Creating space for user involvement
The impact of system boundaries and stakeholders´ role on the outcome of service design

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Abstract

Purpose: Service design is a collaborative approach to value creation in new service development that puts focus on value co-creation, and a system boundary emphasis is needed to describe and analyze how attractive value and experiences can be created for the involved actors. Service design enhances customer perceived value creation and offers key insights on service innovation. Further research is needed to explore when, and how to involve customers and other actors [stakeholders] in the service design and innovation process as well as to uphold the impact on innovation outcomes (Patricio et al., 2018). The roles of different stakeholders in service design are somewhat less explored. The **purpose** of this article is to understand how an actor involvement in service design, influences the innovation outcome from a users´ point of view.

Methodology: An interpretative abductive approach is chosen.

Findings: Several elements determine user centricity and space for service design and thus satisfaction with the outcome. Further research is needed to determine their degree of influence.

Originality/Value: Through the lens of the stakeholder perspective a first model for service design is developed that captures boundaries, the roles of, and tradeoffs between the different stakeholders during the processes and its influence on the outcome. The empirical context is a public building, due to the importance of the organization´s physical environment on experiences as well as satisfaction, productivity and health status of their users.

Keywords: Service design, co-design, innovation outcome, stakeholder mapping, stakeholder engagement, boundary judgement

Paper type: Empirical

1. Introduction

Service design enhances customer perceived value creation (Andreassen et al., 2016). Thus, service design benefits from being customer centered (Teixeira et al. 2012) and offers key insights on service innovation. Teixeira et al. (2012) conclude that customer experience information is complex and challenging to incorporate in service design.

There are still many open questions in service research and design in regard to service design and innovation. Little is known how to organize innovation processes and how to manage customers´[or users´] and partners´ collaboration throughout the service innovation process . "The customer's or [users`] role in innovation has long been recognized (Ostrom et al., 2015)", but their roles in SD-logic inspired service research are left implicit (Hollebeek et al., 2022).

There are still important areas in need for further research in organizing service design inspired innovation or development processes, such as how to involve customers through participatory design and co-design to enhance the outcome in form of better service experiences (Ostrom et al., 2015), how to use service design approaches to innovate complex service systems and value networks and how to involve multidisciplinary teams in service design (Ostrom et al., 2015, p. 136). In the end the impact of service design inspired innovation or development processes must be in evidence in the outcome.

Several conclude that there are still research gaps with an emphasis on process and the relation between process and outcome and system. Following Vaajakallio et al. (2009) there is a research GAP with an emphasis on process: "Service design processes demand multidisciplinary approach, however, there are no systematic studies on how to engage different parties from designers, clients, service employees and end users to policy makers in the processes. (Vaajakallio, Matelmäki, Lehtinen, Kantola, Kuikkanemi, 2009, p. 23)." Gustafsson et al. (20220) emphasize a research GAP in regard to understand "[w]hat are the effects of NSD and service design on the new service and/or service innovation? (Gustafsson et al (2020: p. 3)". Following Patricio et al. (2018) there is a need for "further research [….] to better understand when, and how to involve customers and other actors [stakeholders] in the service design and innovation process as **well as the impact on innovation outcomes** (Patricio, Gustafsson and Fisk (2018, p. 9)". Vaajakallio et al. (2009) stress a lack of research in regard to the people taking part the process: "Organizing co-design which involves many different partners with different interests, skills, statuses and goals is always a risk and opportunity at the same time. It demands careful consideration how to facilitate dialogue between participants, and how to support reactive collaboration in a productive and relaxed way. There seems to be a need for papers that study the strengths, challenges and opportunities of mixing different groups of people for designing services. (Vaajakallio, Matelmäki, Lehtinen, Kantola, Kuikkanemi, 2009, p. 24)" Going a step further Vink et al. (2021, p. 171) put an emphasis on the system: «Recent research has stressed the need for a broad participatory service design process that emphasizes the involvement of extended networks of both customers and providers (Patricio et al 2018) However, despite a broadening of the actors who are considered to be part of the service design process, the legacies of the firm-customer dyad remain inherent in how different roles in the service design process are understood."

Summing this up, service design is a multidisciplinary approach (Prestes Joly et al., 2019; Patricio et al., 2018) that gain strength from merging with other research fields such as marketing, operations management, information systems and interaction design, stakeholder salience (Prestes Joly et al, 2019; Patricio and Fisk, 2013, Ostrom et al., 2015; Seppelt et al., 2011; Smith and Fischbacher, 2005). Thus, we consider service design as a user-centered or human-centered approach (Trischler and Zehrer, 2012; Wetter-Edman, Sangiorgi, Edvardsson, Holmlid and Grönroos and Mattelmäki, 2014,) to the design process. In this study we, particularly, have a participatory mindset (Holmlid, 2009) and utilize co-design principles (Patricio et al., 2018; Trischler et al., 2018; Sanders and Stappers, 2008; Yu and Sangiorgi, 2018). It is believed that active user involvement enhances their service experience (Sandström et al., 2008; Halskov and Hansen, 2015; Joly et al., 2019).

