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

Frida Almqvist a

a The Oslo School of Architecture and Design
*Corresponding author e-mail: frida.almqvist@aho.no

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.
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.

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 Holmild (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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About the Author:

**Frida Almqvist** is a PhD-fellow in service design at the Oslo School of Architecture and Design in Norway, exploring how to develop process support for a user-centred service development approach in healthcare.