementation

My observations, interviews, and informal conversations indicated that the number of design methods that might support the later phases is limited. This insight is in line with the work of Ricardo Martins, who has compared design tools from various sources (2017). Martins concludes that of 381 design tools, 44 are described as tools for implementation, but only 13 of these are what he considers appropriate support (2017, p. 4732).

Drawing on Martins work, I reviewed some of the same sources to gain a deeper understanding of handovers (Curedale, 2016; IDEO, 2011; Stickdorn & Schneider, 2011; Tassi, 2009). Methods that were considered relevant for generating handover deliverables or activities related to the final handover are shown in Figure 4.2. In this figure, methods are divided into handover deliverables that describe the desired service (service concept), deliverables that describe the current state and the process (project documentation), and handover activities. As seen in this figure, many methods can result in tangible deliverables and can also take place as an activity. For example, the service blueprint can be seen as a handover deliverable describing the service concept, but it can also be a handover activity in the form of a workshop.

[24] Parts of this interview quotation has been presented previously in Publication 2.

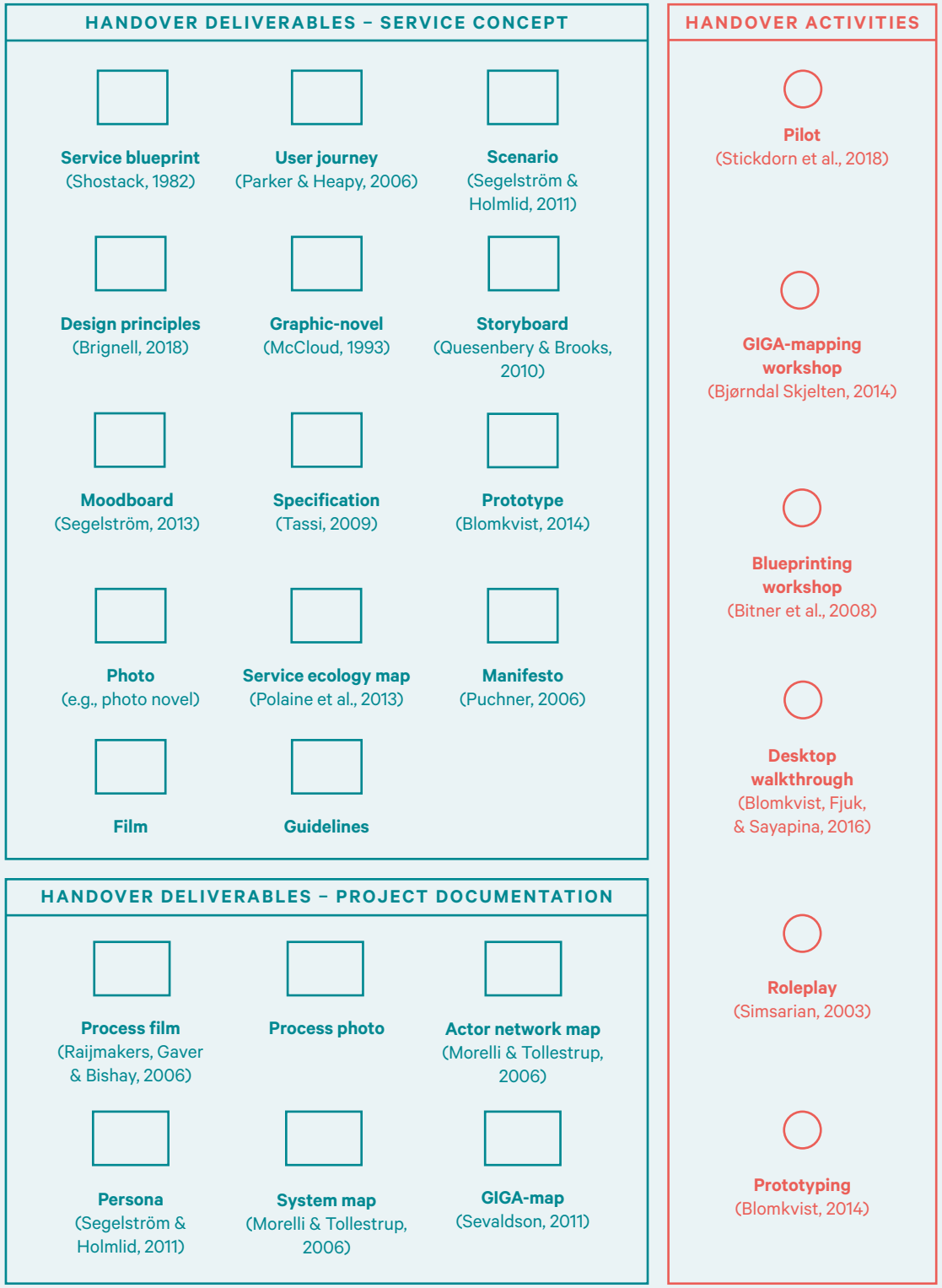


Figure 4.2
Overview of some service design handover deliverables and activities (Figure from Publication 4).

Martins argues for the relevance of further exploration and development of methods for service designers to use within the later phases (Martins, 2017). I have chosen a slightly different focus due to the contextual specifics of Norwegian public and healthcare service development, because I found that service designers are seldom involved in the later phases (see Section 4.1.2). In response, I have focused on methods that function as process support both when service designers are still involved by preparing their clients for the road ahead and after the designers have left by remaining relevant for the development team.

While some of the methods in Figure 4.2 might be relevant support for development teams during the later phases, most of the methods focus upon *what* one wants to achieve, rather than *how* to achieve it. In other words, the methods do not provide support for the transition from a service concept to an implemented service.

Service blueprints (Shostack, 1982), for example, can be used to develop detailed descriptions of the desired service. Yet developing a service blueprint facilitates conversations about *what* you aim to achieve, but not about *how* or *why*. The same goes for service journeys (e.g., Parker & Heapy, 2006). Another example is the pilot (WHO & ExpandNet, 2011), which is typically one of the central components in the transition from concept to implemented service. Pilots transform the description of a service concept (e.g., in the format of service blueprint or service journey) into a small-scale service intervention and can be one measure taken to get closer to an implemented service. The pilot is one of many possible steps taken to reach the implemented service. Yet it does not focus on the *overall* picture of how to achieve implementation.

I found the *implementation timeline* described by IDEO (2011, pp. 138–139), a method they now refer to as *roadmap* (Design Kit, 2018), to have the potential to support the team in

preparing for and coping with the transition from a service concept to an implemented service. In contrast to the other methods, it emphasizes the question of *how*, rather than *what*.

4.3 Service design roadmapping

The findings presented so far led to the conclusion that it was relevant to further explore plans for implementation that have the potential to support clients when receiving service design handovers. The following research question emerged: *How can one support development teams receiving service design handovers so that they may make use of this material in the later development phases*?

Background

The 13 interview respondents described challenges related to the handover and the transition from a service concept to an implemented service. Most of the healthcare professionals and civil servants expressed that plans or suggestions for how to proceed after the consultants had left were something they would have found relevant. At the same time, few had explicitly required such recommendations or plans as a part of the expected deliverables from the service design consultants. While most interviewed service designers mentioned planning for implementation as central, few had systematic approaches for it (cf. Section 4.2.5). This problem is illustrated by an excerpt from my research diary:

> *The implementation plan as a design object that is part of the handover.* Had another interview today that got me thinking about the visualization of plans, implementation plans as an important part of a handover, which, if I have understood it correctly, is interestingly enough something that not all design agencies deliver to their clients. Using different words to describe it, the implementation plan has been mentioned in several of the interviews either as important, with shortcomings, etc. (Research diary, 16 August 2017)

The words used by the service designers to describe how to prepare the development team for the later process phases were *recommendations, activities, instructions, guidelines, plans,* or *roadmaps*.

Planning ahead was considered especially important in processes with a higher level of complexity that lasted for a long period of time, included many stakeholders, and had more visionary concepts. Moreover, the respondents pointed out that such plans ought to be co-designed and developed continuously throughout the process (see Section 4.2.4).

Drawing on these findings, I started looking for approaches that created a shared understanding in a team and that might support them in the transition from concept to implemented service. As once stated by American President Dwight D. Eisenhower, "plans are worthless, but planning is everything" (as cited in Cunningham & Kempling, 2009, p. 335). To elaborate: "A plan is merely a hypothesis about how to proceed if all the assumptions that underlie the plan are correct. It is a virtual certainty that at least some of your assumptions will be wrong" (Cunningham & Kempling, 2009, p. 335). In other words, plans are in need of constant adjustments and updates, but planning can help us understand and prepare for the unexpected. I was interested in exploring an approach that would emphasize the act of planning, rather than just focus on the resulting plans.

When looking into planning and plans for implementation I found that *roadmaps*, one of the terms used by my interviewees, were briefly mentioned in service design literature. However, I found the term to be rather undefined, both in relation to content and approach. Looking further into roadmaps, I found *technology roadmapping* (Phaal et al., 2004), an approach that appeared to have clear overlaps with what my informants described as challenging (see Publication 3).

Time and *contextual complexity* are two overarching categories that I identified in the data material when investigating the service design handover (Publication 4). The issue of time is often critical in public and healthcare service development (see Section 4.2.1). The long timeframes can

make it challenging to keep continuity throughout a project, for example, because key team members leave the project (Publication 4).

Contextual complexity relates to the interactions between multiple stakeholders with contrasting expectations and aims, across different levels both inside and outside of the organization, from the end-users, to those involved in the development team and the service design consultants, to other related stakeholders in the organization or in other organizations. There is also systemic complexity in terms of societal trends, policy, budgets, legislation, and strategies that might influence the development process.

Both time and complexity are central dimensions of roadmapping, which can be described as a visual strategic planning approach (Phaal & Muller, 2009). Due to this, the roadmapping approach was considered potentially relevant for dealing with some of the challenges of handovers and the later phases.

Roadmapping is a process "in which creative conversations and multiple sessions build the common ground for the future plans of innovation" (Simonse, 2018, p. 3). A roadmap (see, for example, Figure 4.4) is one result of roadmapping processes (Garcia & Bray, 1997, p. 31). Scholars who have studied roadmapping argue that the process of roadmapping and the conversations it enables are more valuable than the resulting roadmaps (Hussain, Tapinos, & Knight, 2017). In line with this thinking, Lombardo and colleagues suggest that "In fact, [roadmapping is] really not about creating artifacts at all—it's about creating a shared understanding of where you're going and why" (2017, p. 4).

Roadmapping emerged during the middle of the previous century mainly within the area of technology development, where it is referred to as *technology roadmapping* (Hussain et al., 2017). Since its popularization during the 1970s, the approach has been applied to a broad range of issues in various sectors and on different organizational levels (Hussain et al., 2017). Roadmapping has been applied, for example, to several issues in the UK Government (Allum, 2017; Ferguson, 2017; Williams, 2014).

For a more detailed account of the technology roadmapping process and the content and format of technology roadmaps, see my third publication.

While the approach is well established in other fields (Hussain et al., 2017), there has previously not been any thorough description of a roadmapping approach specifically for service design (Publication 2). To clarify, *roadmap* has been mentioned as a method in some service design toolkits online (e.g., Design Kit, 2018; Namahn & Flanders DC, n.d.; Oblo Design, 2019; Remis, 2016), but the examples show roadmap *templates* without any information on how to use the method (see Namahn & Flanders DC, n.d.), limited descriptions for how to use the approach (see Design Kit, 2018; Remis, 2016, pp. 43–45), or no descriptions at all (Oblo Design, 2019). Some scholars, such as Francesca Foglieni, Beatrice Villari, and Stefano Maffei (2018, p. 40) refer to the concept of *service roadmaps* in relation to supporting service implementation. Yet they use this concept without any citations and without going into what service roadmaps actually entail. Foglieni and her colleagues, for example, mention service roadmaps once in *Designing better services*: "This means planning the service roadmap, that is the various service implementation steps over time" (2018, p. 40).

These examples show that the term *roadmap* is currently used in service design practice and literature, but that the concept has so far had a rather undefined meaning.

At the same time, there are indications of an increasing interest in roadmapping for design (Kim, 2016, p. 1) and a growing number of design agencies are exploring roadmapping in practice (Simonse, 2018, p. 10). In Norway, the interest in roadmapping among the service design agencies also seems to be growing (e.g., Dolven & Paulsen, 2017; LiveWork, 2018).

Exploring and developing a roadmapping approach for service design

After conducting a literature review focusing on the theoretical views of roadmapping developed for other fields, I investigated and developed a service design roadmapping

approach in practice. Together with service design MA students at the AHO, I explored the benefits and limitations of a roadmapping approach for service design in a series of design investigations (see Chapter 3). As a starting point for these explorations, I developed an initial set of guidelines for a service design roadmapping approach, drawing on *technology roadmapping* (see Garcia & Bray, 1997) and *design roadmapping* (see Kim, 2016; Simonse, 2018). The guidelines cover how to make a service design roadmapping first draft for your project and how to plan for and run the roadmapping sessions. The final version of the service design guidelines can be found in Appendix IV.

The following research questions drove the explorations: *What might a service design roadmapping approach be, and how might such an approach function as relevant support in the transition from service concept to implemented service?*

Findings

The main findings from these explorations were that the outcome of service design roadmapping depends on the project's characteristics, service design roadmapping can lead to more refined service concepts, and service design roadmapping can foster commitment among those involved through co-design. After descriptions of these findings, there follows a section showing service design roadmaps developed by MA students during the design investigations.

4.3.1 Service design roadmapping depends on a project's characteristics

The variations between projects in the two rounds of design investigations made it clear that the roadmapping process and outcome is closely connected to the project's characteristics (Publication 4).

As seen in Figure 4.3, the students' projects varied in their level of complexity (low/high) and timeframe (short/long). In response, their roadmaps also differed in the level of complexity and timeframe. Complexity is determined by many parameters, such as how challenging the topic is, the number of stakeholders involved, and what outcome and

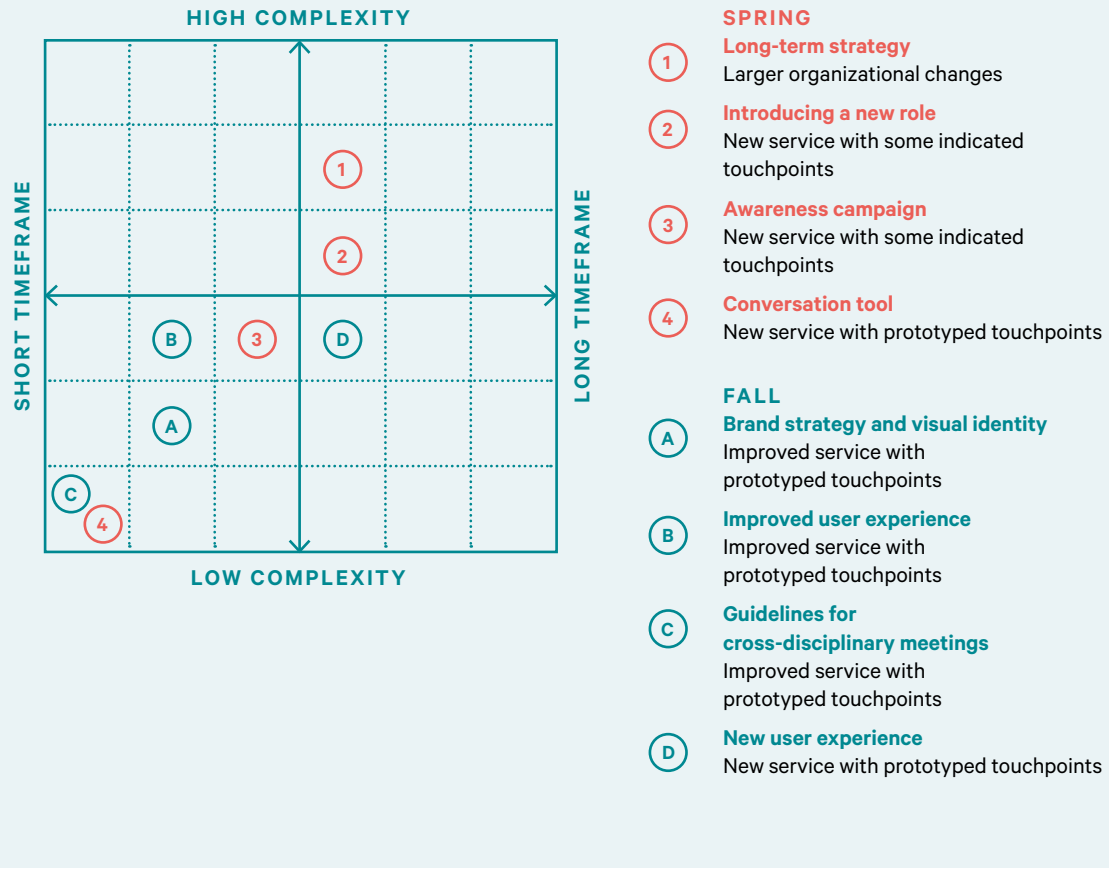


Figure 4.3
The eight student roadmaps tentatively assessed based on project characteristics. Six of the eight student teams shared their roadmaps, these six can be seen in Figure 4.5–4.14. (Figure from Publication 4).

impact the project aims for. The outcome can range from re-designed or new touchpoints, to interventions influencing organizational values and norms, to deeper organizational changes (cf. Junginger & Sangiorgi, 2009, p. 4346).

In all of the student teams' projects, no matter the characteristics (low/high level of complexity and short/long timeframe), roadmapping sessions enabled fruitful conversations about the road ahead and the service concept (see Section 4.3.2). Yet when comparing the projects, I found that the contrasting characteristics led to different kinds of roadmapping conversations and also different outputs, in terms of roadmaps.

In projects with a lower level of complexity and a shorter timeframe, the roadmapping was easier to conduct since it was easier for the participants to contribute with concrete information. In these processes, it was relatively easy for the clients to develop quite concrete plans for implementation. These projects mostly led to roadmaps with limited information and a rather low level of detail (see, e.g., Project A in Figure 4.11 and Project C in Figure 4.13). Project 4 was, however, an exception to this. This project had a short timeframe and a low level of complexity (see Figure 4.3), but the final roadmap (see Figure 4.9) contains more detailed information than for example Project A and C.

In comparison, the experience of roadmapping was more challenging in projects with a longer timeframe and higher level of complexity. The participants found it harder to engage in conversations about the unknown future than they did in conversations about more foreseeable short-term changes. However, the approach appeared to contribute even more to these projects. The longer the timeframe and the higher the complexity, the more important it became to discuss and co-design possible desirable routes forward toward a visionary service concept. In these projects, the developed roadmaps contained more information (see, e.g., Project 1 in Figure 4.5, Project 2 in 4.7, and Project D in 4.15).

To summarize, roadmapping can be relevant for projects of all types. However, there are indications that the approach is even more relevant in projects with a longer timeframe and more complexity.

4.3.2 Service design roadmapping can lead to more refined concepts

When beginning to apply roadmapping, some of the students became frustrated since they had to change aspects of their concepts that they had decided on before the roadmapping sessions. The students' frustration early in their roadmapping processes is exemplified in my fieldnotes:

> During the students' first roadmapping session, most conversations focused more on the service concept rather than the roadmap itself. Three out of four teams experienced that the conversation jumped back and forth between the two topics—the service concept and the roadmap. For example, a participant attending one of the sessions was particularly critical of the concept, forcing the conversation to shift back to the service concept, again and again, while the students attempted to steer the discussion toward the content of the roadmap. Because of such experiences, three of the four student teams explained that they did not find the first roadmapping session to be relevant to their process, in terms of what they had expected. As one student wrote in her reflection notes when describing the first roadmapping session, "The participants focused on the concept, not on the roadmap. Wasn't successful in terms of roadmapping." However, I noticed that the activity of service design roadmapping helped refine and further develop the details of the service design concepts. When discussing the road ahead, it seems that you will often find that you need to make adjustments in the service concept—and the other way around. (Excerpt from my fieldnotes, Spring 2018)

At the end of the course, after a series of roadmapping sessions, both the students and their clients expressed that they thought the roadmapping sessions were valuable in the sense that the service concepts became more detailed and more feasible:

> "We got really valuable feedback on the project that affected our design. . . . You can use [roadmapping] for different things—for discussing the road ahead, but also for refining the concept itself." (MA service design student, reflections from the final day of the course)[25]

When comparing my observations from service development processes with the two design investigations, I found

[25] This quotation has been presented previously in Publication 4.

indications that the roadmapping sessions created a space for conversations that would otherwise not have taken place. Focusing upon the road ahead resulted in questions being asked from another perspective, and these questions informed the further development of the service concepts.

4.3.3 Service design roadmapping and shared ownership

The design investigations show that roadmapping sessions, as a form of co-design, can enable collaboration among various stakeholders with different aims and perspectives, across disciplines and silos within an organization (cf. Vaajakallio, Lee, Kronqvist, & Mattelmäki, 2013). As expressed by one of the students involved:

> "We experienced that the roadmap functioned as a unifying collaboration tool that sparked conversations that we would never have been able to catch without these artifacts." (MA service design student)[26]

A senior service designer and researcher who was involved in evaluating the MA course said that the roadmapping sessions seemed to lead to an increased feeling of ownership among the involved participants:

> "I think that the experience of co-creating these [roadmaps] have a tremendous value . . . because when people are engaged in planning something, they take a totally different ownership." (Senior service designer with experience of producing service design handovers)[27]

This is an interesting aspect of roadmapping, considering that a higher degree of ownership for a project within an organization might enhance the probability of its implementation (cf. Bason, 2010).

[26] This quotation has been presented previously in Publication 4.

[27] This quotation has been presented previously in Publication 4.