Further, we view service design as a perspective on value creation (Edwardsson et al., 2005) that puts focus on "resource integration, value co-creation, and a systems foundation to describe and analyze how attractive value and experiences can be created for the involved actors (Wetter-Edman et al, 2014, p. 117)".

The aim is to understand how actor involvement, in new service development following the principles of service design, influences the innovation outcome.

We will investigate service design inspired innovation processes holding a stakeholder approach. Stakeholders are defined as "any group or individual that can affect or be affected by the realization of an organization´s purpose (Freeman, 2017, p. 5)". Organizations span from teams or groups (Puranam, 2017) to large entities. Users are stakeholders that are affected by the outcome (Freeman, 1984). Research shows that affected stakeholders like users often have the weakest negotiation position and there is a tendency that their specific needs are overlooked (Roloff, 2008; Mitchell, 2017), not focused on (Kujala et. al., 2019) or pushed to the side due to more powerful stakeholders. How can this be avoided?

The stakeholder perspective helps to identify important actors and to understand their needs so that the value-creation processes can be organized accordingly (Freeman et al., 2010; Smith and Fischbacher, 2005), preferably in close collaboration between the different actors or parties (Kujala et al, 2019). Due to the fact that boundaries influence judgements about how problems are managed, what information or issues are considered relevant, another question is (Churchman, 1970; Achterkamp and Vos, 2007): How can the boundaries, between who is taking part in a value creation and who is not, be managed? Several investigated the different stakeholders roles in value creation (Achterkamp and Vos, 2007; Mitchell et al. 1997; Mitchell, 2017; Kujala et al., 2017)

Through the lens of stakeholder management, we expect to develop an approach that captures boundaries (diskuter mer om det først) in service design processes, the roles of, and tradeoffs between the different stakeholders during the processes, and the organizing of the process in terms of assessment, information, planning (Midgley et al, 1998) and decisions, and how this builds actor experienced innovation outcome. Such an approach will contribute to understand the relation between the organizing of new service development process and the innovation outcome/ end-user value.

The empirical context is public buildings. This is chosen due to the fact that user participation both is required by law but also because research shows how important the organizations physical environment is: It influences the users experiences (Bitner, 1992) as well as satisfaction, productivity (Baker, Berry and Parasuraman, 1998, Becker, 1981, Davis, 1984, Steele 1986) and health status (Bodin-Danielsson and Bodin, 2008) of employees and others using and working in buildings. Traditional expert knowledge is perceived as not «sufficient to evaluate the design (Bullinger, Bauer, Wenzel and Blach, 2010)» due to complexity and disciplinary experts tend to have a lack of knowledge on lived experience and tacit knowledge (Spinuzzi, 2004) of buildings. It is therefore recommended to involve end users (e.g. employees, facility managers, customers and others) in innovation (Bullinger et. al. 2010) from planning and architectural design to realized buildings.

A case on design and construction of a public building facilitating education will be analyzed and evaluated. Interviews among different stakeholders will be conducted and documents evaluated.

In the following we will first elaborate on service design, stakeholder theory and boundary critique, before we discuss choice of methods and research approach. The thereon following chapters will present analysis, results and conclusion.

2. Theory

2.1 Service design

Service design is perceived as a key to service innovation (Patrício et al., 2018). It is a multidisciplinary approach (Patrício et al., 2018; Prestes Joly et al., 2019) with contributions from many fields like operations management, information systems, interaction design, service research and design. Service design integrates design thinking with the service perspective (Wetter-Edman et al., 2014) using an outside-in or participatory approach during design and development of service innovations (Korper et al., 2020).

Service design is about understanding users technical, functional and processual expectations of a service (Grönroos, 1984, 2001). In addition, it has been argued that it can be beneficial to integrate empathy and users *lived experience* (Vink and Oertzen, 2018) or users´ tacit knowledge (Spinuzzi, 2005) with the design. Thus, service design may focus not so much on service deliverers output but rather on the user's outcome, i.e. how the users utilize the proposed/acquired value to enhance the service experience. From the users´ point of view participation with service design relates to the ability to influence decisions on the outcome and thus influence their future use situation (Halskov & Hansen, 2015) or future possibilities for value creation.