Meanwhile, an important question is who to involve in the roadmapping sessions. One of the student teams described one of their roadmapping sessions as a waste of time, because they found the invited participants irrelevant for discussing the implementation of their service concept:

> "Due to participants who were not directly relevant for the workshop, we got much less time for constructive work." (Written reflection by one of the student teams participating in the first design investigation)[28]

Involving the right stakeholders in the roadmapping sessions proved challenging for some student teams during both of the design investigations. One reason for this was logistics, in the sense that it was challenging to invite busy stakeholders on short notice. Another and even more important reason for this is that it was sometimes challenging to identify the right individuals to involve.

4.3.4 A visual essay of service design roadmaps

In this section, I provide a series of visual examples of service design roadmaps developed by service design students during the design investigations. It is worth noting that the examples of roadmaps presented on the following pages are the outcome of exploring the service design roadmapping approach in practice. None of these are what I consider to be the ideal roadmap, but rather examples of what service design roadmaps might be.

Before looking into the structure and content of the roadmap examples, Figure 4.4 outlines the content of a general roadmap for service design. The figure draws on descriptions of roadmap content from other fields (Lombardo, McCarthy, Ryan, & Connors, 2017, p. 48; Phaal & Muller, 2009, p. 40; Simonse, 2018, p. 217). According to Robert Phaal and Gerrit Muller (2009, p. 40), the main questions

[28] This excerpt from the students' written reflections has been presented previously in Publication 4.

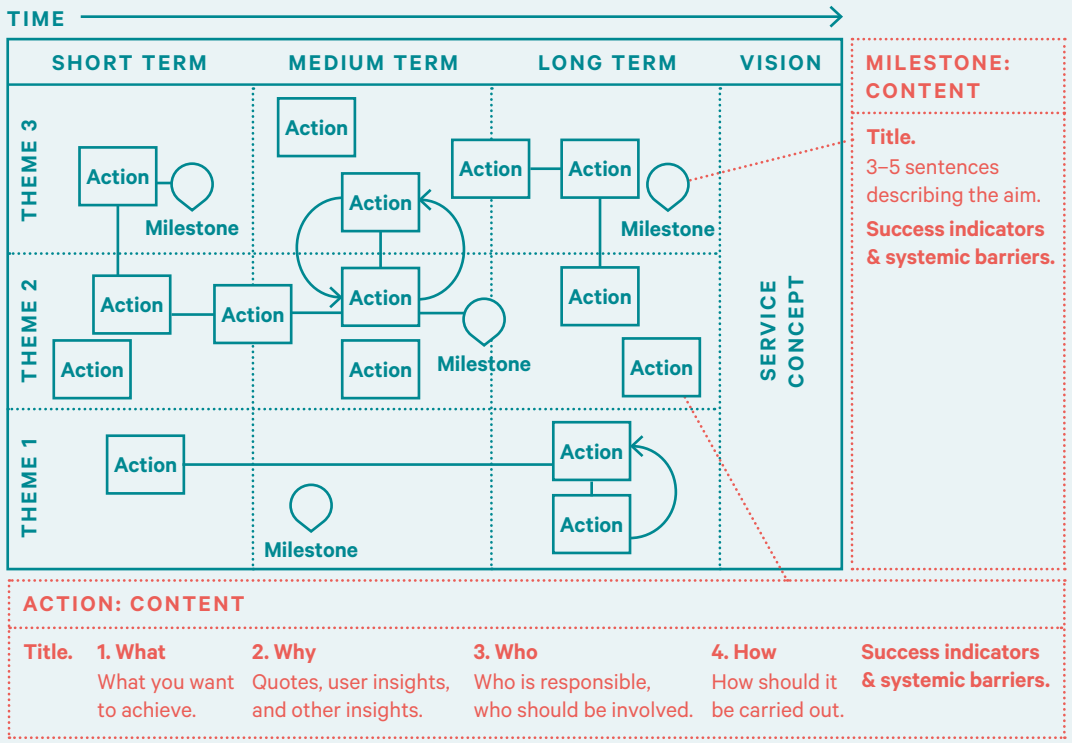


Figure 4.4
Generic content of a roadmap for implementation (Figure from Publication 4).

a roadmap should try to answer are: (a) where we are now, meaning the current situation; (b) where we are going, meaning the future vision; and (c) how to get there, meaning milestones and recommendations for how to get there.

The first three roadmaps on the following pages are from the first design investigation during the spring of 2018. The other three are from the second design investigation during the fall of 2018. For each roadmap, I briefly describe the context of the project, the number of team members, the timeframe of the roadmap, and the level of complexity. The parameters can be found next to each roadmap.

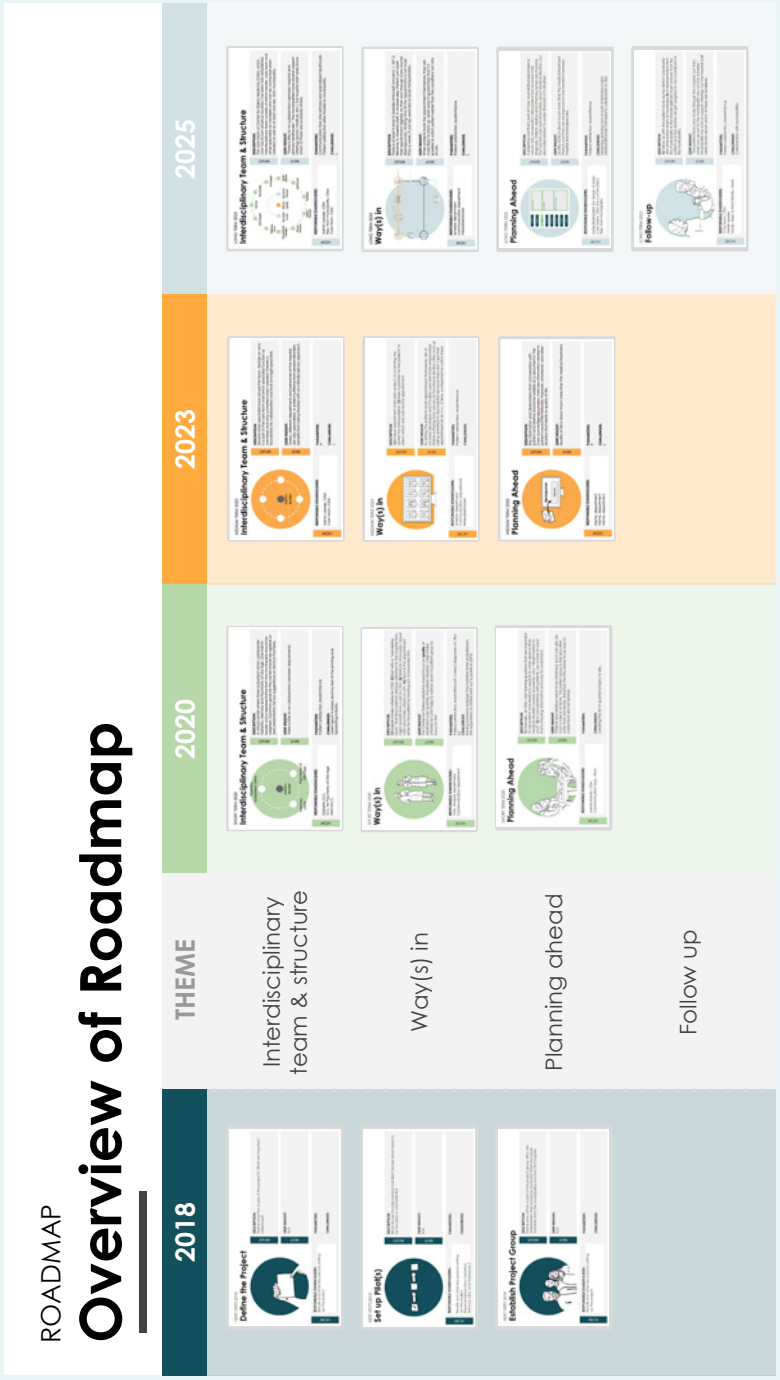


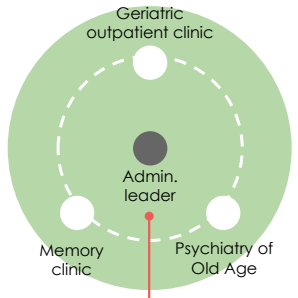
Figure 4.5
Roadmap 1. **Center for elderly medicine**
Long term strategy for larger organizational changes in the Norwegian healthcare sector

Design investigation 1: *Spring 2018* I 4 team members
Time used: *Approximately 1 week during a 10 week project*
Timeframe in roadmap: *7 years* I Level of complexity: *medium-high*

Title describing one of four themes.

SHORT TERM 2020

Interdisciplinary Team & Structure



WHAT

DESCRIPTION:
1)A virtual center where three outpatient clinics collaborate: Geriatric, Memory and Psychiatry of Old Age. One Admin leader and a representative from the municipality should be assigned. **2)**Common goals for the center should be agreed on (see presentation for our suggestions on Service Promises).

WHY

USER INSIGHT:
There is little to no collaboration between departments. Invitation to outpatient clinic often has a lot of information, without any hierarchy. It's hard for users to read and remember key info.

HOW

RESPONSIBLE STAKEHOLDERS:
Geriatric O.C.
O.C. for Psychiatry of Old Age
Memory C.

PARAMETERS:
Patient satisfaction, readmittance

CHALLENGES:
Hire/Involve an Admin leader and a representative from municipal services

Color code showing when in the timeline this recommendation is situated.

Success indicators.

What? What you want to achieve.

Who? Who is responsible and who should be involved?

Systemic barriers.

Why? Quotes, user insights and other insights explaining why something ought to be done.

Figure 4.6
Roadmap 1. **The descriptions of the contents are based on the suggested content found in the service design roadmapping guidelines (see Appendix IV).**

(Kaasa, Treit, Byskov, & Breivik, 2018).

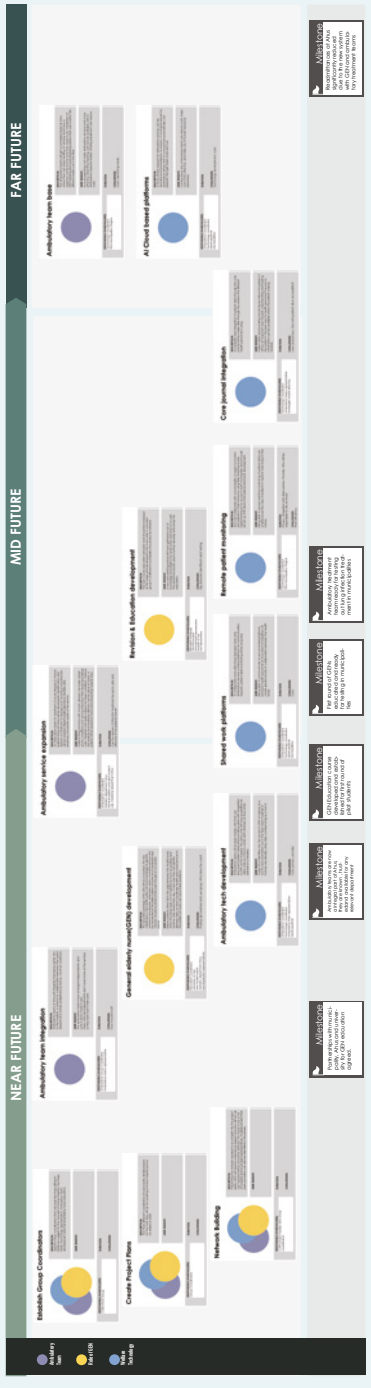


Figure 4.7
Roadmap 2. Home hospital for the elderly
Introducing a new role and service in the Norwegian healthcare sector

Design investigation 1: *Spring 2018* I 2 team members
Time used: *Approximately 1 week during a 10 week project*
Timeframe in roadmap: *7 years* I Level of complexity: *medium-low*

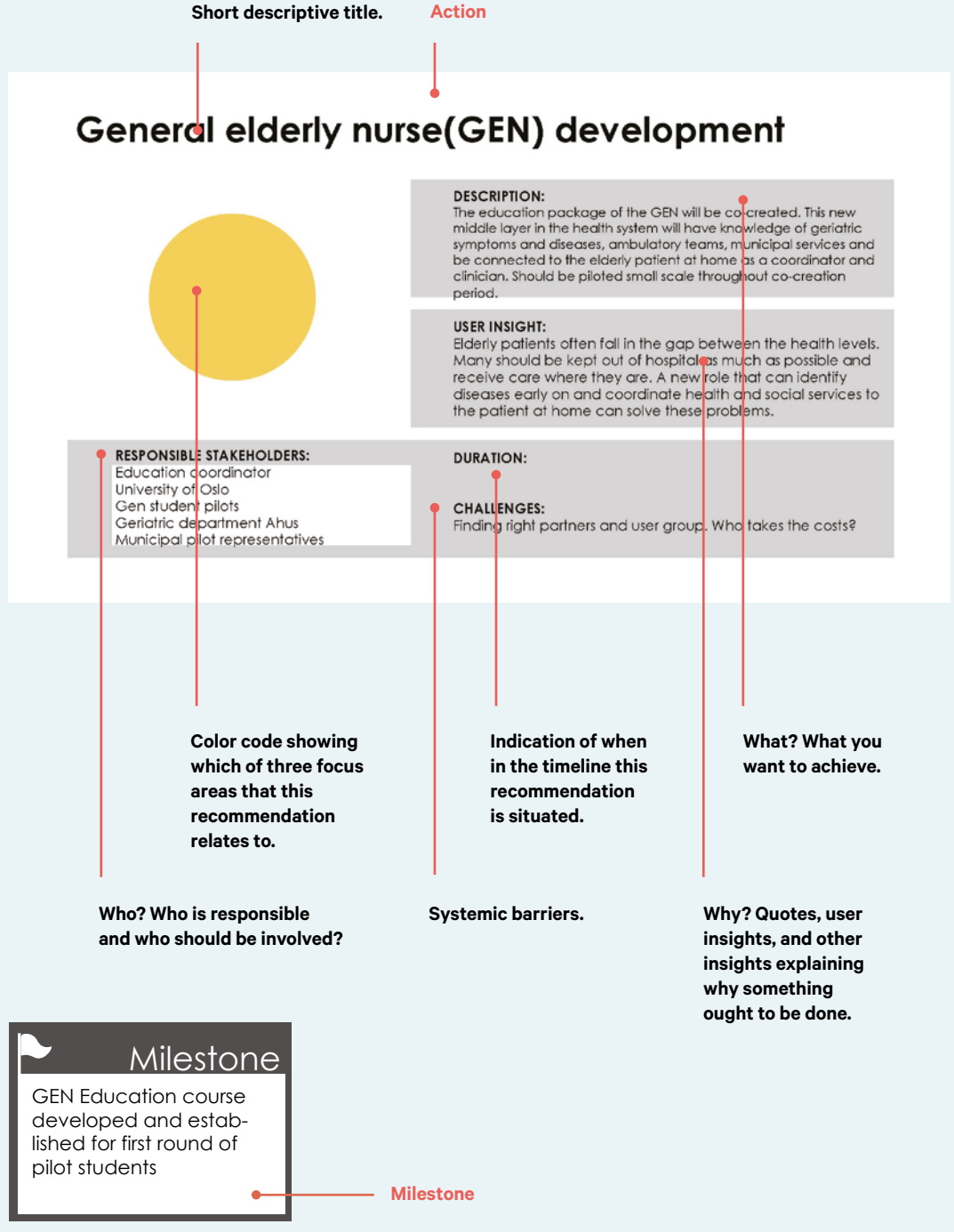


Figure 4.8
Roadmap 2. The descriptions are based on the suggested content found in the service design roadmapping guidelines (see Appendix IV).

(Zhou & Restan, 2018)

Figure 4.9
Roadmap 4. Still in control
A new conversation tool for talking about death and dying

Design investigation 1: *Spring 2018* I 3 team members
Time used: *Approximately 1 week during a 10 week project*
Timeframe in roadmap: *7 years* I Level of complexity: *low*

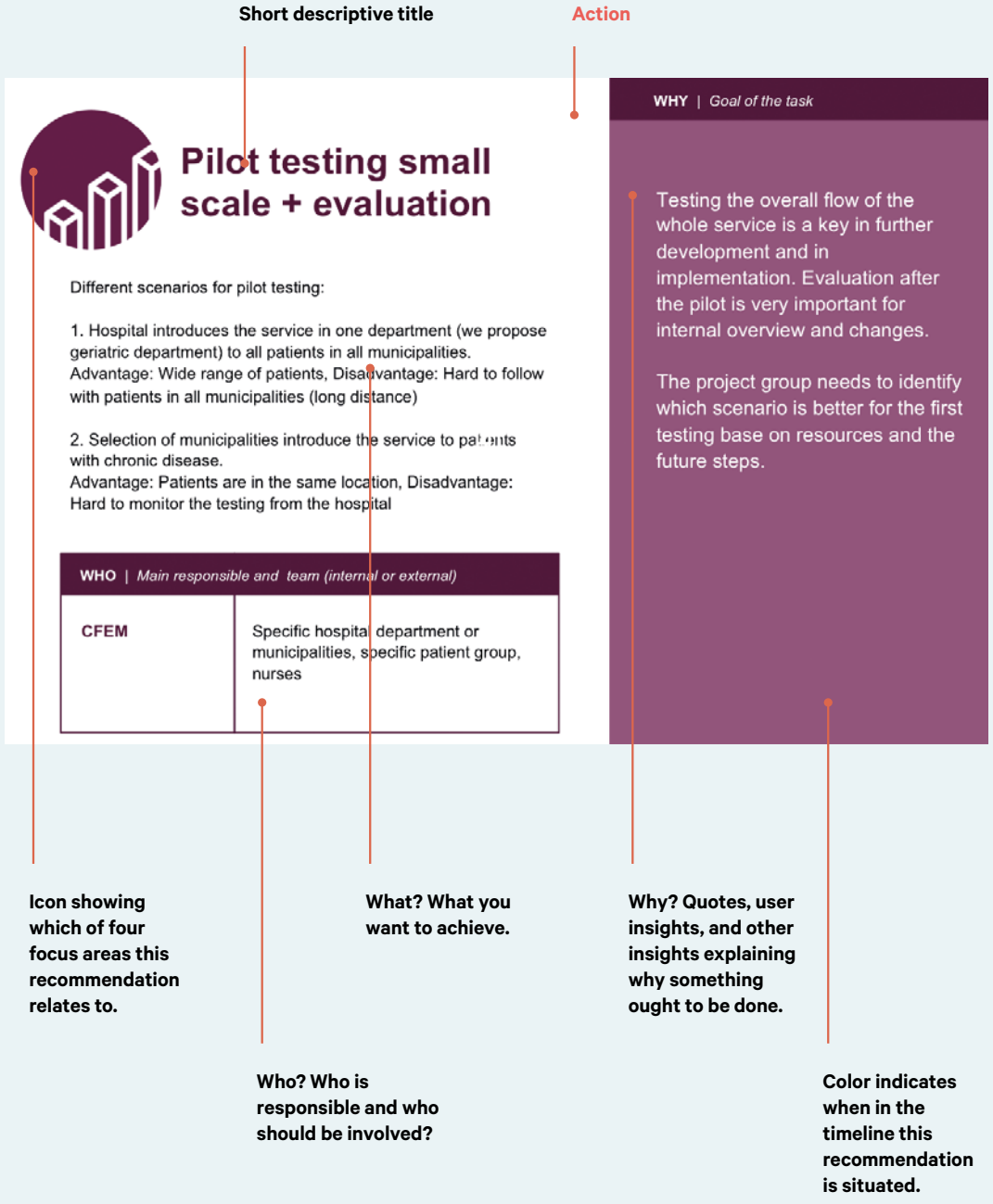


Figure 4.10
Roadmap 4. The descriptions are based on the suggested content found in the service design roadmapping guidelines (see Appendix IV).

(Hormazábal, Smejkalova, & Thue, 2018)

Figure 4.11
Roadmap A. Ocean now
New festival brand strategy for a large Norwegian shipping industry event

Design investigation 2: *Fall 2018* I 4 team members
Time used: *Approximately 1 week during a 10 week project*
Timeframe in roadmap: *8 months* I Level of complexity: *low*

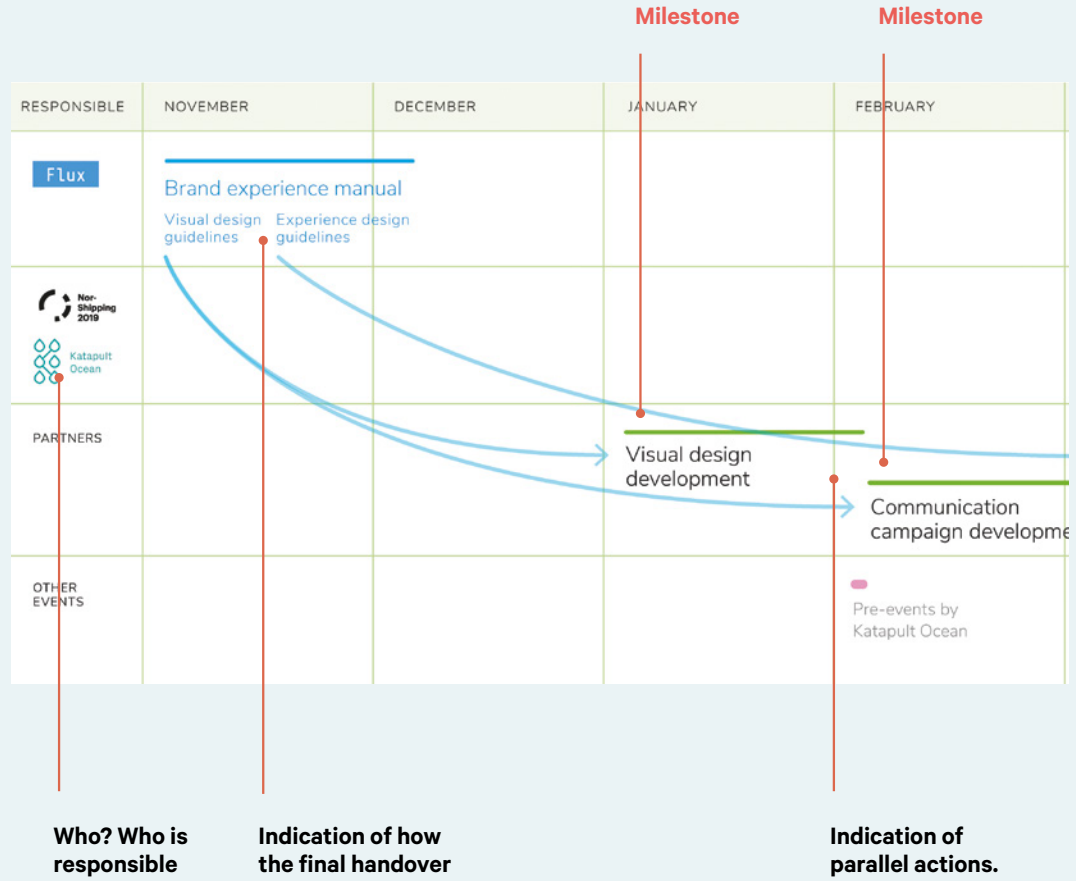


Figure 4.12
Roadmap A. The descriptions are based on the suggested content found in the service design roadmapping guidelines (see Appendix IV).