Inspired by Sangiorgi and Prendiville (2017), Meroni and Sangiorgi (2011), Sanders and Stappers (2008), Blomkamp (2018), and Gustafsson et al. (2020), we define service design as the systematical use of design principles and methodologies to analyze stakeholders needs and service outcome to develop processes and offerings that create innovative service propositions for one or more stakeholders (Blomkamp, 2018; Trischler et al., 2018; Yu & Sangiorgi, 2018). Key service design principles are based on co-design and participatory design (Patricio et al., 2018). In this paper, this turns the focus towards understanding involved actors, resource integration, value co-creation, and the systems foundation (Wetter-Edman et al., 2014). Further we, argue that service design may result in more attractive service offerings to passive receivers of services (Shostack, 1977; Grönroos, 1982), the broader and more interactive value co-creation and resource integration with users (Gummesson and Mele 2010), or in the broadest sense a multilevel service design that encapsulate the entire service ecosystem (Patricio et al., 2011; Vargo and Akaka, 2017); or preferably, a combination of these three service design perspectives. Approaching service design from a different angle, Karpen et al. (2017) conclude that it is human- and meaning-centered, co-creative and inclusive, transformative and betterment-oriented, emergent and experimental explicative and experientially explicit, and holistic and contextual. This helps us to remember that this discipline is a professional practice dedicated to addressing user needs by creating seamless service experiences (Kingman-Brundage et al., 1995). Therefore, the reminder of the chapter will elaborate applicable tools and practical analysis models. Let us return to the roots of service management.

The innovation outcome of a service design process (Gustafsson et al., 2019), and an outside-in perspective (Wetter-Edman, 2014; Holmlid, 2009) starting with the innovation outcome from the users´ point of view (Gustafsson et.al., 2019; Holmlid, 2009; several) should be the first step of any service design inspired service development process. The goal of participation of any service design inspired new service development process than should be to improve the user´s quality of live or work situation (Halskov & Hansen, 2015)

Service design inspired service development processes are value creation processes, they are incremental (Korper et al., 2020; many) and don´t follow a straightforward approach. Generic

processes in design and service research follow a three-step process, with initiation or ideation, development/performance and implementation (Sundbo, 1997, in: Korper et al.,2020). A fourth step with a special focus on the innovation outcome is suggested by Achterkamp and Vos (2007). This is an important step to our knowledge only Gustafsson et al. (2020) mention in the field of service research. If one is using a participative approach and follows service design principles it is important to evaluate if a participative approach makes a different, that is that participation is mirrored in the innovation outcome.

"The customer's or [users`] role in innovation has long been recognized (Ostrom et al., 2015)", but the roles of the different actors in […] service research are left implicit (Hollebeek et al., 2022) and «the literature provides limited direct suggestions for ways how to organize participatory service innovation processes (Ommen et al., 2016, p.)» such as service design inspired new service development processes.

Following Ostrom et al there are still many open questions in service research and design in regard to service design and innovation. Little is known about how to organize innovation processes and how to manage customers´[or users´] and partners´ collaboration throughout the service innovation process (Ostrom et al., 2015). There are still important areas in need for further research in organizing service design inspired innovation or development processes, such as how to involve customers through participatory design and co-design to enhance the outcome in form of better service experiences (Ostrom et al., 2015), how to use service design approaches to innovate complex service systems and value networks and how to involve multidisciplinary teams in service design (Ostrom et al., 2015, p. 136).

2.2. Stakeholder management
While the roles of the different actors in service research and thus also research in service design processes are left implicit (Hollebeek et al., 2022; Patricio et. al, 2018) we find thorough research in stakeholder management. Therefore, we will lend theory in stakeholder management to get a better understanding of the organizing of stakeholder participation in service design processes.
We will evaluate processes in design and construction of public buildings to broaden theory in service design working on the organizing of these processes. In the following chapter we will first define important terms belonging to stakeholder management before we present research in stakeholder management about the organizing of innovation processes. Starting with a short presentation of the factors influencing participation quality, we will present research on different elements/aspects in stakeholder management that might have an influence on users´ possibility to influence the process and as a consequence the outcome of the process.

In stakeholder management stakeholders are defined as "any group or individual that can affect or be affected by the realization of an organization´s purpose (Freeman, 2017, p.)" In a further step, stakeholder management "is about managerial behaviour taken in response those groups and individuals (Olander, 2007, p. 278)". Project Management Institute defines stakeholders as "individuals and organizations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or successful project completion (Project Management Institute (PMI®), 1996 https://www.pmi.org/learning/library/stakeholder-analysis-pivotal-practice-projects-8905 downloaded, March 19,2023)."
Organizations span from teams or groups to large entities (Puranam, 2018). Users are stakeholders that are affected by the outcome (Roloff, 2008). At the same time, they are often

the weakest because they have "to live" with the outcome and use situation, but are often overlooked (Roloff, 2008) or expressed in another way not focused on (Freeman et al., 2020).