(Hustoft, Prakash, Heier, & Gao, 2018)

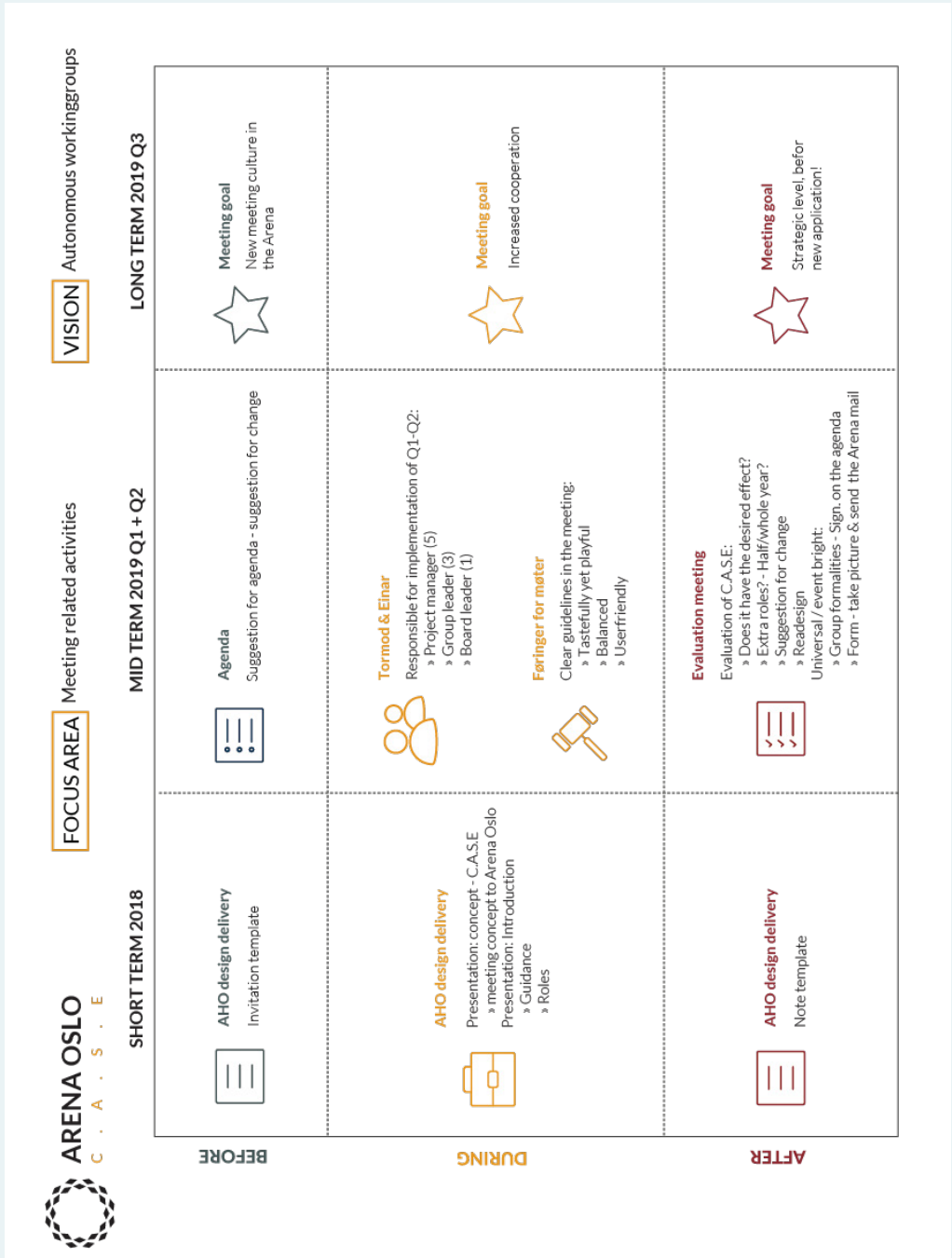


Figure 4.13
Roadmap C. **C.A.S.E**
Establishing a meeting culture through a set agenda, touchpoints, and gamification

Design investigation 2: *Fall 2018* I 4 team members
Time used: *Approximately 1 week during a 10 week project*
Timeframe in roadmap: *1 year* I Level of complexity: *low*

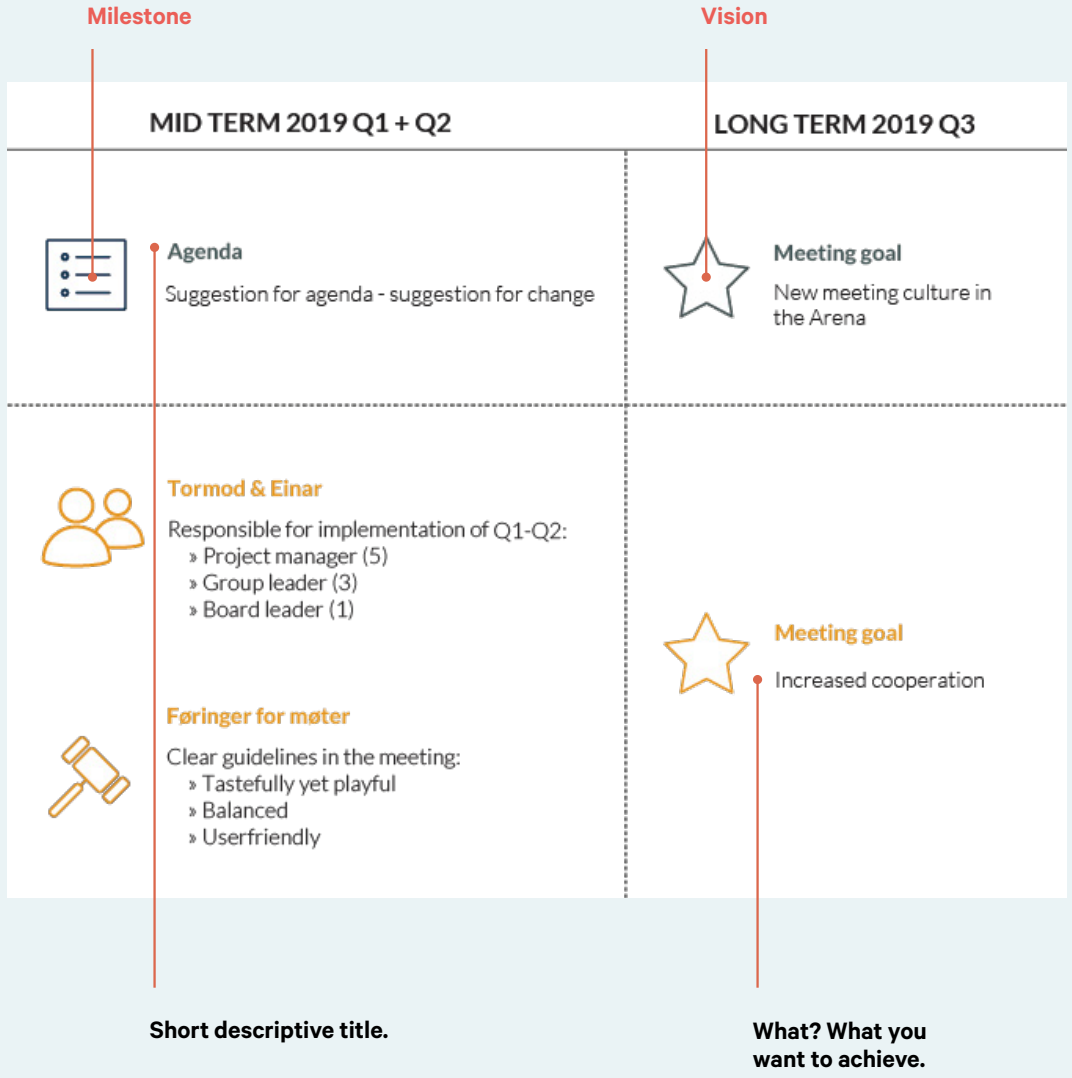
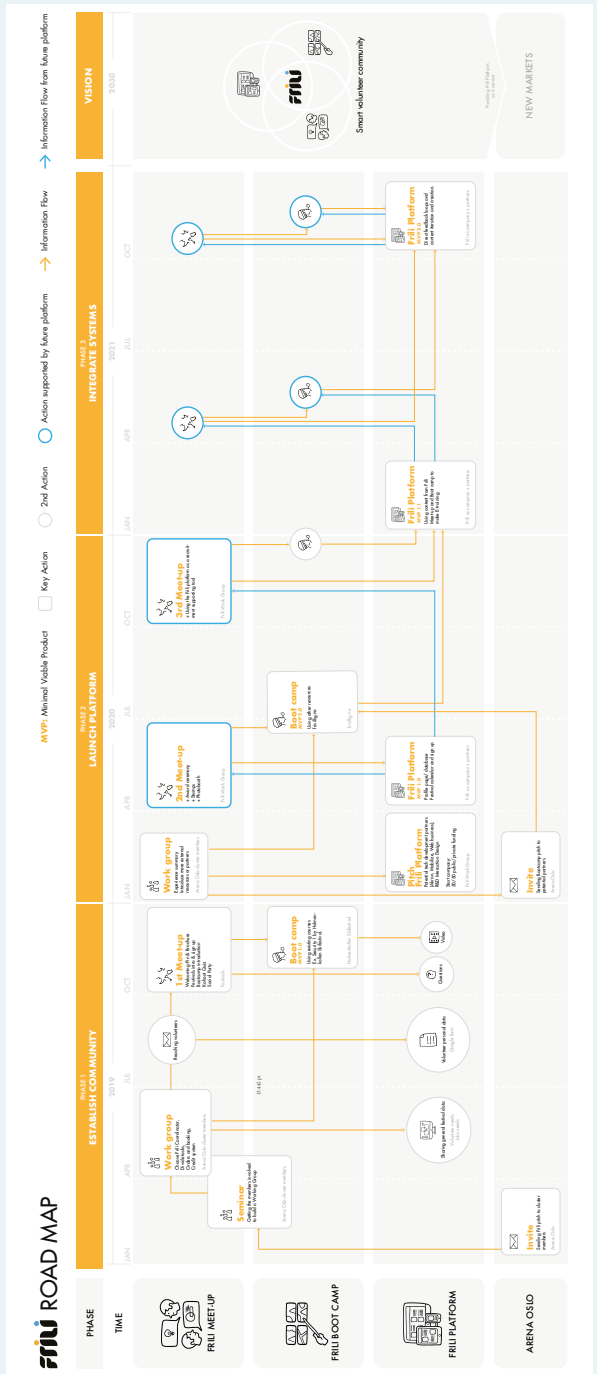


Figure 4.14
Roadmap C. **The descriptions are based on the suggested content found in the service design roadmapping guidelines (see Appendix IV).**

(Stenstadvold, Jancey, Frogner, & Welle-Watne, 2018)



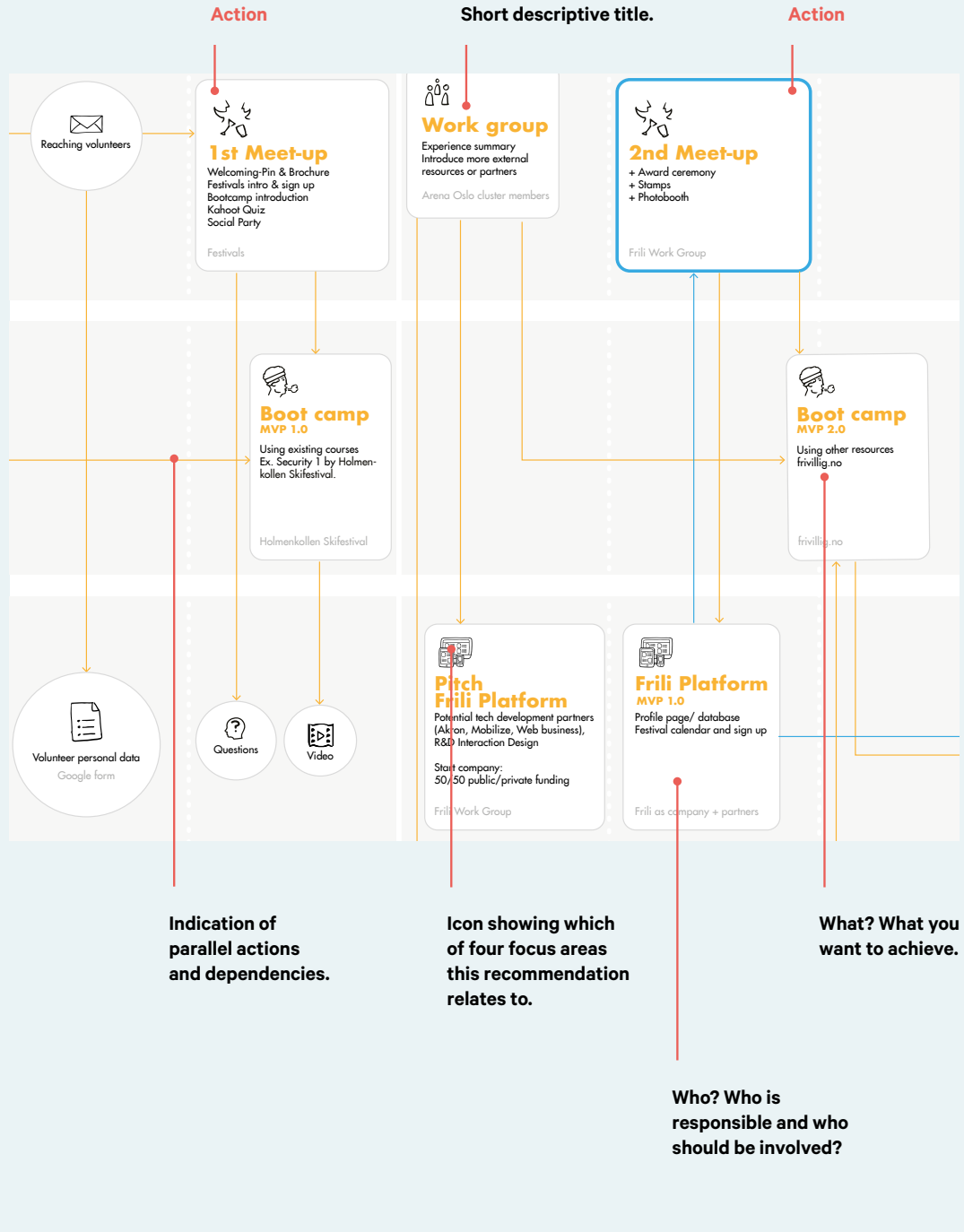


Figure 4.15
Roadmap D. FRILI
A new service for festival volunteers that challenges the norms and values of the involved organizations

Design investigation 2: *Fall 2018* I 2 team members
Time used : *Approximately 1 week during a 10 week project*
Timeframe in roadmap : *11 years* I Level of complexity : *medium-low*

Figure 4.16
Roadmap D. The descriptions are based on the suggested content found in the service design roadmapping guidelines (see Appendix IV).

(Bøckman & Xifan, 2018)

4.4 Summary

The aim of my research has been to develop suggestions for how to improve service design processes and practices, not just to gain a deeper understanding of the two. I therefore focused upon identifying an area that I could use as a starting point for developing such suggestions. I identified this area through an explorative process that consisted of my starting point and three research phases.

My initial focus was on how user involvement is conducted in practice throughout the service design process, which led to the first research phase in which I focused on the later phases of the design process. In the second research phase, I looked at service design handovers as essential in relation to the later phases. Then followed the third and final phase in which service design roadmapping was explored as an approach that might potentially improve service design processes and practices.

The first research phases and findings acted as essential stepping-stones toward indicating roadmapping to be a relevant avenue of research. These findings are also considered to be of interest and relevance to service design research and practice. Hence, the earlier research phases and their associated findings are presented in this chapter.

I found that the later phases are not as straightforward as they might seem and argue that it is time to gain a deeper understanding of these phases in order to advance the field of service design.

When exploring the forgotten back-end, I found that during a process, concepts will drift away to some degree from the previously identified user insights. Service design consultants are mainly involved in the early phases and the handover from service designers to their clients is significant for the later phases. Drawing on these findings, I decided to focus upon the handover and the transition to the later phases.

When studying the service design handover, I found that the transitions between project phases can be challenging and that service design tends to be perceived as being relevant only in the earlier phases. I also found that those receiving service design handovers sometimes find it challenging to make use of this material in their subsequent process, and that there is a need for planning ahead. Furthermore, I identified that there is a lack of service design methods to support the move from a service concept to an implemented service.

Lastly, when exploring service design roadmapping, I found that the outcome of roadmapping depends on the project's characteristics, that roadmapping can lead to more refined service concepts, and that roadmapping can create commitment among those involved through co-design.

Chapter 5
Discussion

This chapter discusses the main contributions and their implications for service design research, practice, and teaching. The chapter also situates my work into the bigger picture through reflections on what the forgotten back-end means in the context of the Norwegian public and healthcare sectors and through a discussion of roadmapping in light of critical perspectives on plans and planning.

5.1 Contributions

This section presents the four research contributions: the forgotten back-end, user insight drift, the service design handover, and service design roadmapping. After a discussion of each contribution, I reflect upon their implications for service design research and practice.

5.1.1 The forgotten back-end

The first contribution, which I decided to term "*the forgotten back-end*", was introduced in my first publication. I use this concept to emphasize that the later phases of service development processes are critical to the service design process, but are neglected in research and practice (see Chapter 2). This contribution is on an overarching level, meaning that the three other contributions all feed into the understanding of the back-end of service development processes.

While acknowledging that theoretical descriptions of the design process differ from the more iterative and non-linear nature of design practice (cf. Lawson, 1980/2001, pp. 31–38), I also agree with Marc Stickdorn and Jakob Schneider when they argue that consciously articulating your design process will lead to a greater degree of reflection about how you as a designer might influence the outcomes (2011, p. 126). In other words, reflecting upon and articulating your process will impact the design outcomes, even if the process most likely will turn out differently than planned. Building on this argument, I have chosen to discuss this contribution in light of a few theoretical models of the design process (see Section 2.2.3 for a description of different models).

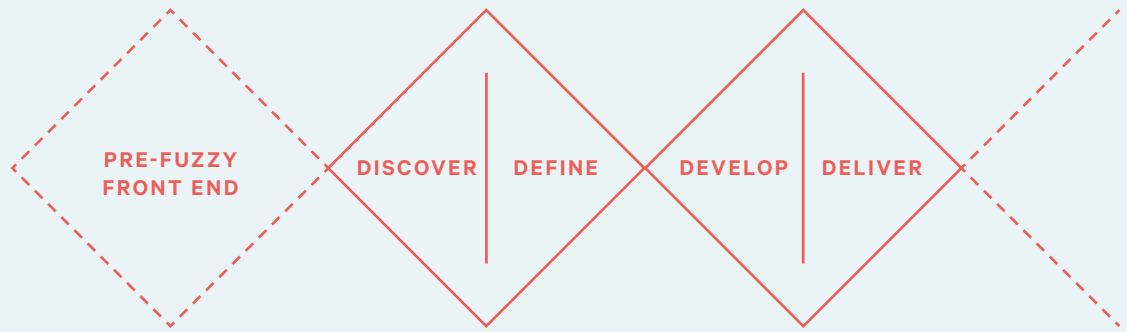
The *double diamond design process* (Design Council, 2015a) is perhaps the most used theoretical representation of the design process. There are ongoing discussions, however, among both design practitioners and scholars on how to improve this model (cf. Design Council, 2015b). A central suggestion in these discussions is to introduce a phase preceding the fuzzy front-end, making the double diamond into a *triple diamond*, as seen in Figure 5.1 (Casasbuenas, 2018; Conway, Masters, & Thorold, 2017; Norwegian Digitalisation Agency, 2020; Rygh, Morrison, Berg, & Romm, 2018).

The added diamond has been referred to as the *pre-fuzzy front-end* (Rygh et al., 2018). Arguments behind this suggestion include the importance of an initial analysis of the context one designs for, in order to better articulate the problems in the design brief (Conway et al., 2017, p. 22). Other arguments relate to supporting the alignment of expectations, forming relationships between the involved stakeholders, and developing a shared understanding before embarking on the fuzzy front-end phases (Rygh et al., 2018).