Freeman et al. (2020) suggest a broad view on stakeholder management that includes "human actors and their interactions in the process of [..] value creation (Freeman et al., 2020).". Stakeholder management with its focus on different kind of human actors and interaction between these actors, is especially important in more complex organizational contexts (Cottafava & Corazza, 2021) and complex problems that require a cooperative effort (Cottafava & Corazza, 2021) during a value creation process (Busch et al., 2018; Hollebeek et al., 2022; Kazadi et al., 2016).

Value creation in stakeholder management combines economic aspects with ethic aspects simultaneous (Windsor, 2017). In addition, stakeholder value creation approaches also often "have to follow the assignment of rights to particular customers, employees and suppliers (Windsor, 2017, p. 91)". In our case with the chosen context of design and construction of public buildings users´ rights are regulated by law and they have to be involved in the innovation process. Related to stakeholder management, organizations, and thus also service design processes organized in projects and teams, have to cope with potential conflicting interests based on economic and ethic interests plus rights regulated by law during value creation. Value creation than is understood as a path forward to resolve such disputes (Windsor, 2017). This is in line with service design and an out-put in approach, and a user influenced outcome-based approach on value creation. It will be interesting to see if and how conflicting interests during service design value creating processes are solved and how satisfied the different stakeholders are with the final innovation.

On a superordinated level to start with the outcome is a question of participatory quality and its relation to the outcome (Ommen et al., 2016). Ommen et al. (2016) investigating participative quality between franchisers and franchisees, show that there are especially six dimensions that contribute to participation quality or process quality from a users' point of view and outcome. Among others these are early involvement, transparency of processes and degree of influence (Ommen et al., 2016).

To understand who the stakeholders are, whom to choose and whom to involve Mitchell et al. (1997) suggest stakeholder salience and choosing the most important stakeholders based on power, legitimacy and urgency (Mitchell et al., 1997). An example for a stakeholder based on urgency than is a demanding stakeholder (Mitchell et al., 1997) a stakeholder with a lot of power than is a dormant or dominant stakeholder (Mitchell et al., 1997). To focus on the most important stakeholders has been criticized both by Mitchell (2017) himself; Kujala et al., (2019), Corazza and Cisi (2017) and Freeman et al. (2020). These critiques are based on unilateral concerns or concerns about inclusiveness/exclusivenss. Mitchell´s approach is perceived either as a neo-classic or a transactional model (Kujala et al., 2019). Mitchell (2017) by himself is concerned that not all stakeholders are included due to economic concerns. One could imagine that due to economic evaluations, especially those stakeholders affected by decisions will not be included in service design processes because it will lead to higher costs during the value creation process. On the other side not involving stakeholders affected can lead to higher costs in the long run, because important information/knowledge is not taken care of.

Achterkamp & Vos (2007) also criticize Mitchell´s (1997) model. "The salience model focuses on the type of relations between the stakeholder and the organization as a means for explaining to what extent certain parties are able to influence organizational behavior (Achterkamp & Vos, 2007).", but it is not given that those affected will be chosen.

Achterkamp and Vos (2007) follow Ulrich (2000) and his boundary critique and judgement to reach an approach to stakeholder involvement that takes the context and thus both those that affect and those that are affected into account. "The concept of boundary judgements says that the meaning of a proposition depends on how we bound the relevant reference system, that is, context that matters when it comes to assessing the merits and defects of the proposition (Ulrich, 2000; p. 251)." Boundary judgements, observations and evaluations are interdependent of each other and function as a reference system in regard to the choice of system, values and facts (Ulrich, 2000). Different types of stakeholders hold different reference systems and thus have different ideas of the outcome. Different boundary categories, including types of stakeholders and their social role, require boundary judgements, that "define the system of concern" (Ulrich, 2000). The social roles of stakeholders are those involved like client, decision-maker and professional or those affected, called witness by Ulrich. That is Ulrich (2000) presents a practical approach to stakeholder management, including boundary judgements, that is a reference system and context one has to take into account when describing an issue (Ulrich, 2000). In Ulrich´s (2000) own words: "Before we can meaningfully identify and judge relevant facts and values, we have to delimit the situation of interest […] (Ulrich, 2000, p. 256t)."

In this article we follow Ulrich´s theory on boundary judgements and will have a look on the organizing of the service design process, including the context defined by system, facts, values and social roles taken into account when organizing the service design prosess, including steps of process and decisions made. Boundary judgements are based on four dimensions, motivation, power, knowledge and legitimation (Ulrich, 2000). To judge the boundaries Ulrich (2000) suggests a checklist with critically heuristic boundary questions.

3. Methods

The aim of this article is to understand how actor involvement in service design, influences the innovation outcome from a user´s point of view. To do so we have to have a look on the organizing of the service design processes, the chosen approach to actor involvement and how the innovation outcome was perceived by the different actors. In the following we will first present the chosen context and research approach before results, analysis and conclusion are presented.

3.1. Context

As context a process to build a primary school in a municipality in Scandinavia was chosen. At this point of our research the project leader, user represSentant and user coordinator are interviewed and documents are analyzed.

3.2. Research approach

A qualitative approach is chosen consisting of a document analysis and semi structured interviews with informants perceived as "knowledgeable agents (Gioa et al., 2012, p. 26)" to investigate the organizing of the process and get an understanding of what might contribute to satisfying results. The knowledgeable agents are the project leader, the user coordinator, and the user representant.

Following Gioa et al. (2012) an interpretative framework to develop grounded theory about the organizing of service design is developed. Starting with presenting the initial data (1st order evidence) we show the relation to 2nd order theory-centric themes and the relation of 2nd order themes to aggregate dimensions. The framework is broadened to a last step to show the relation between process and outcome.

3.3. Interview topics

Due to different roles of project leader, user coordinator and user representant we used a different interview guide for each interviewee with both overlapping and different topics.

The project leader was asked to talk about the organizing of the project, his view on user involvement during the project, the role of the user coordinator, resource planning, cooperation and role of other stakeholders and how satisfied he was with the process and results. The last question was, what he would do different if he had to start the same process again. The user representant was asked to talk about her role and involvement during the different phases of the process, issues especially important for her and her colleagues, satisfaction with the organizing of the process and the result and recommendations she had in regard to organizing and final result. The user coordinator was asked to talk about his background, his role, function and position in the existing organization chart, meetings he had with whom and why, results of meetings, conflicts of interests, suggestions given to whom and solutions in regard to that and satisfaction with process and results. The last question was what suggestions he would give in regard to role and function for the user coordinator in a different/new project.

3.4. Results

In the following the results are presented.

3.4.1 Process and user involvement

From the documents accessible one can see that the process to build/construct public buildings in the municipality was organized in five steps: Idea, concept, planning, developing (construction) and implementation. Before the process started, for each step an organization chart and a document about the content, decisions, and documents to prepare for the next step were developed.

In regard to the process of building a new primary school, the idea phase resulted in the decision to build a new school. During the concept phase a stakeholder analysis was carried out, user needs were conducted as well as normative needs based on laws and regulations and the quantity of areal needed expressed in square meters per student was defined. The latter was based on an analysis of the quantity of areal used per student by bigger cities in a Scandinavian country. The areal norm for the school built on the least quantity of areal used. The areal expressed in square meter defined the budget to use.

Stakeholder needs were analyzed to carry out interests. Further, conflicts of interests were analyzed and decisions on resolutions in regard to these conflicts were made. Most of the stakeholder needs were incorporated. One department responsible for a special group of students, sent in a document with more comprehensive needs. Also here one followed the norm decided on and didn´t follow the suggested area per student for this group.

The results of and decisions based on the investigations during the concept phase directed all further steps. Needs where transferred to principles for the next steps.

During the planning phase, the terrain where the school should be placed was regulated and an outline/draft of the building was developed. Different stakeholder groups were involved during the development of the building sketch and decisions on the sketch were made based on their suggestions. Both regulation, sketch and the results from the concept phase represented the foundation for the competitive basis, a document promoted toward possible construction partners.

A decision was made to choose a construction firm based on competence and experience and not on price. Two application rounds were arranged to find the right firm.

The starting point for the development phase (construction) was a municipal council decision in April 2020. A decision was made about the content of the project, the area for the school, budget, an approach securing early supplier involvement and optimal use of the supplier´s knowledge, contract conditions, user involvement and communication strategy. The most central user groups where defined. In addition, a decision to hire a user coordinator was made. The user coordinator was responsible for coordination of the user groups. In addition, his task was to relief the burden of the user representant.