While acknowledging the importance of the fuzzy front-end and agreeing with the arguments for introducing a pre-fuzzy front-end, my research shows that it is due time for service design to also consider the *later* process phases.

Figure 5.1
An example of the *triple diamond design process*, in which a *pre-fuzzy front-end* diamond has been added. The first diamond often contains 'dialogue' and 'diagnose' as central activities.

Figure 5.2
An example of the *extended triple diamond design process* with the addition of a *pre-fuzzy front-end* diamond and a continuation of the process after the last diamond (cf. Conway et al., 2017).



This argument is in line with the work by Rowan Conway and colleagues (2017, p. 24). They suggest adding a pre-fuzzy front-end, too, but more importantly from my point of view, they argue for the importance of adding a phase *after* the second original diamond (as shown in Figure 5.2).

For service design practice and research, this contribution demands a rebalancing of the design process. Instead of the current emphasis on the earlier phases, there is a clear need for considering the process as a whole by also focusing upon the later phases.

Further implications of this overarching contribution are discussed near the end of this chapter (see Section 5.2.1).

5.1.2 User insight drift

The second contribution is the identification and exemplification of the phenomenon I have termed *user insight drift*, which is a challenge that service designers and their clients face in Norwegian public and healthcare service development processes (research question 2).

User insight drift is something that inevitably happens in any development process (cf. Robillard et al., 2014), as exemplified in Chapter 4. Drift is not necessarily something negative, but it can become critical in cases in which the final (re)designed service does not answer to the identified user needs. While user insight drift can occur gradually during a process, I also found that certain parameters in a development process, such as prolonged processes and transitions between project phases, are likely to increase user insight drift.

Implications

Many aspects of user insight drift are outside of anyone's control. At the same time, I argue that service designers actively ought to reflect upon and consider user insight drift in relation to user involvement and processes aiming for human-centered services. The concept of user insight drift can help to remind the clients to reflect upon the direction of their further process to maintain the focus upon the users throughout (cf. Sanders & Stappers, 2008, p. 9). In this way, the concept of user insight drift can indirectly contribute to avoid tokenism (cf. Arnstein, 1969) and to avoid developing services that do not answer the identified user needs.

For both service design practitioners and their clients, the term user insight drift contributes to the vocabulary for describing and discussing aspects of human-centricity in a service development process. As a theoretical concept rooted in practice, it offers a new perspective for describing and assessing a service development process in terms of the underlying pragmatic intentions of involving users (cf. Carroll & Rosson, 2007). One of the central questions that this perspective brings to service development in practice is: *If we make these changes in the service concept, will the solution still meet the user needs?*

User insight drift can also help to rebalance the design process. The concept offers a perspective that shifts the focus away from the earlier phases toward also emphasizing the later phases and pictures the process as a whole (cf. Section 5.1.1).

5.1.3 Service design handovers

The third contribution is to the understanding of the service design handover, an area that can have a significant impact on the later phases of service development processes (research questions 2 & 3) and that has so far received limited attention (Yu & Sangiorgi, 2017, pp. 79ff).

Service design handovers are here understood as all interactions that transfer knowledge from service design consultants to their clients until the consultants leave the process (see Section 4.2). Handovers take place throughout the process in the form of *activities* and *deliverables*. The focus of this thesis has been the final handover to the clients before the service design consultants leave.

My work shows that in the Norwegian public and healthcare sectors most service design consultants leave the development process before the concept has been implemented (Publication 1), a finding supported by other scholars (Lee, 2016; Sangiorgi et al., 2015). The final handover therefore becomes the last opportunity for service design consultants to inform the later process phases.

The service concept tends to be an essential part of the final service design handover from the service designers to their clients (cf. Goldstein et al., 2002). Yet there is a need for methods that support the transition from the service concept to an implemented service (Bækkelie, 2016; Martins, 2016). Rather than describing *what* one wants to achieve (i.e., a service concept), I have found that there is also a need for service design methods to focus upon *how* to achieve service implementation (see Section 4.2.5).

Implications

Ideally, service designers would be involved throughout the process and handovers would not be necessary. But, as I uncovered through my research, the contextual conditions of the Norwegian public and healthcare sectors mean that service design consultants are seldom involved in the later phases. Due to this, I have explored how to improve service design handovers. I see service design roadmapping, my fourth contribution, as a promising way to prepare the clients for the handover phase and for the future.

Further implications of service design handovers are reflected upon in second part of this chapter (Section 5.2).

5.1.4 Service design roadmapping

The fourth contribution of this thesis is the service design roadmapping approach. I found that this approach has the potential to aid service design practitioners in their processes and to support development teams to make use of service design material in the later development phases (research questions 1, 4, & 5). This contribution also consists of guidelines for applying service design roadmapping in practice, which have been developed during this research (see Appendix IV).

Service design roadmapping consists of the *activity* of roadmapping and the *output* from that activity, namely roadmaps. During roadmapping sessions, the conversations focus upon three questions (drawing on Phaal & Muller, 2009, p. 40): Where are we now? Where do we want to go? And how we can get there? Roadmaps are visual strategic plans that serve as a summary of previous conversations and as an indication of possible roads ahead. See Figures 4.5–4.16 for examples of service design roadmaps.

The overarching aim of this thesis is to offer suggestions for improving service design processes and practices in Norwegian public and healthcare service development. The service design roadmapping approach does so by focusing upon the transition from a service concept to an implemented service and by supporting the later phases of the development process. This makes the approach a significant contribution to service design. For as previously mentioned, few service design methods support the later process phases and the transition from service concept toward an implemented service (see Section 4.2.5). In contrast to other methods, service design roadmapping has the potential to support the development team before and during the transition from concept to implemented service. An essential difference is that the approach emphasizes the question of *how* one can achieve something, not only *what* one wants to achieve. Because of its contrasting focus (how instead of what), service design roadmapping is supplementary to other service design methods. It is not meant, in other words, to replace the use of methods such as service blueprints, user journeys, or pilots.

Implications

My research indicates that the service design roadmapping sessions in which participants engaged in co-designing a roadmap for implementation led the participants to have an increased feeling of ownership of the service concept (see Section 4.3.3). This finding is supported by several scholars who have studied the effects of co-design and co-creation (e.g., Bason, 2010, p. 9; Cottam & Leadbeater, 2004, p. 29; Rittel, 1984, p. 320). According to Hilary Cottam and Charles Leadbeater, "experience shows that participants feel 'signed up' to the solutions that are co-created, ensuring that innovation is brought to life" (2004, p. 29). This is in line with Rittel, who states, "people are more likely to like a solution if they have

been involved in its generation" (1984, p. 320). Drawing on these scholars, I posit that service design roadmapping has the potential to support the later phases and the transition toward an implemented service through the engagement and commitment of the stakeholders who are essential in implementing the service.

The service design roadmapping approach suggested in this thesis is closely connected to *technology roadmapping* (see Phaal, Simonse, & Ouden, 2008) and *design roadmapping* (Kim, 2016; Simonse, 2018). Yet there is an important difference between these approaches and what I suggest when it comes to the application.

In technology and design roadmapping, the approach is used in the *earlier phases* for strategic foresight (Kim, 2016; Phaal et al., 2008, p. 138). The aim of these processes is to pinpoint areas for relevant future development processes.

I suggest an additional application of roadmapping; service design roadmapping for strategic planning processes related to the *later phases*. In this context, the roadmapping approach is an additional activity in service development processes that aims to support the later phases and implementation.

Both of the applications described above (either in the early or later process phases) are relevant for service design. However, in response to my research interest and findings, I have chosen to focus on roadmapping for service implementation.

Service design roadmapping might have positive implications for *user insight drift*. In contrast to service blueprints, for example, which are mainly concerned with *what* one wants to achieve, roadmaps also include information about *how* and *why* one wants to achieve something. The arguments for *why* that are included in roadmaps describe the underlying reasons for why something ought to be achieved. This information can consist of things like user quotes and insights. Because of this, roadmapping might help avoid unwanted and unconsidered user insight drift. If the roadmap contains this information, it can be a reminder of the underlying reasons for each element of the service concept

when discussing questions like: *If we make these changes in the service concept, will the solution still meet the users' needs?* (see Section 5.1.2).

Further implications of service design roadmapping are discussed later in this chapter (see Section 5.2.2).

5.2 An overarching view

This section takes an overarching look at my contributions and first discusses the forgotten back-end of service design in the context of Norwegian public and healthcare service development. Then service design roadmapping is discussed in light of two critical perspectives on plans and planning. The distinction between plans and planning is here used to separate between planning as an activity and process, and plans as an outcome of such processes.

5.2.1 The forgotten back-end in the Norwegian public and healthcare sectors

Early in my work I identified the later phases in service design practice and research as almost forgotten. During my research process, I have come across the opinion that my research addresses an outdated problem. This view can be found, for example, in Stickdorn and his colleagues' book *This is service design doing* (2018), in which they argue that implementation used to be a problem, but not any longer:

> Implementation—turning a prototype into a running system—is the sharp end of service design. Some commentators have criticized service design for being weak at implementation, and it is easy to understand these objections. Many early service designers came from graphic or product design where, if they kept within set technical parameters, the realities of production did not concern them much. Or clients did not include implementation in the scope of the project, even if the designers wanted to address it. Perhaps because of this background, their mode of working might have been uncharitably perceived as: "Here is your design and an invoice, good luck in making

> it happen." Service design today is different. Service designers are invited to support projects end-to-end and a growing number of implementation projects even adopt a service design approach to replace their traditional project management methodologies from start to finish. (Stickdorn et al., 2018, p. 271)

In contrast to the belief that service design today does not struggle with implementation, I argue that Stickdorn and his colleagues offer too narrow a view on the later phases of service design. Implementation might be less problematic today than previously in some sectors (see Stickdorn et al., 2018, p. 271) like in the private sector where in-house service designers have become more common. However, as I have shown in my work, this is not the case in Norwegian public and healthcare service development. In these sectors, the transition from concept to implemented service is often challenged by a number of parameters (see Chapter 4) that are very similar to what Stickdorn describes as problems belonging to the past.

In an ideal world, there would be no challenging transitions from the earlier to the later phases. Service designers would be involved throughout the process and there would not be a need for a service design handover; then my research contributions would be irrelevant. Yet my contributions are likely to remain relevant in the Norwegian public and healthcare sectors as long as, for example, there are limited budgets for involving service design consultants in the later phases, as long as implementation is not part of the project scope, and as long as the Norwegian system of public procurement processes remains unchanged.

One possible solution to tackle some of these challenges could be to engage more in-house service designers in the Norwegian public and healthcare sectors. Today, in-house service designers are not the prevailing model for involving service designers in these sectors, but during the last few years it has gradually become more common. In that way, handovers would not be an issue, nor would the procurement process, and service designers would have the possibility to be involved end-to-end. Moreover, service designers on the inside of an organization might more easily challenge the narrow perception of service design as relevant only in the earlier phases (see Section 4.2.2). However, I found that some of the challenges related to the later phases are also challenging for in-house service designers in the public and healthcare service development (see Chapter 4). For example, processes of change in these sectors often extend over long periods of time (cf. Bauer et al., 2015), which frequently leads to stakeholders leaving the process and new stakeholders becoming involved (see Section 4.1.1). These aspects might be challenging for any process, no matter if the service designer is situated in-house or at an agency. There is also a limited number of methods to support service designers in the later phases (cf. Martins, 2017, p. 4732), and I argue that the transition from a tested service concept to an implemented service can be challenging no matter if service designers are involved or not.

As mentioned, there are several improvements that could be made to the contextual conditions for service design practice and processes. These changes might in turn catalyze the potential that service design holds for service development in the Norwegian public and healthcare sectors. Meanwhile, this thesis has focused on how to support the development team in the later phases given the system's current state. That is why I now bring the discussion back to how we might deal with the current situation of the handover and the later phases when service designers are not involved. To quote one of my interviewees:

> "The people who are left when we leave are the most important. . . . [We must] strengthen the plans [receivers] have in their continuous work; . . . our job is to provide [them with] the tools they need to get their plans done." (Service design consultant)

5.2.2 Will planning solve anything?

Among my contributions, service design roadmapping is a practical approach that offers support for the handover phase and the transition from a service concept to an implemented

service. One of the essential (and novel, in terms of most other service design methods) aspects of service design roadmapping is that it facilitates for *planning* through conversations about how to achieve the desired outcome (see Section 4.2.5). Meanwhile, both *plans* and *planning* have been criticized by scholars from different fields over the years.

I have here chosen two critical perspectives on plans and planning as a starting point for discussing both the limitations and potential of service design roadmapping in the context of Norwegian public and healthcare service development. First, I draw on the perspective of business and management researcher Henry Mintzberg, who has critically assessed strategic planning from a historical point of view (1994, p. 107). In his article "The fall and rise of strategic planning",[29] Mintzberg describes the move from the hopeful expectations of planning in the 1960s to the sober reflections of the 1990s:

> Planning systems were expected to produce the best strategies as well as step-by-step instructions for carrying out those strategies so that the doers, the managers of businesses, could not get them wrong. As we now know, planning has not exactly worked out that way. (Mintzberg, 1994, p. 107)

Second, I draw on the perspective of design critic and researcher John Thackara, who advises against plans and planning when designing in a complex context (2005/2006).

According to Mintzberg, one of the pitfalls of planning is to assume that "the world is supposed to hold still while a plan is being developed and then stay on the predicted course while that plan is being implemented" (1994, p. 110). The need to discuss the road ahead that I identified through interviews and observations in service development processes offers a complementary understanding of what planning provide (1994, p. 110). Yet while several of my 13 interviewees wanted more concrete suggestions for how the development team might take the first steps forward after the service designers had left, it does not mean that detailed predictive Gantt diagrams are the answer. This is especially true for projects with visionary concepts and long time frames.

Thackara criticizes what he refers to as traditional design thinking for decomposing problems into smaller steps and for describing them in a blueprint or a plan that others are to implement (2005/2006, p. 213). Like Mintzberg, Thackara argues that when dealing with complex systems, the systems will not sit still while we redesign them, which means that plans and blueprints quickly become outdated (see Mintzberg, 1994, p. 110; Thackara, 2005/2006, p. 213). Instead, Thackara suggests describing the desired outcomes without going into the "detailed means of getting to those outcomes" (2005/2006, p. 213). These desired outcomes are never static according to Thackara and are therefore in need of constant reframing.

In line with Mintzberg and Thackara's critical views, I argue that the slow, long-term processes found especially in the healthcare sector (cf. Bauer et al., 2015) makes committing to a static plan irrelevant because in complex environments, plans will quickly become outdated (cf. Thackara, 2005/2006, p. 213). Sticking with plans that have become outdated due to a quickly evolving context and combining those plans with a slow process can (needless to say) lead to the forcing through of irrelevant services and changes. Another scenario is that static roadmaps can become tools to control and assess individual efforts, which can crush the commitment of employees (cf. Mintzberg, 1994). Strictly following a roadmap might also prohibit deviations from the road ahead, which might result in a service that is less relevant than what it could have been. It will also lead to user insight drift, if the users' needs have evolved, but the plans have not been updated. If change is to be implemented, the plans need adjustments (cf. Cunningham & Kempling, 2009).

[29] This article draws from Mintzberg's book *The rise and fall of strategic planning*. Mintzberg notes on his website that the "title change from my book 'Rise and Fall' done without my advice or consent" (see https://mintzberg.org/articles).

In my opinion, service design roadmapping has something to offer to the service development process first and foremost through the roadmapping sessions and the perspective these conversations enable. Ideally, service design roadmapping will contribute to an iterative process in which alterations in the desired outcome inform the road ahead and vice versa (see Section 4.3.2). This continuous updating of plans is important both to revise the mental models of the possible and desired road ahead (see Mintzberg, 1994), but also to re-articulate the desired outcome (cf. Thackara, 2005/2006). Service design roadmapping, as I see it, considers both the way forward and the desired outcome as something dynamic that can continuously be developed during periodic roadmapping sessions. In that sense, roadmapping is different from the static plans and planning described and criticized by Mintzberg and Thackara.

Meanwhile, to use and disseminate the service design roadmapping approach in the public and healthcare sectors, it is important to note that the lack of resources in these sectors can be challenging when introducing new methods and approaches (cf. Hansen, Almqvist, & Kistorp, 2016; Pirinen, 2016, p. 35). Service design roadmapping, like many other co-design activities, can be time-consuming. Yet for the approach to have an impact, the organization has to allocate time, funding, and personnel (cf. Pirinen, 2016, p. 35).

In line with Nathasit Gerdsri and his colleagues, I argue that in order for service design roadmapping to be used, further explored, and disseminated, the approach should be integrated into the organizations' already established internal processes (2013, p. 404). This would make it more likely for the roadmap to remain relevant and for the roadmapping approach to have a sustainable impact.

My work requires further research to explore and evaluate the potential that roadmapping and roadmaps can offer to service design. Some interesting aspects are described in the following chapter.

Chapter 6
Conclusions

The overarching aim of this thesis was to explore and develop practical and theoretical contributions for how to improve service design processes and practices in the Norwegian public and healthcare sectors.

Theoretical perspectives from design, service, and service design research were brought together with my professional experiences and findings from service design practice, using an expansive research through design approach (Frayling, 1993; Krogh et al., 2015). C3 provided the primary context leading to a contextual understanding of service development in the Norwegian public and healthcare sectors. The findings developed through participant observation in 13 service development processes was supplemented by 18 qualitative semi-structured interviews with service design researchers, practicing service designers, civil servants, and healthcare professionals. The findings from these phases were further developed through a series of design investigations conducted in collaboration with 25 service design MA students.

This research shows that stakeholders in the Norwegian public and healthcare sectors tend to perceive service designers as relevant mainly in the earlier phases, but not the later ones. In parallel, service design research and practice have focused on these earlier phases and service design consultants are seldom involved in the later phases.

The research also identifies user insight drift as a related problem. A number of parameters can hinder continuity in a process, which might in turn lead to user insight drift. In some cases, despite meaningful user involvement and successful co-design processes, the user insights do not impact the final service.

Since service design consultants currently are seldom involved in the later phases, there is a need for service design approaches that focus specifically upon supporting continuity in the service development process.

At the moment, most service design methods are dedicated to the earlier process phases and there are few methods for supporting the transition from a service concept to an implemented service (Bækkelie, 2016; Martins, 2016). I found a need for approaches that support the transition from service concept to implemented service and promote continuity in processes with challenging transitions between phases. The service design roadmapping approach developed in this study (see Appendix IV) has the potential to meet these needs.

The four contributions provided in this thesis contributes to both service design research and practice:

— The first contribution identifies the later phases of service development as an area in need of further exploration in service design research. This contribution is on an overarching level and links to the three following contributions.
— The second contribution describes and exemplifies the notion of *user insight drift*.
— The third contribution provides a deeper understanding of the importance of the *handover* from service design consultants to their clients.
— The fourth contribution, *service design roadmapping*, offers a practical approach with the potential to support service designers and their clients through the transition from a service concept to an implemented service. The approach was developed as a means of exploration during this research through design study.

6.1 Further research

The research presented in this thesis has opened up many possibilities for future research. Drawing upon the discussions in the previous chapter, I suggest further explorations of service design roadmapping as a means to study the forgotten back-end, user insight drift, and service design handovers.

Scholars from other disciplines have argued that in order for roadmapping to be relevant, it must be adjusted to the particular context of use (Hussain et al., 2017). Many methods from other fields that are now central to service design have been identified as promising and in consequence adapted to the field of service design, such as the service blueprint (Shostack, 1982, 1984) and several methods from the social sciences (see Saco & Goncalves, 2008). Through this research, I have contributed to the first steps of altering roadmapping to service design. Yet while the service design roadmapping guidelines presented in this thesis offer an original contribution to the ongoing discussions and explorations of the later phases, it is not the final version of such an approach.

6.1.1 Service design roadmaps

An overarching reflection is that there is a need to further explore how roadmaps can be better adjusted to the iterative nature of service design processes. For example, one could look more into how to structure roadmaps to fit better within the iterative cycles of change and development, before and during testing, pilots, and further development.

Future research could explore how to better adapt the *content* of roadmaps to a certain context, looking into if specific content ought to be included when developing service design roadmaps for the healthcare sector, for example.

There is also a need to further investigate the *visual aspects* of roadmaps. This means looking into how various graphical structures and graphical elements (such as the use and combination of illustrations, colors, and fonts) support the readability and usability of roadmaps. One relevant field for exploring the possible graphical structures of roadmaps is

giga-mapping (Sevaldson, 2011), which is a visualization approach used in systems oriented design to handle complexity.

In relation to the visual aspects of roadmaps, it is important to consider time constraints in the public and healthcare sectors, which limit the time available to use on the aesthetics of roadmaps in a project. Furthermore, it is important to consider that after the consultants leave, the clients are running the roadmapping sessions and updating the roadmaps themselves. Roadmaps could benefit from a visual framework in which basic visual aspects are suggested in templates, rather than expecting clients to make, add, and update illustrations and graphics.

Important work remains to be done to refine the *format* of the roadmap that is handed over to the clients. In order for the roadmap to support further processes, maintain its relevance, and have an impact, it has to be integrated in the established processes of the organization (cf. Gerdsri et al., 2013). Hence, it is relevant to look more into ways to identify internal processes in an organization, which the service design roadmapping approach and the roadmap might 'piggy back' on. It is also necessary to further explore formats that are well known and used by the clients. In the Norwegian public and healthcare sectors, this means investigating, for example, how Excel or PowerPoint might be used to develop and document roadmaps, rather than formats that are often used by service designers, such as InDesign and Illustrator.

6.1.2 Service design roadmapping

Further exploration is needed of applying service design roadmapping in practice with service design practitioners and their clients. It is especially important to investigate if and how clients can benefit from service design roadmapping in their further work after the designers have left. If the outcome of such studies indicate that service design roadmapping is an approach worth introducing on a larger scale, there are a number of aspects that need to be considered, such as looking into how service designers can become familiar enough with its use and how it can be introduced to the clients.

I see great promise in the continued exploration and development of the service design roadmapping approach,

especially for the implementation of deeper organizational changes (cf. Junginger & Sangiorgi, 2009, p. 4346). This relates to the indication in my fourth publication, where I found that service design roadmapping appears most relevant for projects with a longer time frame and a higher level of complexity. One possible route to explore in this regard is *systems oriented design* (e.g., Sevaldson, 2017). Systems oriented design has been described as a reinterpretation of *systems thinking* (Meadows, 2008) in the context of design (Sevaldson, 2013). This direction is tightly linked to further explorations of roadmap formats.

Another relevant direction for further research deals with how to identify and attract the relevant stakeholders into committing to and engaging in the roadmapping process. When roadmapping is conducted without the participation of key stakeholders in the organization, the credibility and usefulness of the outcomes tend to be limited (cf. McDowall, 2012, p. 539).

Important work also needs to be done to study if a service design roadmapping approach leads to an increased ownership among participants and, if that is the case, how it might impact the implementation process (cf. Bason, 2010, p. 9; Cottam & Leadbeater, 2004, p. 29; Rittel, 1984, p. 320).

Lastly, an interesting direction for further research is to study how service design roadmapping relates to user insight drift and whether unintentional drift might to some degree be prevented by using service design roadmapping. It might be relevant to explore supplementary methods for discussing and handling the role of user insights throughout the entire service design process, including after the consultants have left. It would also be interesting to explore the role that end-users or user representatives could play in service design roadmapping.

6.2 End note

Returning to where I began this exegesis, the public and healthcare sectors are in need of change to meet complex societal challenges. It is my hope that my research into the later phases of service design processes contributes to catalyze the full potential of service design and make service designers even better equipped for contributing to tackle these changes.

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The fuzzy front-end and the forgotten back-end: User involvement in later development phases

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Abstract:
The early design phases, often referred to as the "fuzzy front-end", have been closely examined by scholars and have a tendency to dominate the content of service design handbooks. However, there has been less focus on the back-end of the development process, both in practice and in academia. By combining theoretical perspectives with interviews of five service design practitioners and researchers, and observations of service design projects in healthcare, this work contributes to an initial exploration of the later phases. Findings indicate that service designers often have the deepest user insight knowledge in a team; hence, knowledge is lost when the designer leaves the project. This can make the project drift away from initially identified user needs, here called "user insight drift". Drift can lead to an unintended mismatch between user needs and the service experience, due to decision-making in the later phases with limited consideration of user needs.

Keywords: Service design, The forgotten back-end, User involvement, User insight drift.

1. Introduction

1.1 Background

In healthcare "user-centered", or "patient-centered", innovation is a central strategic topic, not only in Scandinavia, but also internationally (see Baxter, Mugglestone, & Maher, 2009; HelseOmsorg21, 2014; The National Health Board, 2010). As patient involvement is increasingly embedded in structures supporting healthcare, there is an emerging concern about how this notion of involvement is interpreted in practice (Engström, 2014, p.2). The challenge of involving users is not specific for healthcare, but the growing policy drive to involve patients in healthcare service development (Morrison & Dearden, 2013, p.127) makes the topic central to consider in order for patient involvement to be more than symbolic. A growing literature has articulated a gap between

how patient involvement is described in policy aims and how it is operationalized in practice, leading to involvement with limited influence on the service outcome (Morrison & Dearden, 2013, p.127).

Service design is about designing for useful, desirable and user-centered services (Stickdorn & Schneider, 2011, p.31ff). As argued for by Manzini, user-centricity is fundamental when developing services: “No one today can consider proposing a service without listening to users and without discussing and testing out the proposal with them” (2011, p.4). A central aspect of user-centricity is user involvement, a term describing direct involvement of users in the design process (Kujala, 2003, p.1). This paper examines how service designers perceive and work with the outcome of user involvement activities as design material, and how this material might influence the service.

Scholars such as Sanders and Stappers suggest that user involvement ideally should happen “…throughout the design process at all key moments of decision” (2008, p.5), but how much is known about user involvement in the later phases? Much has been published about the importance of the early phases of the design process, often referred to as the “fuzzy front-end” (Smith & Reinertsen, 1998), but there is a knowledge gap regarding the later phases, both in academia and in practice. In service design, the “Double diamond design process” (Design Council, 2015, p.15) is a commonly adopted way to structure a design process. While there seems to be a focus on service design at the front end (e.g. Alam, 2006; Bruce & Cooper, 2000; Clatworthy; Koen et al., 2002), only a few scholars have investigated the later phases of the process (e.g. Martins, 2016; Overkamp & Holmlid, 2016). In this paper, I argue that there is potential for further exploration of the later phases in the design process, here called the “back-end”. I explore how the outcome of user involvement activities conducted by service designers in the early phases travels throughout the process, from the moment when service designers leave the project, and front-end design work is taken up by other disciplines. Although the context of this work is within service design for healthcare, I believe the work so far has generalizable relevance for service design as a whole.

1.2 Structure

The paper firstly explores the later design phases, through existing service design theory, and identifies an area for further study. Then follows a description of the methodological approach and methods. Observation and interviews with service design practitioners and researchers are described and the results presented, relating to how the later phases are perceived. Further, the challenges that service designers face in the back-end are identified and the implications for service design are discussed. Possibilities for further work are then indicated, and conclusions summarized.

1.3 The service design process seen from a theoretical perspective

Many scholars have aimed to describe and visualize the design process in structured, generic models (see Designthinkers, 2009; IDEO, 2015). One of these models frequently referred to, is the “Double diamond design process” (Design Council, 2015, p.15) where the process is divided into the four phases: discover, define, develop and deliver.

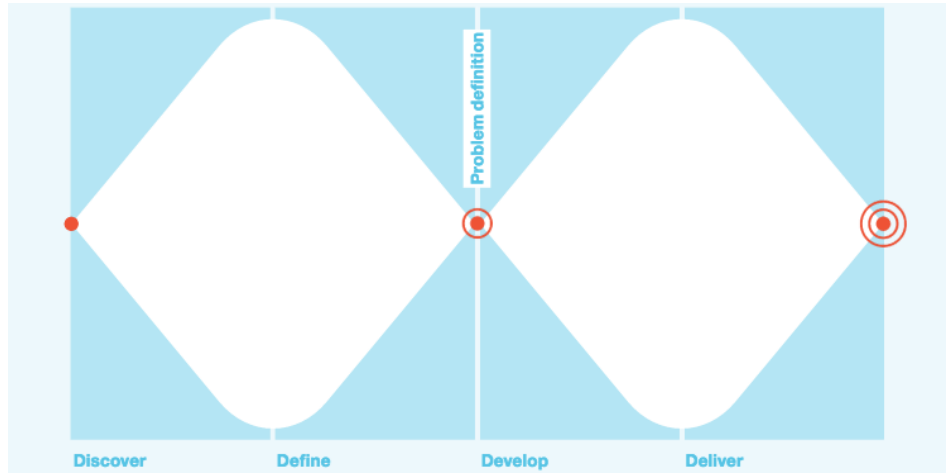

Figure 1. The “Double diamond design process” model (Design Council, 2015, p.15)

The two first phases (discover and define) are often referred to as the “fuzzy front-end” since they typically involve “ad hoc decisions and ill-defined processes” (Montoya-Weiss & O’Driscoll, 2000, p. 143). These phases are also characterized by uncertainty and fuzziness, as visualized by Newman (2010). The aim of the fuzzy front-end is to articulate the central challenges and opportunities, and to outline what can be designed (Elizabeth B. -N. Sanders & Stappers, 2013, p.22). While it is clear which phases the front-end refer to, there is no clear definition of when the later phases of the process start or end. In this paper, the back-end, or later phases, refer to activities associated with the third and fourth phase, develop and deliver.

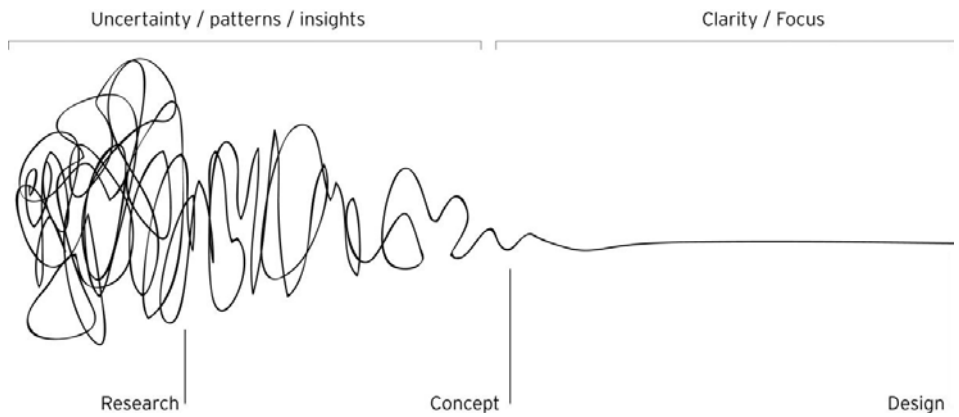

Figure 2. Damien Newman’s (2010) “Process of design squiggle” captures the complexity of the early process phases (reaching from what is here referred to as “Research” to “Concept”). However, as argued for in this paper, the representation of the later phases (reaching from “Concept” to “Design”) as a straightforward process might be too simplified.

In service design, the outcome of the early phases is the service concept, which is of great importance since it “defines the how and the what of service design, and helps mediate between customer needs and the organization’s strategic intent” (Goldstein, Johnston, Duffy, & Rao, 2002, p. 121). Berliner and Brimson (1988) estimate that whilst about 5 % of the development costs are used

in the project early phases, as much as 66 % of the life-cycle costs are decided upon during these phases (as cited in Clatworthy, 2013, p.5). In other words, the early phases can impact the service significantly, by the use of limited development costs. Due to such important characteristics, the front-end has been closely examined by several scholars, such as Bruce and Cooper (2000), Clatworthy (2013), Koen (2002) and Alam (2006).

However, there has been less focus on the later phases of the process, both in practice and in academia (Overkamp & Holmlid, 2016). According to Martins, who has reviewed a number of design toolkits and service design handbooks, "there are plenty of tools available to help service designers in discovering insights and generating ideas, but there are comparatively few methods to assist them when it comes to implementation" (2016, p. 13). Whilst studies illustrate the importance of the fuzzy front-end, this does not imply that the later phases are unimportant. I posit that the later phases are not as straightforward as they might seem in Newman's illustration, and that it is due time to study these phases (cf. Martins, 2016; Overkamp & Holmlid, 2016).

2. Methodology and methods

2.1 Methodology

This work is anchored in Research by Design (RbD), an approach described by Sevaldson as rooted within practice, where "real world aspects are investigated, created and reflected upon in real life context through interventions" (2010, p. 27). The insights presented in this paper draws on experiences from my earlier work and current involvement in service design research projects.

2.2 Data collection

In order to highlight the areas of interest in this study, data was gathered using a mixed methods approach, combining theory, interviews and observation:

Literature has been collected through "snowballing" (Crouch & Pearce, 2012, p. 70). The main approach has been to follow references mentioned in the work of central scholars, which has lead to the finding of other relevant literature.

Qualitative semi-structured interviews (Kvale, 1996) with five practicing service designers and service design researchers have been conducted. The interviews lasted between 30–120 minutes and were conducted from June–November 2016. All interviews were audio recorded and later transcribed. The chosen respondents have experience from service design in general, projects in the public sector, projects in healthcare and service design in an academic context. All interviewees have experience of practicing as service designers. Their background and experience are as follows:

1. Junior service designer working in a design consultancy in Norway, with some healthcare project experience;
2. Junior service designer working as a freelancer in Norway, with private and public sector project experience;
3. Senior service designer working in a design consultancy in Norway, with healthcare project experience;
4. PhD fellow in service design at a Nordic university, with healthcare project experience;
5. Service design researcher working at a Nordic higher education department, with private and public sector project experience.

I also use some information from participant and non-participant observation (Cooper, Lewis, & Urquhart, 2004), conducted in meetings and informal discussions as part of my participation in a number of Norwegian healthcare service development projects.

3. Findings

3.1 The later phases are "forgotten"

While my exploration shows that there is a focus on the front-end of the design process in service design academia, I have found little literature regarding the later phases of the design process, in accordance with the findings of Martins (2016), Overkamp and Holmlid (2016). Furthermore, my interviews and observations imply that service designers seldom are present in the later phases. One of the interviewees [#2] reasoned that this might relate to lacking service design expertise in the later phases, and few methods available to tackle these phases (cf. Martins, 2016). Another interviewee argued that as long as the client has what is needed for implementation, "it's a strength not being needed in the later phases" [#3]. Considering that designers leave the projects they are involved in at some moment in time, the latter statement points to the fact that if the knowledge generated by the service designers is successfully transferred to the rest of the team, "not being needed" can be perceived as a sign of a job well-delivered.
Meanwhile, my interview and observation material imply that further research is needed to explore the later phases: What consequences does it have that service designers seldom are involved in the later phases? And, what effects might it have on the service that the designer leaves before implementation? I explore these questions from a user-centered perspective, in terms of how the outcome of user involvement activities in the early phases of the project travel throughout the project, and how this might influence the final service experience.

3.2 From "design drift" to "user insight drift"

In order to describe some aspects of the later phases that require further research, I introduce the notion of "design drift" (Robillard, Mathieu, & Gendreau, 2014). Design drift means that during a development process, the final service might have drifted away from the original design concept. This is not necessarily negative, but rather an aspect of the iterative nature of most development processes (Robillard et al., 2014, p. 2). However, as pointed out by Robillard, Lavallée and Gendreau, "… a more alarming situation occurs when the implementation is worse than the design" (2014, p. 9). Seen from a user-centered perspective, drift can be critical if the final service has drifted away from the initially identified user needs, here called "user insight drift".

3.3 A design process cut short

The interviewees express that a central component of service design is the knowledge and understanding of user insights. This knowledge is built mainly in the early phases, through the use of various user involvement methods, such as interviews, observation and workshops (see Stickdorn &

Schneider, 2011). Since designers often conduct these activities without involving the rest of the project team, the designers tend to ending up "owning" the user insights, or as one of the interviewees put it, as "guardians of the user insights" [#1]. The interviewed designers mentioned various reasons for not involving the rest of the team in the user involvement activities. Some motives for this are lack of time and resources, and uncertainties related to how the end users experience interaction with other actors. The latter was described by one of the interviewed designers: "There are challenges related to user vulnerability, when we consider inviting [users] into workshops. And it's not because they cannot contribute [in such settings], but because I cannot vouch for the context, how the doctors address them, that no one is condescending, and this makes it challenging to invite [users] in" [#3].

Some of the interviewed designers described it as challenging to leave projects in which no other team members had taken part in identifying user needs in the early phases [#2, #3, #4]. One of the interviewees expressed that "as you leave, you don't only take the rich understanding of user insights with you, but also the knowledge of how these insights argue for all elements of the service concept" [#1].

When leaving the project, presentations, service blueprints and reports describing the service concept are typical service design deliverables, or handovers. These generally aim to convey the essence of user insights and the service concept to the rest of the project team. Due to the complex nature of insights, where the complexity increases as the amount of data increase, such hand-overs can be challenging to produce, receive and use [#4, #5]. One of the interviewed designers referred to conversations with several clients whom had hired service designers in previous projects, stating that many were sorry that the designers left the projects so early, since much of the knowledge was lost with them [#2]. The same designer stated that:

> *"I've seen plenty of examples of projects, where blueprints were delivered, which are incredible in amount of detail, and behind every detail there is plenty of thoughts and decisions, which no one understands, because those who created it is not on the team anymore. (…) Then, a lot has been lost from the early phases to implementation!"* [#2]

3.4 The challenge of "user insight drift"

Goldstein et al. suggest that "One reason for poorly perceived service is the mismatch between what the organization intends to provide (its strategic intent) and what its customers may require or expect (customer needs)" (2002, p. 124). One aspect of this general challenge is exemplified by one of my interviewees, who had recently left a project, who expressed that the lacking understanding of user insights in the project team might lead to a poor user experience [#2]. He stated that while he relied on that the project team wanted to do what was best for the users, their lack of deeper understanding of user insights might lead to many small unfortunate decisions in the later phases of the project. In other words, though decisions in the early phases are influenced by user insights, a project might drift away from the identified user needs after the designer has left. This can lead to a mismatch between user needs and the service experience.

While many fundamental decisions are made in the front-end (Berliner & Brimson as cited in

Clatworthy, 2013, p.5), an abundance of decisions are made throughout the later phases (Goldstein et al., 2002, p. 121). One interviewee states that "Many things aren't solved yet [in the later phases], and the responsibility for different aspects of the service are divided between various people who doesn't speak to each other" [#5]. This aligns with Goldstein et al. who argue that ensuring consistent decision-making across various levels of the organization is a major challenge when aiming to deliver a coherent user experience (Goldstein et al., 2002, p. 121). Two of the interviewees expressed that decision-making without a shared vision can lead to a fragmented and incoherent user experience, and stated that user insights can create a shared vision across disciplines and roles in a team [#2, #5]. This was echoed by the other interviewees [1#, #3], and aligns with the argument by Stickdorn and Schneider, that differences in individual backgrounds and experiences in interdisciplinary teams can lead to misunderstandings, whilst "A user-centred approach offers a common language we can all speak; the service user's language" (2011, p.37). Considering that user insights might support consistent decision-making, and the high number of decisions that are made in the later phases, I argue that it is relevant to explore how one might sustain a user insight focus throughout a process.

4. Reflections

4.1 The later phases are not straightforward

In this paper I explore an intertwined field, consisting of the service design process as seen from practice and research, with aspects of service design in general and within healthcare. My hypothesis is that the focus on the fuzzy front-end, due to it's important characteristics, has led to the later phases in service development being forgotten. This notion can be interpreted in Newman's illustration of the design process (2010), where no challenges or obstacles seem to appear in later phases.

However, the findings presented in this paper show that the later phases hold challenges that need to be addressed in further research. My material indicates that service designers often have the richest understanding of user insights in a project team, and that the richness of this knowledge is sometimes lost when the designer leaves the project. This can make the project drift away from initially identified user needs, a notion here called "user insight drift". Though this requires further investigation, there are indications that drift might lead to an unintended mismatch between user needs and the service experience, due to decisions in the later phases being made without, or with limited, consideration of user insights. Hence, I propose that the later phases are not as straightforward as they might seem in Newman's squiggle, and argue in line with Martins (2016), and Overkamp and Holmlid (2016), that there is potential for further exploration of the forgotten back-end phases.

4.2 The service designer as "user insight intermediate"

My findings indicate that the risk of user insight drift is enhanced when the service designer leaves the project, since the designer often owns a deeper understanding of user insights than the rest of the project team. While Goldstein et al. describe the challenge of consistent decision-making across disciplines (2002, p. 124), Stickdorn and Schneider argue that user insights can provide a shared understanding across disciplines and roles in a project (2011, p.37). A central question is how one might ensure user insights throughout the process? One solution to the challenges of user insight

drift could be to keep the service designer involved throughout the project. However, this might be unrealistic due to limited project budgets. Another solution might be to involve other team members in design activities in the early phases, in order to ensure a deep understanding of user insights within the team after the designer has left.

Meanwhile, it is not enough to ensure that user insights are present throughout the process. As argued for by Wetter-Edman, the designer holds the role of intermediary between user's and the firm (2014, p.199), by interpreting and conveying user needs in the context of the firm, rather than presenting "limited information and insight, focusing primarily on issues of direct importance and relevance from a company perspective" (2014, p.225). Wetter-Edman emphasizes the reframing and materialization of user insights into scenarios, as part of the service design handover. Drawing on my study, I argue that the role of the intermediary designer is also needed in the later phases, though this context brings up other role characteristics. In the later phases, design competence is needed when making design related decisions, in order to translate user insights into the design details of a coherent service experience [#2, #5]. This competence is not always present in the team if the service designer leaves. However, securing that the service designer remains in the team throughout the process might not be the whole answer to this challenge. One reason for this is that not only service design competence, but also in-depth competence from other design disciplines is required when developing details of a service (e.g. interaction design, graphic design, product design). This points towards the question of which competences service designers need in back-end phases, and which role the service designer ought to have in these phases. One possible direction is to build on Wetter-Edman's notion of the intermediary designer (2014, p.199), and to further explore the role of the service designer as "intermediary of user insights" in the later phases, and how to transfer user insights into the detailed design elements of a service.

4.3 Further work

This paper presents initial and explorative research that indicates a need for service design to focus upon the forgotten later phases of the service development process. However, there are limitations to this study, due to the amount of interviews and narrow empirical data. Hence, further work is needed to understand more about the nature of the later phases, and to explore how service design might support service development in the back-end. Considering that there has been little focus on the later phases so far (cf. Martins, 2016; Overkamp & Holmlid, 2016), it is hard to tell how service design activities conducted in the front-end influence the final service experience. In order to achieve consistent decision-making, which leads to user-centered services, I suggest that we need further investigation about the handover of user insights, the role of the service designer in the later phases and how user insights travel through the process. More knowledge about the later phases will most likely also shed light on how service design methods and phases in the front-end can be improved, e.g. which team members are involved in the user involvement activities, how the knowledge outcomes during the process are documented, and how knowledge is transferred to the team. Furthermore, I will continue to explore specific challenges related to the later phases within the context of Norwegian healthcare.