During the development-/construction phase a firm to lead the project was hired, in addition to an external user coordinator. The construction firm worked closely together with an architect responsible for both to place the building in the terrain, designing the final building and contributing to interior design. According to one interviewee regular meetings between the municipality´s project leader, the construction firm, the user coordinator and the firm leading the project were arranged. The user coordinator was working with and on behalf of the majority of affected actors. Three meetings with users and the construction firm were arranged. The architect was working closely together with different affected actors in regard to interior design. The affected actors were divided in groups when working with interior design.
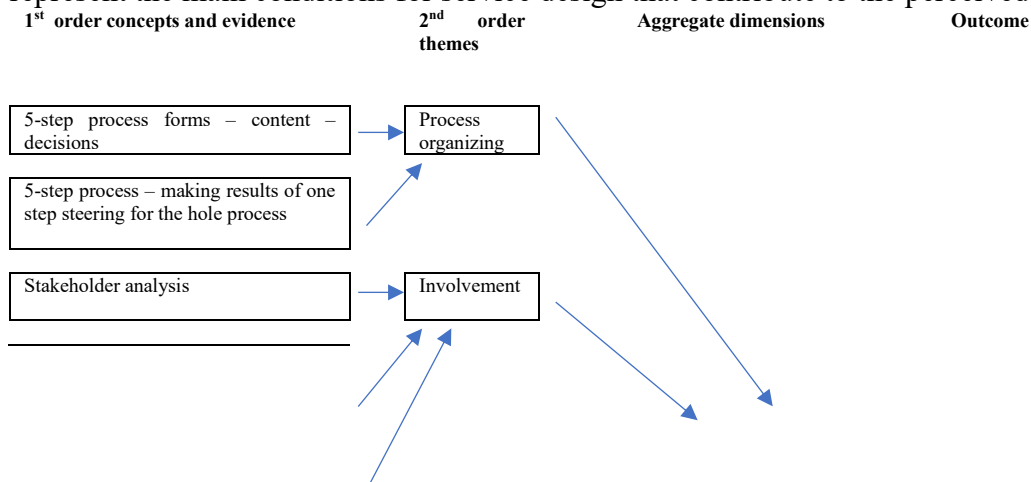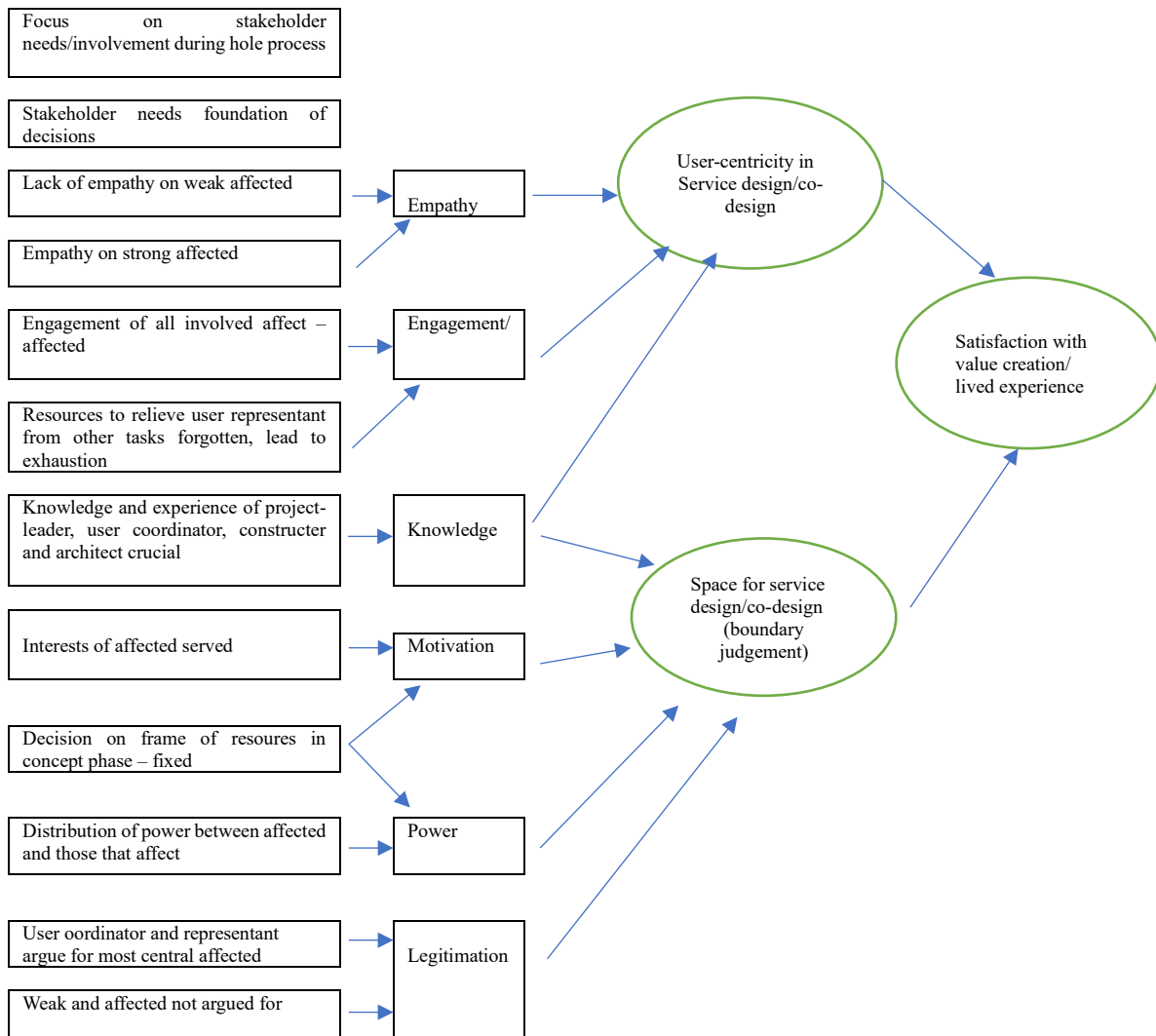
3.4.2 Outcome – new primary school
Alle interviewees, either affecting or affected by the process and result, expressed their satisfaction with the result and the process. Weak affected groups are not interviewed yet. Based on the information from the documents and the information given by the interviewees it is expected that weak affected stakeholders will not express the same satisfaction with the process and/or results.