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Service design in the later project phases: Exploring the service design handover and introducing a service design roadmap

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Abstract

Within practice and in academia, service design has placed a great focus on the early stages of the innovation process, while there has been limited focus on the later phases. This paper examines the later phases, focusing upon the handover from service design consultants, before leaving a project. This is identified as a critical aspect of the later phases and this paper critically examines what a service design handover is, and might be. Theoretical perspectives are combined with interviews of thirteen respondents on producing and receiving handovers, in the context of Norwegian service development projects in public and healthcare sectors. Findings indicate need for an improvement in, and a harmonization of, service design handovers; this is embodied in what I call a *service design roadmap*. Such roadmaps might support development teams receiving service design handovers, enabling them to better make use of the material during their later process phases.

KEYWORDS: service design, the forgotten back-end, handover, service design roadmap, user insight drift

The forgotten back-end and the service design handover

There are multiple challenges to design for in healthcare, such as an ageing population and an increase in people living with chronic deceases, whilst the healthcare system is expected to deliver more with fewer resources (Engström, 2014, p. 2). Within this landscape, I explore the notion of patient and user involvement, described by Kujala (2003, p. 1) as "a general term describing direct contact with users and covering many approaches." The Norwegian Ministry of Health and Care Services (HelseOmsorg21, 2014, p. 32) has expressed the view that:

> *User involvement can contribute to increased accuracy in the design and implementation of (…) service offerings, but users are currently insufficiently involved in the design of healthcare services.*

Several scholars have also expressed a concern about the gap between how user and patient involvement is described in policy aims, and how it is interpreted in practice, in order for the involvement to be more than symbolic (see Engström, 2014, p. 2; Morrison & Dearden, 2013, p. 127). During the last few years, the field of service design has emerged in "new and influential roles" within healthcare services (Jones, 2013, p. xvi). Drawing on methods from various disciplines, service designers aim to systematically involve and understand users when developing services (Stickdorn & Schneider, 2011, p. 128). Hence, the discipline can be seen as a relevant approach to the issue of user involvement in practice. Meanwhile, though scholars such as Sanders and Stappers suggest that user involvement should happen "...throughout the design process at all key moments of decision" (2008, p. 5) in order to create successful services which satisfy user needs (Yu & Sangiorgi, 2014, p. 197), the research of user involvement in the later phases is limited (Yu & Sangiorgi, 2014, p. 201).

In other words, many scholars have studied user involvement in the early process phases, while the notion of user involvement in the later phases has received less attention. This coincides with a general tendency in service design research, where the early phases of service design development have been thoroughly explored by scholars (e.g. Alam, 2006; Bruce & Cooper, 2000; Clatworthy; Koen et al., 2002), while the focus on the later phases has been limited (Martins, 2016; Overkamp & Holmlid, 2017). In a previous publication, I explore the later phases, hereafter referred to as the *forgotten back-end* (Almqvist, 2017). The initial study identified the *handover* from service design consultants to the client as one critical point in the later phases (Almqvist, 2017). Moreover, the initial study introduced the notion of *user insight drift*, suggesting that a project might drift away from initially identified user needs during the later process phases (Almqvist, 2017, p. 5).

My aim now is to contribute to the research of the forgotten back-end, through the exploration of what a service design handover is, as seen from the perspective of service design consultants and the perspective of receiving clients. The focus of this research is on the handover delivered from service design consultants before leaving the development team, when a service concept has been developed. In other words, the focus lies on instances where consultants are involved in projects during longer periods of time. The main contribution is the suggested concept of *service design roadmaps,* a concept I argue may support clients' work during the later development phases, when the service design consultants have left the project.

The presented study is part of my doctoral work, where I explore the later service design process phases, in the context of service development in Norwegian healthcare. The work explores how service design handovers might support development teams to keep a user-centered focus throughout a service development process. The work is supported by the Norwegian Research Council and is part of Centre for Connected Care (C3).

The structure of this paper is as follows: a brief background concerning the service design handover is given. The interview analysis approach of *meaning condensation* is made clear, before the result categories of this analysis are presented. After discussing the findings, with an emphasis on the service design roadmap, further research directions are suggested.

Background

In the public and healthcare sectors, service design has emerged as a relevant user-centered approach for supporting service development (e.g. Sundby & Hansen, 2017). Meanwhile, service designers have been criticized for a lack of implementation competence, which might lead to concepts not leaving the drawing table (Mulgan, 2014, p. 4). Furthermore, a need for more research into process support for service design implementation has been indicated by

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several scholars (Almqvist, 2017; Martins, 2016; Overkamp & Holmlid, 2016, 2017; Yu & Sangiorgi, 2014). By exploring the service design handover, this paper contributes to research into the later development phases. The aim is also to contribute both to service designers working on projects in public and healthcare service development, and to clients, which in this work are civil servants running projects where service design consultants are involved.

In this section the service design handover is introduced, and aspects that might influence a service design handover are discussed. Lastly, the works of two relevant service design scholars are introduced, and the contribution of my research is discussed.

The service design handover

When involving service design consultants in development processes, a need for communicating and transferring generated information, insights and results between consultants and the rest of the team often occur, no matter how successful the collaboration is. In an earlier study I found that service design consultants are mostly involved in the early development process stages, and few have experience of participating in the later stages (Almqvist, 2017, p. 5). This makes the handover an important output of a design process, considering that this material can function as process support after the consultants have left. There are few descriptions focusing specifically on service design handovers, though scholars have thoroughly described an abundance of service design methods and tools, which can generate handover material (e.g. Sanders & Stappers, 2013; Stickdorn & Schneider, 2011; Tassi, 2009). The service design handover, hereafter mainly referred to as handover, is here understood as something continuously taking place throughout the process, both as *activities* and *deliverables*.

Activities. Presentations, meetings and informal discussions between consultants and the development team, are typical handover activates, where information, insights and results are both generated and transferred. Due to the nature of the gathered research data, this paper focuses on handover deliverables.

Deliverables. In contrast to for instance product design, where most design material is tangible, the service design discipline deals with much more intangible design material. The challenge of conveying the intangible aspects of services, influence the handover deliverables. One the most prominent approaches to communicate intangible aspects of services is visualization, which is used to "depict the service being (re-)designed" (Segelström & Holmlid, 2011, p. 2). Among several service design visualization techniques appraised by Segelström and Holmlid, *customer journeys* (Parker & Heapy, 2006), also referred to as user journeys, and *storyboards* (see Quesenbery & Brooks, 2010, p. 256) are considered highly relevant for conveying service concepts. A third well-known technique is *service blueprints* (Bitner, Ostrom, & Morgan, 2008; Shostack, 1982). All three are distinctive examples of service design handover deliverables (see figure 1).

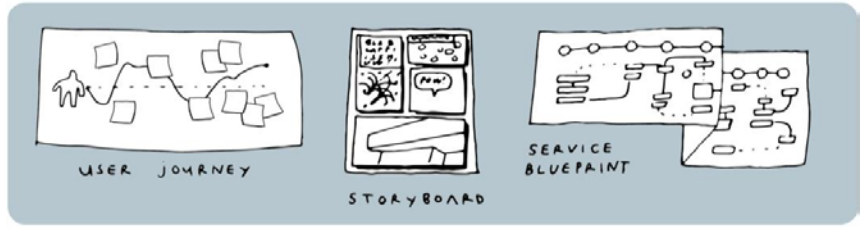

Figure 1. Three service design handover deliverables

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Service design consultants, just as consultants from any field, can be hired during different phases of a process. The phases in which service design consultants are involved, will inform the content and format of the handover deliverables. Most handover deliverables are either a:

- condensed summary of the project up until a specific date, hereafter referred to as *project documentation*, or;
- specification for a future solution, hereafter referred to as *service concept* (see Stickdorn & Schneider, 2011, p. 134).

These types of handover deliverables can either be delivered during a process, or as a final handover deliverable, before leaving a project. The physical format of such handover deliverables is most typically a written report or a digital presentation, and often contains one or more visualizations (see figure 1).

Two scholars studying the later phases

This paper presents findings from qualitative interviews, which are seen in light of the research by Eun Yu (2014) and Tim Overkamp (2017).

Drawing on Johnson and colleagues (2000, p. 18) Yu divides service development into how services are designed, and how services are implemented (2014, p. 197). Yu argues that if these two stages are disconnected, it might lead to the "generation of service concepts that cannot be actualized in current service delivery system[s]" (2014, p. 201) and argues that research on the connection between these phases is needed in order to achieve more successful implementation (2014, p. 202).

Drawing on Kindström and Kowalkowski (2009), Overkamp reasons that implementation ought to be "on the agenda before the project arrives at the delivery and sales stages" (2017, p. 4411). Overkamp introduces the notion of *implementation during design*, arguing that implementation as a concept needs to be present continuously during the design process, and that more research is needed on this topic (2017, p. 4418).

This paper contributes to an understanding of the transition from *designing* to *implementation* described by Yu (2014). More specifically, by exploring the handover from service design consultants to a client, before leaving a project. The paper also contributes to an exploration of how implementation can be considered *during* a design process, by suggesting the concept of service design roadmapping as a means to support clients in making use of handover material after the service design consultants have left.

Method

In order to explore the area of interest, data was gathered from interviews and observation. Thirteen qualitative semi-structured interviews (Kvale, 1996) have been conducted, with four civil servants, four service designers working in service design agencies, three service designers working within public services and two consultants from other disciplines than service design. The variety of respondents was deliberately chosen, to gain insights about the topic from multiple perspectives. The chosen respondents all have experience from service design projects in the Norwegian public sector and most have experience from service design projects in healthcare. All are situated in Norway, and all have experience either of producing or receiving a service design handover. Their background and experience are as described in figure 2.

1. **Senior freelance consultant** (without design background)
   Receiver of service design handovers;
2. **Senior management consultant** (without design background)
   Receiver of service design handovers, and has collaborated with service designers in projects;
3. **Civil servant trained as service designer**
   (working with service design in public services on a strategic level)
   Receiver of service design handover and developer of guidelines for service design handovers in public service development;
4. **Senior service design consultant**
   (with experience from working as a civil servant)
   Producer and receiver of service design handovers;
5. **Civil servant** (working with public healthcare services)
   Receiver of service design handovers;
6. **Healthcare employee** (working at a hospital)
   Receiver of service design handovers;
7. **Senior service design consultant**
   Producer of service design handovers;
8. **Senior service designer**
   (working at a hospital in the role of service designer)
   Producer of and receiver service design handovers;
9. **Civil servant**
   (working with service design in public services on a strategic level)
   Receiver of service design handovers and developer of guidelines for service design handovers in public service development;
10. **Civil servant trained as service designer**
    (working with service design in public services on a strategic level)
    Receiver of service design handovers and developer of guidelines for service design handovers in public service development;
11. **Senior service design consultant**
    Producer of service design handovers;
12. **Senior service design consultant**
    Producer of service design handovers;
13. **Civil servant** working with public healthcare services
    Receiver of service design handovers.

Figure 2. Interview respondents

The interviews lasted between 20–90 minutes and were conducted from February–August 2017. All interviews were audio recorded and were later transcribed in verbatim. The interviews were analyzed according to the method developed by Amadeo Giorgi in the 1970's (e.g. 2012), which was further developed by Steinar Kvale, and referred to as *meaning condensation* (see 1996, p. 192). The main themes emerging from this analysis where further explored in the light of literature. All transcriptions were read with three main questions in mind:

- In which phases are service design consultants involved during service development?
- What is a service design handover?
- How are service design handovers produced, received and taken into use?

Meaning units were articulated using the systematic approach as described by Kvale (1996, p. 194). The meaning units were then gathered into a matrix consisting of thirteen interviews and six themes. The themes were as follows:

- The service design handover as continuous throughout a project
- Project documentation
- Service concepts
- Service design roadmap
- User involvement
- The context of public and healthcare service development in Norway

The themes differ from the initial main questions, since they were refined during analysis. This relates to Kvale's reasoning, that analysis is not conducted as an isolated stage, but rather continuously through an interview inquiry (1996, p. 205). Correspondences and variations were examined across the material, studying experiences and conceptions across individuals. This step had no interest in the individual and her answers but the focus was on the whole material and aimed to depict the variations within meaning units.

Data has also been collected through participant and non-participant observation (Cooper, Lewis, & Urquhart, 2004) in five service development projects within Norwegian healthcare. My role in the projects varied from participating and non-participating service designer, to

participating and non-participating researcher. Furthermore, projects where external service design consultants are hired on a project basis are in focus, considering that this is of the most common modes of involving service designers in public or healthcare service development today. These two factors also influenced the choice of interview respondents. In this paper, a few observations are used to illustrate the results of the analyzed interviews.

This paper presents some central aspects of the study. Other aspects, such as user involvement and the context of service development within Norwegian healthcare, will be described further in later publications.

Findings

The main focus is on exploring what a service design handover is and might be. This section presents the results of the meaning condensation analysis (Kvale, 1996) of the interviews. The results are supplemented by a few examples from observations.

A service design handover may be perceived as continuous throughout a project, consisting of both various *activities* and *deliverables*. Two interviewed consultants expressed the view that ideally handovers should happen continuously, as long as the consultants are involved. As phrased by one of the consultants:

> *The handovers I find most ideal (…) is when we've been working so close to the customer, that there's hardly any handover [to deliver before we leave]. The [final handover] is just a formality, since knowledge transfer has taken place continuously during the project.*

The notion of the handover as redundant in successful projects, where collaboration is continuous and well-functioning, is shared among some of the interviewed consultants, and resonates with data from my previous study of the forgotten back-end (Almqvist, 2017, p. 5). Though the notion of the handover as redundant might seem bold, one important quality of this notion is that one cannot view a handover as an isolated entity.

The interviewees expressed few opinions regarding handover activities, but indicated several challenges and opportunities relating to the handover deliverables that service designers produce.

The following section present three central aspects of handover deliverables, each shedding light on different qualities of the service design handover. The first category is *project documentation*; the second *service concepts*; and the third *service design roadmap*. The last category indicates a concept in need of further research.

1. Project documentation

Both interviewees with experience of producing or receiving service design handovers, expressed several arguments for why project documentation is important, and described challenges relating to lacking documentation. For example, one of the interviewed in-house service designers had experienced that a project she wanted to learn from, but had not participated in, had hardly been documented at all:

> *In that project the handover was verbal; it was a presentation. In other words, the knowledge [generated in the project] is only present in the people who have been part of the process.*

A few other interviewees also mentioned similar experiences of lacking project documentation, where the lack of documentation made it hard to:

- Explain to others what had been done in a project
- Learn from the project experience if one had not participated in the project
- Build on earlier project phases, especially in cases where a longer period of time had passed between pre-project and the main project

Benefits of project documentation mentioned by the interviewees include the use of such material to successfully embed a project within the organization, and for diffusion of a project outside of the organization.

2. Service concepts

While project documentation captures what has been done during a process, *service concepts* aim to depict the overarching goal and desired service that the service development process is aiming for. The importance of service concepts was expressed by nearly all of the interviewees, and this deliverable was described as highly relevant for dealing with the challenges mentioned in the previous section.

Most interviewees who had received service design deliverables, had very few remarks concerning how the deliverable content or format could be improved. Hence, there are few indications of a need to focus on the deliverables per se. However, most had experienced challenges related to *receiving* the deliverables. This challenge was mentioned by most interviewees, and can be read in the statement by an in-house service designer:

> *I think there is something challenging about the process, maybe not the documentation, but perhaps one should have a deliverable on how to use this information afterwards if you don't have any service designers onwards.*

In other words, no matter how relevant service design concepts and deliverables might be from the consultant's point of view, the receiving stakeholders need appropriate support to know how to take the deliverables into practical use. This leads to the following third category.

3. Service design roadmap

The third category service design roadmapping and service design roadmaps, relate to a gap I have identified in service design research so far. Namely, how those receiving service design handover deliverables can make use of the material in their further work. The term roadmapping describes a visual strategic planning process (Phaal & Muller, 2009), while roadmaps are the output of such planning processes (Garcia & Bray, 1997, p. 31). The roadmapping approach has long traditions within technology and product development, where it is commonly referred to as Technology roadmapping or TRM (see Hussain, Tapinos, & Knight, 2017). According to Phaal and Muller, the three essential questions that a technology roadmap ought to address are: Where are we now? Where do we want to go? and How can we get there? (2009, p. 42).

Though roadmapping and roadmaps are well established and described in other disciplines, this is so far not the case in service design. A brief search on Google and Google Scholar for "service design roadmap" and "service design roadmapping" presents no results describing a service design roadmap or a service design roadmapping approach. A few studies mention roadmaps, such as Farmer and colleagues describing the development of a "summary *map*" to assist managers with participation during a project (2017). However, I find no studies related to my focus on service design roadmaps for supporting development teams to make use of service design material, after the service design consultants have left.

In my interview material, only two interviewees use the term *roadmap*. Those two respondents are service design consultants, describing how to prepare the development team for the phase after the consultants have left. Meanwhile, almost all respondents expressed that there is a need for "recommendations, activities, instructions, guidelines or plans" when receiving service design handovers. This relates to the need for being able to use the material and know where to start, when working towards implementing a service and reaching for a visionary goal. This need was expressed by both interviewees with experience of receiving service design handover deliverables, hereafter referred to as *receivers*, and interviewees with experience of producing service design handovers, hereafter referred to as *producers*.

I propose to further explore the correlation between the TRM approach and the interviewees' perceptions of what is needed, which may result in a roadmapping approach specifically for service design. Furthermore, I argue that this concept might contribute to a better understanding of the later phases of service design development, which has not been much studied so far (Almqvist, 2017; Martins, 2016; Overkamp & Holmlid, 2017; Yu & Sangiorgi, 2014).

3.1 Receivers. Interviewees who had received service design handovers described various experiences that indicate a need for what I'm calling a service design roadmap. Many expressed the view that service designers have a tendency to deliver visionary concepts that are seldom supplemented by pragmatic recommendations for operationalization. However, some interviewees described handover deliverables as easy to take into use when the project was not very complex, few stakeholders where involved, and when the service concept was of an incremental, rather than visionary and innovative nature. On the other hand, some expressed the view that there was a need for more practical and systematical deliverables in complex projects with many stakeholders, and visionary service concepts.

The challenge of receiving deliverables without pragmatic 'how to' recommendations, was also the case in one of the projects I observed. The leader of this project, who had previously hired service design consultants, expressed the view that:

> *In retrospect, I think (...) [that the designers] should have delivered a much more concrete solution, which considered the economical resources available.*

One consequence of this overarching and visionary service concept was that the development team had difficulties knowing where to start after having received the service concept deliverables. As phrased by the same project leader:

> *We didn't have any tools to make even one little thing, since we didn't have anything concrete.*

Several interviewees shared similar experiences. A civil servant with service design background, described receiving a handover from a service design consultancy, not knowing how to use the material in her further process. She suggested that:

> *There haven't been any [discussions on] what we are going to use this [material] for? There has been nothing like that.*

The interviewees expressed many different challenges related to receiving service design handover deliverables. At the same time, they had experienced very few projects where expectations or requirements in regard to the handover had been explicitly formulated.

3.2 Producers. Several of the interviewed service design consultants argued that it is important to develop a plan for how receivers can make use of handover deliverables in their further process. A service design consultant explained:

> *Ultimately, 'how' we deliver things becomes quite important. We think, at least for now, that delivering a sort of roadmap, a plan, is more [important] than [saying] – Yes, here you have the concept, we got this result, it worked like that. – Rather, [we] try to use time to draw the road ahead.*

Furthermore, the interviewees emphasized the importance of contextualizing the handover deliverables, as expressed by another service design consultant:

> *The people who are left when we leave, are the most important. (...) [We must] strengthen the plans [receivers] have in their continuous work, (...) our job is to provide [them with] the tools they need to get their plans done.*

While the analyzed interview material indicates that producers express the importance of a planning the road ahead, the material also indicate that:

- Not many service design consultancies have defined approaches for developing plans for implementation;
- Not many service design handovers contain plans for implementation;
- Expertise and experiences regarding service design handovers and implementation plans are seldom shared among consultancies.

To sum up, this section highlights the following aspects of the service design handover: a handover may contain both activities and deliverables and can be seen as continuously taking place as long as consultants are involved. The interviewees had few comments regarding handover activities but had experienced challenges regarding handover deliverables. Three categories of deliverables were described; project documentation, service concepts and the service design roadmap.

Discussion

This section discusses some implications of the findings presented in the previous section, with an emphasis on the suggested concept of service design roadmaps. The following aspects of service design roadmaps are discussed; firstly, there seems to be a need for more research regarding the service design handover. Secondly, the distinction between a service design handover and the concept of a service design roadmap is suggested. The third aspect describes differences between a service design roadmap and a service blueprint.

a. The handover is critical and requires further investigation

The analyzed interview material identifies the handover from service design consultants to the receiving stakeholders as a critical point in the later development phases. Neither the later phases of development nor the service design handover have been explored sufficiently in service design research. Furthermore, this study suggests that a service design roadmap has potential to be an important element of a handover.

As argued for by Yu, there is a need for research on "how Service Design processes and outcomes can be better linked with and integrated within the development stages of services to enhance more effective implementation" (2014, p. 202). Drawing on Yu's reasoning and the coinciding analyzed interview results, I argue that there is a need for further exploration of the handover, and of the concept of service design roadmapping, as contributions to research of the later service development phases.

b. A service design roadmap can be an important component of a handover

In order to clarify the concept of a service design roadmap, this paragraph describes its distinction from service design handovers. The service design handover is an overarching concept, describing all interactions of knowledge transfer, continuously through a process, to the point when the consultants leave. By knowledge, I mean generated information, insights and results. The handover consists of both activities and deliverables. The concept of service design roadmapping on the other hand, can be seen as a strategic planning process aiming to prepare the receiver for the process after the consultants have left. The outcome of this process is the service design roadmap, which might support clients to use handover deliverables further, after the service design consultants have left. In other words, a service design roadmap can be *one* of several service design handovers, while a service design handover does not have to contain a service design roadmap.

c. Service design roadmaps and service blueprints

A service blueprint typically specifies the currently offered service or a desired service process, and the focus lies on making the service concept as concrete as possible (Bitner et al., 2008). Bitner et al. suggests that the final challenge of a service blueprinting process is translating the blueprint into detailed implementation plans (2008, p. 5). I argue that a service design roadmapping approach may support this transition. I am suggesting that a service design roadmap might function as a *detailed implementation plan*, by depicting not only the desired service, but also recommending how to get there. To sum up, while the focus of service blueprints is the desired service, the focus of a service design roadmap is the implementation process.

Conclusions and further work

By focusing on the service design handover, this paper contributes to an understanding of the later service development phases, where there is still much room for service design research. The inquiry of the handover led to the question: How can one support development teams receiving service design handovers, to make use of this material in the later process phases? Based on the findings from the analyzed interview and observation material, I suggest that the concept of a service design roadmap, which might have potential to support development teams in the later phases. Two relevant directions for future work related to the concept of service design roadmaps are:

a.) *exploring the taxonomy of a service design roadmap*. My suggestion of a service design roadmapping approach opens up further new questions: which steps and activities should a service design roadmapping contain, in order to develop a relevant service design roadmap? Which elements should a service design roadmap contain? When exploring these areas, it is highly relevant to draw on expertise from design consultancies in combination with relevant theory from other disciplines, such as the technology roadmapping approach (Phaal & Muller, 2009);

b.) *exploring the relationships between a service design roadmap and user insight drift* (Almqvist, 2017). Research studying user involvement in the later phases is so far limited. Drawing on this I argue for the importance of exploring the representation of user insights in service design roadmaps, as a means to support keeping a user centered focus throughout the process. Moreover, exploring how service design roadmaps might support development teams to avoid drifting away from identified user needs during later process stages, a notion I describe in a previous study as *user insight drift* (Almqvist, 2017).

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Service Design During the Later Development Phases: Introducing a Service Design Roadmapping Approach

Frida Almqvist

Abstract

User centricity and user involvement is increasingly emphasized in Norwegian legislations related to service development in the health and public sectors. The service design discipline has emerged as a relevant and popular alternative to accommodate the requirements of user involvement. At the same time, the service design discipline has been criticized for lacking implementation competence. So far, there has been a focus on the earlier phases of service development both in service design practice and academia, while the later phases have received less attention. This chapter focuses upon the later development phases, in other words implementation and the transition from testing and piloting to an operationalized service. In this transition, the focus lies on the handover from service design consultants to the client. The topic of service design handovers is explored through an interview study with Norwegian service designers and civil servants. The interviews point toward a key challenge related to handovers, namely, how the clients can be supported in their further work, after the service design consultants have left, more specifically, how clients can make use of the service design material during implementation. This chapter presents a promising direction for service design handovers, by introducing the concept of roadmapping for service design. By combining findings from the interviews and technology roadmapping (TRM) research, the chapter introduces an approach I call service design roadmapping. Lastly, issues that are important to consider when further exploring service design roadmapping are discussed.

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1 Introduction

Early phases of service development have been closely examined by several scholars (e.g., Alam, 2006; Bruce & Cooper, 2000; Clatworthy, 2013; Koen et al., 2002) and also tend to be the focus in service design handbooks (see Almqvist, 2017). The later development phases have received much less attention, both in service design practice and in academia. This chapter looks into the later phases of service development, meaning implementation and the transition from testing and piloting to an operationalized service. The focus lies on the handover from service designers as they leave a project, and design work from the early phases is taken up by other disciplines. The topic is explored through interviews with Norwegian service design practitioners from four different service design agencies and civil servants with experience of working with service designers. This chapter introduces the concepts of roadmaps and roadmapping for service design. Roadmapping describes a visual strategic planning process (Phaal & Muller, 2009), while an output of a roadmapping process is a roadmap (Garcia & Bray, 1997, p. 31). Though roadmapping is well established in other disciplines, such as product and technology development (Phaal & Muller, 2009, p. 39), the approach has not yet been systematically applied in service design. Drawing on the interview material and technology roadmapping (TRM) research, the chapter introduces the approach I call service design roadmapping. I discuss important issues that ought to be considered when further exploring a service design roadmapping approach, concerning the three aspects: process, content, and format.

2 Healthcare Service Development and Service Design Handovers

The healthcare sector is challenged to deliver more for lower costs, due to complex tendencies such as an aging population and an increase in people living with chronic diseases (Engström, 2014, p. 2). Some scholars argue that these demands on the healthcare sector can partly be met by increased user involvement (Engström, 2014). The importance of user involvement and user centricity is increasingly emphasized in Norwegian regulations and legislation regarding service development (Helse-og omsorgsdepartementet, 2013, 2014; Ringard, Sagan, Sperre Saunes, & Lindahl, 2013; Sundby & Hansen, 2017). But, while user involvement is required by law, there are few requirements regarding the output of user involvement, in terms of what the desired consequences of user involvement are. Furthermore, there is a gap between how user involvement is described in policies and how it is operationalized (Engström, 2014, p. 2; Morrison & Dearden, 2013, p. 127).

Service design has emerged as a relevant alternative to accommodate user involvement legislation that complies with statutory requirements, and the field has gradually gained a higher standing in service development within the public healthcare sector (Sundby & Hansen, 2017). However, the discipline has been critiqued for lacking implementation competence and for developing concepts that

do not leave the drawing table (Mulgan, 2014, p. 4). Moreover, several scholars argue that there is a need for more research into service design implementation and into support for these processes (Martins, 2016; Overkamp & Holmlid, 2017; Yu & Sangiorgi, 2014).

Today most service designers are engaged in service development projects as external consultants. Service design consultants are typically involved during the early phases, and therefore, few have experienced participating in the later phases (Almqvist, 2017, p. 2528). A critical issue related to the later phases of service development is the service design handover from service design consultants to the client. By handover, I mean an overarching concept, describing all interactions of knowledge transfer, continuously through a process, to the point when the consultants leave (Almqvist, 2018, p. 668), which can contain both activities and deliverables. Presentations, workshops, and informal discussions are typical handover activities, where knowledge is both generated and transferred. Most handover deliverables are either project documentation, a summary of the project up until a specific date, or a service concept, a description for a future solution (Almqvist, 2018). There are few descriptions of service design handovers specifically, though there are many descriptions of service design methods and tools, which can generate handover deliverables or support handover activities (e.g., Sanders & Stappers, 2013; Stickdorn, Hormess, Lawrence, & Schneider, 2018; Stickdorn & Schneider, 2011; Tassi, 2009).

Considering that service design consultants rarely participate in the later project phases, the handover can be seen as one of the most important outcomes of the design process. Drawing on this, I argue that it is important to explore what a service design handover is and might be, in order to connect the early project phases to the later phases (Almqvist, 2017).

3 Service Design Handovers and Plans for Implementation

When studying the service design handover, I interviewed respondents with experience of receiving service design handovers and respondents with experience of producing service design handovers. These groups are hereafter referred to as receivers and producers.

3.1 A Qualitative Study of the Service Design Handover

In total 13 semi-structured interviews were conducted with civil servants, service designers working in service design agencies, service designers working within public services, and consultants from other disciplines than service design. The variety of respondents was chosen to gain insights about the handover from multiple perspectives. All the respondents have either received or produced handovers, and all are situated in Norway. The interviews were conducted from February to August 2017 and lasted between 20 and 90 minutes. All interviews were audio recorded and

transcribed in verbatim, and the interview quotes in this chapter are translated from Norwegian to English. The interview material was analyzed using the method of meaning condensation, a method developed by Amedeo Giorgi during the 1970s (see Giorgi, 2012) and further developed by Steinar Kvale (1996, p. 192).

3.2 Identified Challenges Related to the Service Design Handover

When analyzing the interview material, the following challenges emerged: Firstly, the interviewed *receivers* expressed challenges related to receiving handover deliverables, describing it as common to receive visionary service concepts that lack pragmatic recommendations for implementation. Secondly, several interviewed producers expressed that an important handover deliverable is a plan for implementation, which can support the receivers during the implementation phase. However, though both producers and receivers agree on the importance of planning ahead, my interview study also indicates that:

- Few service design consultancies have defined approaches for developing plans for implementation.
- Few service design handovers contain plans for implementation.

These findings point toward the relevance of exploring plans for implementation, as potential support for clients receiving service design handovers. What remain of this section present what the interviewees described as important aspects of such plans, in relation to:

(a) The process of developing a plan for implementation
(b) The content they suggest as relevant to include in such plans
(c) Which format might be relevant for such plans

3.2.1 Plans for Implementation: Process

Most of the interviewees do not think of a plan for implementation as an isolated entity, produced and delivered at the end of a phase, just before service designers leave a project. Instead, the plan was described as something being "co-created continuously throughout a project," as one of the service design consultants phrased it. Another service design consultant who also argued that continuous co-creation is a central prerequisite for developing relevant plans said:

> It is extremely important that we make a plan for [how the material we deliver] will be embedded, and (. . .) that we involve the decision makers along the way. The plan should not be like [a surprising] 'tada!' It ought to be co-created during the project, and be just as the client expected. It is extremely important not to think of the plan as 'our' deliverable, (. . .) since it's the clients' responsibility to do the job; unfortunately we are just stopping by.

Furthermore, the interviewees stressed the importance of early involvement of those later responsible for the implementation.

3.2.2 Plans for Implementation: Content

The category of content includes several subcategories. The following are identified in the interview material as relevant to include in a plan for implementation.

A. User Journey Both producers and receivers argue that a user journey, or elements of a user journey, is a relevant content in a plan for implementation.

B. Recommendations Toward the Future Service The receivers ask for more pragmatic recommendations in complex projects with visionary goals. A few producers on the other hand also describe it is important to recommend steps for how to move forward. More comprehensive recommendations can be relevant to divide into smaller, more manageable actions. A recommendation relies on several other content categories, a few of which are described in B.1–B.3.

B1. Individual Responsibility and Ownership The interviewees stressed the importance of clearly defining responsible individuals, to make sure somebody has ownership of the project after the consultants leave. The challenge of undefined ownership is expressed by a civil servant with background from service design:

> Often, no one is ready to take over. Since the client has hired some external expertise and extra assistance, they are often quite busy with what they are doing on a daily basis. If they don't have allocated resources for somebody to take over, [the project] will collapse.

In other words, one important content element in a plan is depicting ownership by specific individuals.

B.2 Representing User Insights From a service design perspective, the question of how the user is represented within the plan is a key concern. Most producers argued for the importance of including user quotes or other user insight material and a description of the findings related to each recommendation. This statement of a receiver, regarding a lacking focus on user needs, strengthens the importance of including user insights in the plan:

> We are experiencing that we dive into discussions, where we find it difficult to remember having the user [insights] in mind.

B3. Relevant Laws and Regulations The interviewees argue for including laws and regulations that might prove challenging when attempting to initiate the recommendations. To elaborate on this, a civil servant with service design background expressed that:

> My experience is that [civil servants] are genuinely interested in delivering what the user needs, but that it can be difficult, due to structures and guidelines that make them drift away from what the user really needs.

C. The Role of Service Design Deliverables in Further Work Some producers argue that a plan should include how the service design deliverables are to be used in further work. A receiver describes challenges related to receiving a handover from a service design consultancy, where no plan had been developed:

> There haven't been any [discussions on]—what we are going to use this [material] for? There has been nothing like that. We get so many research reports and strategies, so [the service design handover deliverables] will just become part of everything else. (. . .) Instead, we should have discussions like—OK, how can we integrate this, how can we actively use it?

D. A Balance of Qualitative and Quantitative Content Several interviewees emphasized that while service design heavily relies upon qualitative data, the most decisions in the healthcare sector are based upon quantitative information. In terms of content in a plan for implementation, this points toward aiming for a balance between qualitative and quantitative information. As phrased by one of the service designers:

> We need to speak the language of healthcare, which is data driven. Design on the other hand is anecdotal and story based.

More specifically, several interviewees suggested to include measurement parameters for change, and financial implications, in terms of cost and benefits related to each recommendation.

3.2.3 Plans for Implementation: Format

When it comes to the question of format, the interviewees expressed the following opinions: consider your audience, develop a flexible format, and embed the plan within the organization.

Consider Your Audience The interviewees highlighted the importance of considering the audience of the plan, when deciding on what to include and how to present it.

As mentioned, several interviewees emphasized the importance of balancing qualitative and quantitative content. An opinion that some of the interviewees shared is that qualitative data motivates practitioners, while quantitative data motivates management.

Moreover, some interviewees state that an important question is how much information to include and how detailed a plan should be. A service design consultant brings up the issue of presenting "the whole picture," as something that can be successful in terms of impressing the client, but that detailed overviews seldom are pragmatic enough for implementation:

> As designers, we are very fascinated by the whole picture, (...) but when you are on the inside, you are only a small piece of the value chain, even when you are working on the national administrative level. (...) You can see the whole picture and understand the whole picture, since you are on a national administrative level. However, you are so distant from it, that you can't influence it directly, but only indirectly through funding schemes, legislation and guidelines. So, you can get very fascinated and impressed, but then you might go—ok, that's that, now let me go on with the things I can do something about.

In other words, it is important to consider who is going to use the plan and in which context it will be used, since the level of detail and format ought to depend on the needs related to the specific context.

A Dynamic Format An important issue pointed out by several interviewees is that a plan for further work requires a flexible format, so that others than service designers can adjust it. Otherwise it will quickly get outdated. This can, for example, mean developing the plan in the software that the clients are familiar with..

Embedded Within the Organization A few interviewees expressed that it is important to think of how the plan can be embedded within the ongoing work in an organization. A receiver expressed that whether or not a service is implemented relates to:

> the extent to which the service design deliverables are relevant, by relating to the client's organizational structure, by providing some specific recommendations for further work, and by saying—okay, how does this fit into the clients annual planning cycle?

In terms of format, this means adjusting to the client's existing plans, systems, and processes, when relevant. Is the plan, for example, a printed map to be used in discussions, is it a calendar hanging on the wall, or is it incorporated within a written strategic plan?

3.3 Introducing Roadmapping for Service Design

To sum up, a central challenge related to service design handovers is how one might support receivers to make use of the received handover deliverables after the service design consultants have left. Several interviewees argue that a plan for implementation is an important handover deliverable that can function as support after the consultants have left. When describing such plans, the interviewees talk about the need for "plans, guidelines, recommendations, instructions or activities," related to delivering or receiving service design deliverables. Meanwhile, two of my interviewees use the term *roadmap* when referring to such plans.

The term roadmapping describes a strategic visual planning process (Phaal & Muller, 2009), while the outcome of such processes is a roadmap (Garcia & Bray, 1997, p. 31). A roadmap can function as a "'strategic lens' through which a complex system (. . .) can be viewed" (Phaal & Muller, 2009, p. 40), by offering a framework

for structuring and communicating several perspectives. The roadmapping approach has evolved in the context of technology development and is often referred to as technology roadmapping (TRM) (see Hussain, Tapinos, & Knight, 2017).

In service design, neither roadmapping nor roadmaps are established concepts, and so far there are no thorough descriptions of a roadmapping approach specifically for service design (Almqvist, 2018). In order for a roadmap to be relevant, the roadmapping approach needs to be customized to the specific context one is studying (see Hussain et al., 2017). In other words, for roadmapping to become relevant for service design, the approach must be adjusted to the discipline, as well as the specific project context. An example of tailoring the TRM approach for another setting than strategic technology foresight can be seen in the work by Ahlqvist, Valovirta, and Loikkanen (2012). They discuss how TRM can be applied into systemic policy contexts, through an adjusted approach called innovation policy roadmapping (Ahlqvist et al., 2012).

Next, I propose to further explore the connection between the interviewees' perceptions of what is needed and of the central components and features of TRM. The result is a suggested roadmapping approach for service design, hereafter referred to as service design roadmapping, which might have potential to support service designers and their clients to tackle the challenges related to service design handovers (Almqvist, 2018).

4 A Brief Description of Technology Roadmapping (TRM)

The first use of the term roadmap in a strategic context can be traced back to the 1940s. Motorola is often acknowledged as a key actor in popularizing technology roadmapping, drawing on their focus on the approach in the late 1970s, as a means to support an alignment between technology and product development (Phaal, Farrukh, & Probert, 2009, p. 288). Since then, the approach has become more popular and has been applied to a broad range of issues, on national, sector, and organizational levels (Hussain et al., 2017). As pointed out by Arshed, Finch, and Bunduchi, TRM has longer traditions in the USA, but since the beginning of this century, the interest for a roadmapping approach emerged in Europe (2012, p. 6). Since the early 2000s, there has been an increase in roadmapping related publications, while there has also been a growing interest for the approach both in academia and in practice (Gerdsri, Kongthon, & Vatananan, 2013).

According to Gerdsri et al., the professional TRM community considers the group of researchers at Cambridge, UK, to be the most active group (2013, p. 419). Within this group of scholars, we find Robert Phaal, one of the leading TRM scholars (Arshed et al., 2012, p. 7), who has studied the approach for more than two decades of practical exploration and applied research (Phaal & Muller, 2009). Phaal and Muller's contribution from 2009 provides a thorough description of a generic TRM approach, concerning the roadmapping process and the roadmap (2009). Due to the comprehensive nature of this TRM framework, it is used as a starting point when describing the approach further on in this section. The descriptions are supplemented

by other scholars who have looked into the TRM approach, such as Carvalho, Fleury, and Lopes (2013), Gerdsri et al. (2013), Hussain et al. (2017), Kerr and Phaal (2015), and Simonse, Hultink, and Buijs (2014).

4.1 Technology Roadmapping

Several scholars recommend running a comprehensive and thorough roadmapping process, arguing that the TRM process can be even more important than the roadmap itself, since communication and consensus between multiple functions are generated during the process (see Hussain et al., 2017, p. 163). When it comes to conducting the process, Hussain et al. who have reviewed a number of models for TRM state that the shared recommendation is to adjust and customize the roadmapping process to each context (2017).

Gerdsri et al. point out that a challenge identified by several scholars is the issue of keeping the TRM process alive (2013, p. 404). As an answer to this challenge, Gerdsri et al. state many scholars suggest to integrate the roadmapping process within already established internal processes, in order for the roadmap to support existing processes and have a sustainable impact (2013, p. 404).

4.2 Technology Roadmaps

Phaal and Muller's generic TRM framework describes the two main aspects of roadmaps as the roadmap architecture and the overlaying graphical layer (2009, p. 40).

4.2.1 Roadmap Architecture

Phaal and Muller argue that the structure of a technology roadmap depends on the audience and the context of use (2009). Two broader categories of the technology roadmap architecture are timeframes and layers (Phaal & Muller, 2009).

Timeframes Time and timelines are essential components of a technology roadmap (Simonse et al. 2014), since the roadmap depicts movement from the current state toward a future situation. Though there are many formats for communicating results, the time-based format has proven best suited when developing technology roadmaps (Phaal & Muller, 2009, p. 41).

Phaal and Muller argue that a technology roadmap ought to function as a structured framework for addressing the three questions: Where are we now? Where do we want to go? How can we get there? (2009, p. 39). Furthermore, they argue that which timeframes are relevant to include depends on the nature of the organization or business and the rate of change it is subject to. Fast-moving sectors typically have a shorter timeframe, such as 2 years, while long-range sectors can have a timeframe up to a hundred years (2009, p. 42).

Layers A central issue when developing a technology roadmap is defining the appropriate level of detail, by consequently deciding on which layers and sub-layers to include. Too much detail can make the roadmap too complicated, and too little detail can make the roadmap superficial. As pointed out by Kerr and Phaal (2015, p. 49), different actors have different needs, meaning that there is sometimes relevant to develop several technology roadmaps, to meet the needs of the specific audiences.

Different audiences also require different levels of detail. Phaal and Muller divide technology roadmap information structures into three variations:

(a) *The expert view*, which contains a lot of information, but is not very structured
(b) *The one-page detailed roadmap*, which is more structured and has less information than the expert view
(c) *The one-page strategic roadmap*, which is a condensed roadmap containing only the essential one to six messages, connecting why, what, how, and when (Phaal & Muller, 2009, p. 46)

Three broader layers suggested as relevant to include are:

(a) *Why?* Which focus on the backdrop of challenges and main drivers
(b) *What?* Which focus on what needs to be developed
(c) *How?* Which focus on the resources needed to develop the service (Phaal & Muller, 2009, p. 44)

4.2.2 The Overlaying Graphical Layer

The overlaying graphical layer concerns colors, expression, and format, focusing on the communicative features of the technology roadmap (Phaal & Muller, 2009, p. 41). Drawing on the work by Kerr and Phaal, one can see this category as containing the two layers, representation and presentation (2015, p. 53). They state that the representation layer is about the structure and of narrative sequences. The presentation layer, on the other hand, "is where the rough sketch becomes a polished, attractive image" and is about defining the aesthetic style best suited for communication (2015, p. 53).

4.2.3 Limitations of a TRM Approach

TRM is a popular approach, despite its known drawbacks (Hussain et al. 2017, p. 163). Carvalho et al. have looked into research on the shortcomings associated with TRM, in a study of TRM-related literature published between 1997 and 2011 (2013). Their study identifies several limitations of technology roadmaps, and to name a few, such roadmaps can be challenging to disseminate, challenging to customize, and sometimes lack focus and defined boundaries (Carvalho et al., 2013, p. 1428).

A challenge described by Phaal et al. is how to keep the roadmap alive after the first version has been developed (Phaal, Farrukh, & Probert, 2004, p. 21). They suggest that the roadmap should be updated on a periodic basis, at least once a year, in order to make sure the roadmap contains current and up-to-date information.

At the same time, Hussain et al. emphasize that regular updates of a roadmap are wearisome for the participants as well as resource demanding (2017, p. 163).