4. Analysis
4.1.Analysis how
Explaining-Outcome Process Tracing (Beach & Brun Pedersen, 2019) is used as an analysis method. That is the process and its relation to outcome was analyzed using an abductive approach. We started with an inductive approach to get an impression about, what might contribute to user centricity in service design. But user centricity alone doesn´t explain the stakeholders experience with the process and outcome. In addition to those that affect the needs and wishes of those that are affected must appear in decisions and outcome. That is space for co-design has to be created. Due to that we went on with a deductive approach to analyze what might contribute to that by using Ulrich´s theory on boundary judgement. The presentation of the results of our analysis is inspired by the recommendations given by Gioia et al. (2012). Information from documents and interviews is presented under 1st order concepts and evidence, and bundled under 2nd order themes, that in this article become principles for service design and co-design. 2nd order themes again are bundled in aggregate dimensions that in this article represent the main conditions for service design that contribute to the perceived outcome.

1st order concepts and evidence	2nd order themes	Aggregate dimensions	Outcome

5-step process forms – content – decisions	Process organizing
5-step process – making results of one step steering for the hole process	
Stakeholder analysis	Involvement

Focus on stakeholder needs/involvement during hole process

Stakeholder needs foundation of decisions

Lack of empathy on weak affected → Empathy

Empathy on strong affected

Engagement of all involved affect – affected → Engagement/

Resources to relieve user representant from other tasks forgotten, lead to exhaustion

Knowledge and experience of project-leader, user coordinator, constructer and architect crucial → Knowledge

Interests of affected served → Motivation

Decision on frame of resoures in concept phase – fixed

Distribution of power between affected and those that affect → Power

User oordinator and representant argue for most central affected → Legitimation

Weak and affected not argued for

User-centricity in Service design/co-design

Space for service design/co-design (boundary judgement)

Satisfaction with value creation/ lived experience

4.2. Analysis than: Co-design inspired service design - user centricity and a system that creates space for co-design

4.2.1. User centricity

4.2.1.1 Process organizing and involvement

The process is very well organized with in advance prepared phases to go through, documents/forms in place entailing both the content, decision and documents to prepare for the next step. Due to that, everybody knows in advance how to organize the different steps belonging to a building process in this municipality, including what the decision should be and what the decision should be based on.

According to that also the building process to build a new primary school was divided into five steps or phases starting with the idea and going on with a concept-, planning, development/building and implementation. To our knowledge, the main difference to other processes is that building projects in this municipality contain a concept phase where both decisions on user involvement and resoures are made.

Compared to generic processes in design and service research (see p. 7 of our article) the process in our case was expanded with two steps, with the concept phase as the most important, this phase is crucial for a service design inspired service development process. A stakeholder analysis, meetings giving stakeholders the opportunity to express their needs and making stakeholders needs, formal needs and need about area volume (expressed in square meter per

student) to principles for further planning and implementation are the results of the concept phase. The results are transferred to principles that regulate all further steps. The result is focus on stakeholders/actors and co-design and user involvement from start.

But, due to the fact that the resources are locked, and financial boundaries are given user involvement is "only" possible in a fixed frame.

4.2.1.2 Empathy
The fact that the most important users (affected) are defined in a municipal council decision before the development/construction starts leads to that also focus and empathy in the following process is on these users. Through this decision affected actors/users are divided into strong and weak affected stakeholders. The main groups of users become to strong affected users but a smaller number of affected becomes to weak affected groups with less empathy and focus on these groups. As a result, we cannot talk about real co-design or 100 % co-design towards all affected. Empathy and focus on these not defined is not guaranteed. An example is one neighbor strongly affected by the planned building. His house got too close to the school property. Another example is the school nurse. According to on interviewee she was not involved in the process and probably less satisfied.

Like the project leader expressed: We tried as good as we could to take care of every stakeholder, but it wasn´t always possible. On the question what he would make different next time, he answered that he would buy out the most affected neighbor earlier. The user representant expressed: We got what we wanted, the school is just like we wanted, a classic school with classrooms. The floorplan, room layout was just like they needed. The furniture – are almost in regard to their wishes. Due to fixed resources, it was not possible to choose different colors for different steps.