5 Considerations Regarding a Service Design Roadmapping Approach

This section connects the interviewees' perceptions of service design handovers, to research on the TRM approach (Phaal & Muller, 2009). As a result, several issues are identified, indicating that this approach needs adjusting before it can be applied in the context of service design, by the approach I am calling service design roadmapping.

The Service Design Roadmapping Process While scholars such as Simonse et al. describe TRM as an approach best suited for supporting strategic decision-making in the front-end (2014, p. 906), I have identified a different relevant application of the approach for service design. I posit that service design roadmapping can support clients during the later phases (i.e., implementation), by depicting the journey from concept toward the vision, through several pragmatic recommendations.

Several scholars describe TRM as an essential tool for planning and strategy development (e.g., Kerr, Phaal, & Probert, 2012). TRM is described as a process in itself, rather than an activity supporting other ongoing processes. In contrast, I suggest that the service design roadmapping approach ought to run alongside the service development process, as a parallel and supplementing activity.

Timeframes in Service Design Roadmaps The three timeframes—Where are we now? Where do we want to go? How can we get there?—are recommended for technology roadmaps (Phaal & Muller, 2009, p. 39). These timeframes coincide with the interviewees suggestions for a plan:

- Describe the current service in a user journey structure. (Where are we now?)
- Show the visionary service concept as emphasized elements within the same user journey. (Where do we want to go?)
- Show recommendations along the same user journey, to depict how to move toward the visionary service concept. (How can we get there?)

As seen in these suggestions, the interviewees identified the user journey as an essential component to include in a service design roadmap.

User Representation in Service Design Roadmaps User needs are described as one of several aspects that one needs to look into during a technology roadmapping process (e.g., Phaal & Muller, 2009, p. 41), but user representations and the user experience are rarely included in a technology roadmap (see Kerr & Phaal, 2015, p. 53; Kerr, Phaal, & Probert, 2014, p. 2). Since user representations and the user

experience are central both in service design processes and in deliverables, I argue that both are essential content of a service design roadmap.

Seen from a user-centered perspective, an interesting aspect of a service design roadmap is that it can function as a boundary object during the later process phases (see Kerr et al. 2012, p. 10). Boundary objects have been defined as objects that create a common understanding, across domains and disciplines (Star & Griesemer, 1989, p. 393). Considering that a service design roadmap can function as a boundary object, it has potential to support a user-centered focus throughout the later development phases. User representations within the roadmap can remind the development team of the user insights that the recommendations draw upon. And as pointed out by Segelström, visualizations "are a way of ensuring that the user insights are not forgotten" (2010, p. 68). Thus, a service design roadmap might support a development team to maintain a user focus, since the user needs identified in the early phases can be present in discussions and decisions throughout implementation. In other words, a service design roadmapping approach might prevent user insight drift (Almqvist, 2017). By user insight drift, I mean that during a service development process, the final service concept might drift away from the initially identified user needs (Almqvist, 2017).

Visual Aspects of Service Design Roadmaps From the examples of technology roadmaps in work by Phaal et al. (2009, p. 288), Kerr et al. (2014, p. 2), and Kerr and Phaal (2015, p. 53), one may draw the conclusion that the visual aspects of TRM mostly concerns composition of text-heavy content, rarely including visualizations, in the form of photos, drawings, and illustrations.

Seen from the perspective of service design, visualizations may be seen as essential content of a service design roadmap, since visual representation is one of the fundamental characteristics of the service design discipline (Segelström & Holmlid, 2009, p. 1).

How Service Design Roadmaps Differ from Other Handover Deliverables In terms of other service design handover deliverables, the service design roadmap can seem challenging to differentiate. As previously mentioned, handover deliverables can be divided into project documentation and service conceptualization, which are about visualizing the overarching project goal that one aims to achieve. Well-known service design deliverables that aim to convey a service concept are, for example, user journeys and service blueprints. A service design roadmap is located in between of the delivery of the service concept and the visionary goal, as a visual strategy that not only depicts what one is aiming for but also recommends how to get there. This means that a service design roadmap might contain elements and material from user journeys and service blueprints and that the roadmap suggests the role of the handover deliverables in the client's further work.

Challenging the Overall Format of Roadmaps Some scholars (e.g., Kerr & Phaal, 2015, p. 50; Phaal et al., 2004) have studied the visual aspects of technology roadmaps. The traditional TRM format is typically a digital or printed map, often

communicating the information through Gantt diagrams, graphs, or flow charts (see Arshed et al., 2012). Though several scholars recommend tailoring technology roadmaps to each specific context (see Hussain et al., 2017), research on other formats than maps seems limited.

Considering that a roadmap needs to be adjusted to the needs of its specific context, I argue for the relevance of studying the overall format of service design roadmaps. By this I mean exploring whether there are other relevant roadmap formats than larger maps. Drawing on what the interviewees suggested, I posit that service design roadmaps could be communicated through formats such as a calendar or an exhibition—depending on the needs of the client and the specific context.

6 Conclusion

This chapter explores the later development phases and in specific the handover from service design consultants to a client. The topic has been studied through interviews with practicing service designers from four different design agencies and civil servants. A central challenge identified in the interview material is how receivers can make use of service design handover deliverables in their further work. Furthermore, the interviewees expressed a need for plans that can support the service design handover and function as support during the implementation phase. I propose to further explore the relation between the plan described by the interviewees and the technology roadmapping (TRM) approach. Moreover, I introduce the concept service design roadmapping, which might have potential to support service designers and their clients to tackle challenges related to service design handovers and implementation. A service design roadmap might function as a visual strategy that depicts the current situation, the vision that you are aiming for, and recommendations for how to get there.

The service design handover is an overarching concept, describing all interactions of knowledge transfer, continuously through a process, to the point when the consultants leave. It consists of both activities and deliverables. Service design roadmapping on the other hand is a strategic planning process aiming to prepare the client for what happens after the consultants have left. The outcome of this process is the service design roadmap, which might support clients to use handover deliverables further, after the service design consultants have left. In other words, a roadmap can be one of the many handovers, while a handover does not have to contain a roadmap.

Furthermore, a service design roadmap can function as a boundary object (see Kerr et al., 2012, p. 10). By including user representations, the roadmap might also help keep a user focus throughout the implementation phase, reminding the development team of the user insights in discussions and decision-making. While technology roadmaps rarely include user representations or visualizations, both are potentially essential content of service design roadmaps. When developing a service design roadmapping approach, it is relevant to consider which service design-specific material one might draw on. The user journey stands out as an example of service design-specific material and is potentially an essential component of service

design roadmaps. Lastly, it is relevant to question the traditional map format of TRM and explore whether other formats might be relevant for a service design roadmapping approach.

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Frida Almqvist is a service designer and a PhD fellow in service design at the Oslo School of Architecture and Design in Norway. Her research takes a user-centered perspective and is conducted through a research by design approach, grounded in service design practice. Hence, this work is not only about the exploration but also development and testing of process support for a patient-centered service development approach in healthcare. The work is part of the Centre for Connected Care (C3) and is supported by the Norwegian Research Council.

Journal article

Publication 4

Almqvist, F. (2019). *Exploring the later phases of service development: A study of handovers and roadmapping in service design projects within Norwegian public healthcare.* Manuscript submitted for publication.

Appendices

I. Publications not included in the thesis

DOT. (2015). *Tiden inne for tjenestedesign: Innføring for kommunale innovasjonsprosesser [Time for service design: An introduction for municipal innovation processes]*. Oslo, Norway: The Oslo School of Architecture and Design. Retrieved from https://www.ks.no/contentassets/95012b87175744bdbdeac08893c93402/idekatalogen.pdf

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II. Interview guide 2016

The interview guide has been translated from Norwegian.

Introduction

Brief introduction of my background, research interests, and aim for the interview. Inform the interviewee how the interview data will be stored and used in the project and sign the letter of consent.

Introductory question

— Tell me briefly about your professional background.

Describe a project by drawing its timeline

— As the starting point for our conversation, I would like you to choose a service design project you have been involved in, preferably in the public or healthcare sectors, and preferably one that has been implemented. Can you tell me about this project? (draw timeline)

User involvement

— When were users involved during the process? And in what way? (questionnaire, interviews, workshops, user representative, or other)

— How would you say that user involvement influenced the process?

— How did user involvement influence the final solution?

User needs and insights

— Did you experience any differences in the role of user needs and insights at the beginning versus toward the end of the project?

— Have you experienced that the service concept drifted away from the user needs that had been identified during the earlier phases? If yes, what do you think was the reason for this?

The earlier phases versus the later phases

— In which development phases do you think service designers are most influential today? And why do you think it is like that?

— Is there anything you perceive as challenging about the later phases?

Closing questions

— Is there anything else you would like to talk about?

— Who would you recommend me to talk to in order to learn more about these topics?

III. Interview guide 2017

The interview guide has been translated from Norwegian.

Introduction

Brief introduction of my background, research interests, and aim for the interview. Inform the interviewee how the interview data will be stored and used in the project and sign the letter of consent.

Introductory questions

— Tell me briefly about your professional background.

— Based on your experience, in which phases is it most common to involve service designers?

— As the starting point for our conversation, I would like you to choose a service design project you have been involved in, preferably in the public or healthcare sectors, and preferably one that has been implemented.

Handing over

I have some questions about what happens when service designers leave a project and the handover from the designers to their client takes place.

— When during a project do handovers occur, and what are typical deliverables and related activities?

— What have you experienced as challenging about handovers?

Receiving and using the material?
Format of deliverables?
Activities related to the handover?
How the user insights are communicated?
Service designer's contextual competence?

— Is there anything you think could have been done differently in terms of the handover?

— Do you have examples of service design handovers that have worked better than other handovers? If yes, what do you think was the reason for this?

User needs and insights

— Have you experienced that the service concept drifted away from the user needs that had been identified during the earlier phases? If yes, what do you think was the reason for this?

Closing questions

— Is there anything else you would like to talk about?

— Who would you recommend me to talk to in order to learn more about these topics?

IV. Service design roadmapping guidelines

The guidelines developed as part of my research can be found on the following pages. The guidelines used in the design investigations were printed on A3 and folded into a pamphlet – due to the format of this book each page show a quarter of the A3.

Practical guidelines

Service design roadmapping

Developed by
Frida Almqvist

Introducing
Service design roadmapping

Service design roadmapping is an approach that aims to support the transition from a service concept to an implemented service. The term roadmapping describes a strategic visual planning process. The outcome of such processes is a roadmap. While roadmapping is well-established in other fields, this has not been the case in service design. These guidelines offer the first roadmapping approach developed specifically for service design.

1 **Service design roadmap: Content**
All roadmaps are different depending on your project and to whom you are communicating. The content of a roadmap addresses the three questions: Where are we now? Where do we want to go? And how can we get there? Which components are relevant to include will depend on the nature of your project.

2 **Service design roadmap: Format**
Roadmaps are often information-dense. Your task is to convey a lot of information in a way that makes it compelling and easy to understand for different target groups.

3 **Service design roadmapping: Planning & facilitation**
A successful roadmapping session requires preparation. When it comes to facilitation, the style you choose depends on your project, the issues you want to emphasize, and your preferences. The more roadmapping sessions you run, the better and more relevant your roadmap will become. Think of the roadmap as something you develop with your clients to support them in their further work.

Relevant topics for preparing questions

Three topics to consider when preparing questions you want answered in the roadmapping session are the context, responsibility & ownership, and success indicators & systemic barriers.

Context
Relevant questions include: How will the roadmap be used after you leave the project? How often should it be updated? Which stakeholders will be involved? Through what medium will the roadmap be shared? Is it relevant/possible to integrate the roadmap into already existing internal processes in the company or organization?

Responsibility & ownership
Aim to identify as many relevant stakeholders as possible during the roadmapping session, focusing on who needs to be involved in planning and executing which action or milestone. Relevant questions include: Which stakeholder, department, or organization is responsible for the milestone or action? Which milestone or action depends on collaboration between several stakeholders? Remember that it is often better to define roles rather than choose specific individuals in the initial roadmapping session.

Success indicators & systemic barriers
It is important to discuss how viable and feasible your service concept is and the milestones and actions leading towards it. Its viability is how valuable it is in terms of revenue or profit, while its feasibility is how easy it is to solve, build, perform, or implement something. Relevant questions include: How do you know when you are headed in the right direction, and how do you know if you are not? How do you know that you have achieved a milestone? Which laws, norms, or regulations might hinder or delay achieving a milestone or action? How much can you expect to save when making the changes, and how much will it cost? How much time and effort does a milestone or action require?

Recommendations for planning

Define goals
What do you want to get out of the session? Are you looking for feedback, aiming for consensus across disciplines, or are you informing people?

Prepare agenda
Set an agenda for the session. How much time do you have? What is most important to focus on in the session?

Prepare interview guide
See step 11 and the relevant topics for preparing questions. Define roles: Who presents the concept, facilitates the session, takes notes?

Prepare introduction
Consider how best to introduce the elements of the roadmap so that you don't overwhelm the participants.

Interacting with the roadmap
Plan for how you want the participants to interact with the roadmap.
Are you sitting down or standing?
Make sure all participants can read and write on the roadmap.

Documentation
Consider how you want to document the session.

Recommendations for facilitation

Participant introduction
Let all participants introduce themselves, e.g., their name, role, and their expectations about the roadmapping session.

Describe intention
Explain the intention of the roadmapping session, that is, to discuss where you are now, where you want to go, and how you can get there.

Explain roadmap template
What is your time horizon?
What are the components?

How to interact
If you want the participants to interact with your roadmap, tell them how and show them in what way.

Present service concept
Give a brief, engaging description of your service concept. Focus on the essence of the concept, the most important aspects. Emphasize the question of 'why', meaning the arguments for why your service concept is valuable and meaningful to users.
Be sure to talk about user needs and insights, for example, by referring to user quotations and anecdotes.

Time as topic
You started the session by focusing on the longer term by introducing your service concept and the desired service that you are aiming for. Now, focus on the near term and the medium term.

Roadmap as conversation support
Use the roadmap to navigate through the conversation. Focus on one milestone or action at a time. Point to the element you are discussing, add information, and correct the content as you go along.

Conversation focus
Focus on a few milestones and actions in the session. Since you won't have time to go in depth into all the material during the roadmapping session, decide on the essential milestones and actions you want to highlight. The final roadmap you deliver can have a higher level of detail.

References for further reading

Design roadmapping
Simonse, L. (2018). *Design roadmapping: Guidebook for future foresight techniques*. Amsterdam: BIS.

Kim, E., Chung, J., Beckman, S., & Agogino, A. (2016). Design roadmapping: A framework and case study on planning development of high-tech products in Silicon Valley. *Journal of Mechanical Design*, *138*(10). https://doi.org/10.1115/1.4034221

Product roadmaps
Lombardo, T., McCarthy, B., Ryan, E., & Connors, M. (2017). *Product roadmaps relaunched: How to set direction while embracing uncertainty*. Sebastopol, CA: O'Reilly.

A framework for roadmapping
Phaal, R., & Muller, G. (2009). An architectural framework for roadmapping: Towards visual strategy. *Technological Forecasting & Social Change*, *76*(1), 39–49. https://doi.org/10.1016/j.techfore.2008.03.018

Visualizing roadmaps
Kerr, C., & Phaal, R. (2015). Visualizing roadmaps: A design-driven approach. *Research-Technology Management*, *53*(3), 45–54. https://doi.org/10.5437/08956308X5804253

1 Service design roadmap **Content**

1. Current situation
Get an outside perspective on your description of the current situation by talking to someone who has not taken part in your process. Explain your user journey and get feedback on whether or not it makes sense, if you need more or less detail, and if any aspects are missing.

2. Service concept
Explain, receive feedback, and discuss the essence and vision of your service concepts with someone who has not taken part in your process. Do the elements of the concept clearly tie back to the identified needs and the articulated outcome? Will the sum of these elements lead to the intended outcome? Are some elements unclear, and if so in what way? Which elements of the concept are engaging and inspiring?

3. Time
Draw a timeline for your project, choosing a time frame you find suitable for implementing your service concept. Later on, you will use this timeline to map out what needs to happen when.

4. Milestones
Discuss the elements you identified as essential in your service concepts. Then, think about the major milestones in your project timeline, e.g., the pilot launch or when you launch your website, and include them in your timeline. Define the milestones clearly by articulating a short descriptive title for each. In order to separate the milestones from each other, you can add 3–5 sentences describing what the milestone aims to achieve. Answer questions like: What needs to happen in the next month? In three months? In a year? Try to *articulate* success indicators and potential systemic barriers to each.

5. Actions
Go through each milestone, making sure that the milestones cover the essence of what you want to achieve with your concept. Describe the actions necessary to achieve these milestones. Answer questions like: What needs to be done before you can get started on another milestone/activity? What could/should happen in parallel? Are some milestones or actions more important to achieve than others? Is it necessary to divide some actions or milestones into more manageable tasks?

Each action should cover the following areas: *What?* What you want to achieve. *Why?* Quotes, user insights, and other insights explaining why something ought to be done. *Who?* Who is responsible and who should be involved? *How?* How should it be carried out. Many of these questions will be hard to answer when making your first roadmap draft, but will be possible to answer during the first roadmapping session with your client.

2 Service design roadmap **Format**

6. The context
Discuss and answer the following questions: Who will be using your roadmap later in the process? What are their various needs? Then decide on how many roadmaps you need to develop in your project.

7. The medium
When choosing the right medium for your roadmap (e.g., a printed map, presentation, video, website, or exhibition) you need to understand how the roadmap will be used. Discuss and answer the following questions: How will the roadmap be used after you leave the project? How often should it be updated? Which stakeholders will be involved? Through what medium will the roadmap be shared? Is it relevant/possible to integrate the roadmap into existing structures or programs that your clients already use? Based on these requirements, decide on the best-suited format for your roadmap.

8. Composition
Discuss and sketch out the most relevant composition of your elements. Questions to discuss include: What kind of composition is relevant for communicating to your audience(s)? In which order do you want the roadmap to be read? Which elements are unnecessary or central to include, considering your audience? Which elements support each other? Which depend on each other? Use the three composition templates as a starting point for your discussions.

9. Visual aspects
Discuss and sketch out how to build up your roadmap visually. Relevant questions to discuss include: Which fonts, colors, and other graphical elements are best for your roadmap? Which icons are included? How are you indicating which actions should be prioritized? How are the user insights and other insights represented in your roadmap? Which information should stand out visually?

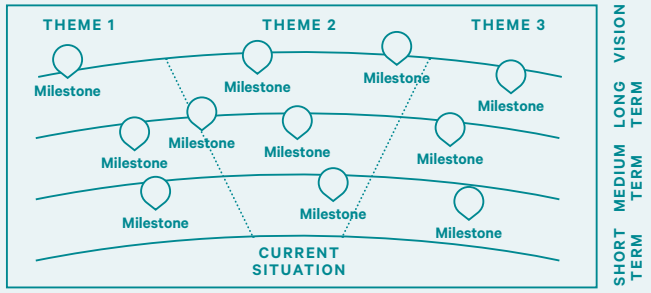
10. Iterate
Numerous iterations are necessary in order to complete a first roadmap draft. One effective way to improve the roadmap is to get feedback from people who haven't been involved in making it.

Three composition templates

Aspects from these composition templates can be combined into other relevant templates depending upon what is needed in your specific project.

A

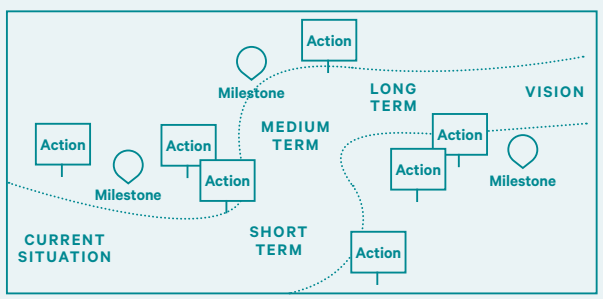
Suitable for communications with leaders. Shows milestones and the general picture, but does not go into details.



Altered by Almqvist. Based on Kim et al. (2016) and Simonse (2018, p. 216)

B

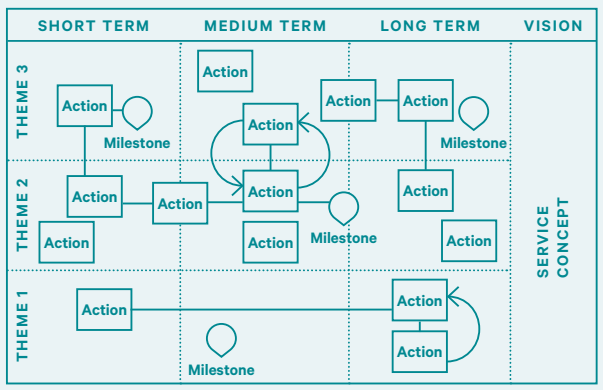
Suitable for communications with partners and the general public. Limited focus on indicating what happens when and typically a lower level of detail.



Altered by Almqvist. Based on Phaal & Kerr (2015) and Simonse (2018, p. 216).

C

Suitable for communications with the development team. Clearly indicates parallel actions, dependencies, and how everything links back to the user needs and to the future service. Typically contains a higher level of detail than the other two templates.



Altered by Almqvist. Based on Phaal & Muller (2009)
Lombardo et al. (2017, p. 48) and Simonse (2018, p. 217).

3 Service design roadmapping **Planning & facilitation**

11. Questions
Discuss and articulate questions you want answered in the first roadmapping session with your client. Use the section *Relevant topics for preparing questions* as your starting point.

12. Agenda
Decide on the agenda for your roadmapping session. Use the section *Recommendations for planning and facilitation* as your starting point. Discuss what you hope to achieve with your roadmapping session and what you want to focus on in the session.

Errata

	Original text	Corrected text
Page 116	Figure 4.13	Figure 4.15
Page 117	Figure 4.14	Figure 4.16