4.2.1.3 Engagement/motivation
All interviewees were very engaged and involved looking for the best solutions for the primary school. From the documents following the municipal board decision April 2020 one can see that resources for employees involved in the project are not included. As a consequence, the user representant only got some relief of the burden through the user coordinator. She was responsible for two roles in addition to her position at the school. She was part of the steering group and worked as a user representant. As a consequence, she took part in almost every meeting, except the meetings towards the construction firm, the user coordinator was responsible for. To work at the school and take part in the process was therefore perceived as an exhausting double burden. A smaller amount of financial resources she got to relieve her burden, she gave to the project. The user coordinator was very enthusiastic in regard to possible solutions and even when the project was finished he presented different approaches one could have chosen. The project leader was still very interested in the project, answered my mail where I asked for the interview during five minutes and did everything to present the project, sent documents and motivated others to take part in my project. He had a very good overview about the process and a conscious attitude towards user involvement during the whole process.

4.2.1.4 Knowledge and experience
Experience and knowledge is perceived as a key factor. All firms and people involved in the process can document many years with knowledge and experience. The user coordinator is an educated teacher and worked in different positions at different schools for more than 20 years. At his time working at a school he was involved in three building project. Later on he started as a consultant contributing to user involvement in school building processes.

The construction firm is one of the biggest and most experienced in school building in the Scandinavian country our research took place.

The architect also has experience and knowledge from several school processes. All interviewees expressed their admiration and satisfaction with her work. We just had to tell her what we wanted and the next day she came with suggestions that fit to what we expressed during our meeting.

The project leader is one of the responsible behind those that developed the process including all documents, decision points, organization charts. He also was internal responsible for the whole process including the preparation of the decision foundation for all political decisions. He can show to many years of experience at different organizations responsible for public school and university buildings. His experience and knowledge about user involvement and how to secure that is perceived as a key factor for co-design.

4.2.2. Boundary judgement – space created for service design

In addition to user centricity, it is important to create space for co-design between actors that affect and those affected. Without creating space for all stakeholders those affect and those that are affected service design following the principles of co-design and participatory design will not be possible. Following Ulrich (2000) this entails that the interests of the affected are taken care of, that they take part in decisions and that they are represented in the process. In the following we will follow Ulrich´s suggestions for boundary judgement to analyse if space for service design was created.

4.2.2.1 Motivation

"Who is (ought to be) the client? That is, whose interests are (should be) served (Ulrich 2000, p. 258)?"

During the whole process one main focus was on users and space was created to take care of the needs of the majority of the affected. Their needs were transferred to principles during the concept phase guiding the approach of the following process steps. Like earlier mentioned there was less empathy on a minor group of affected.

4.2.2.2 Power

"Who is (ought to be) the decision-maker? That is, who is (should be) in a position to change the measure of improvement? What resources are (ought to be) controlled by the decision-maker? That is, what conditions of success can (should) those involved control (Ulrich 2000, p. 258)?"

Decisions where either influenced or made together with several both those that affect and those that are affected. During the development/construction phase a team consisting of the construction firm, internal and external project leader and user coordinator had several meetings to decide on important decisions together. That is the conditions of success were controlled by several, including a coordinator representing the affected. During interior design decisions were based on users directly. They were divided in several groups to decide on the interior design. That is all decisions, except those on the week affected, are based on co-design.

4.2.2.3. Knowledge

"Who is (ought to be) considered a professional? That is, who is (should be) involved as an expert, e.g., as a researcher, planner or consultant (Ulrich 2000, p. 258)?"

Knowledge is already discussed in chapter 4.2.1.4

4.2.2.3 Legitimation

"Who is (ought to be) witness to the interests of those affected but not involved? That is, who is (should be) treated as a legitimate stakeholder, and who argues (should argue) the case of those stakeholders who cannot speak for themselves, including future generations and non-human nature (Ulrich, 2000, p. 258)?"
The involvement of those affected was guaranteed from start through stakeholder analysis, user meetings and transferring user needs into principles or guidelines for the further process. Further both a user representant was represented in many meetings and decisions. Their case was treated by user representant and, from development/construction phase form user coordinator

5. Conclusion
The aim of this article was to understand how actor involvement in service design influences the outcome from a user´s point of view.
At this stage of our research the results implicate that both user centricity but also space for service design are necessary elements for users´ satisfaction with the value creation process but also with lived experience. Several themes or factors seem to influence both user-centricity and the creation of space for service design and further satisfaction. Our research shows that both process organizing with a concept phase, user involvement from start, empathy, engagement and knowledge are important dimensions for user centricity. But without creating space for involvement and participation in decisions user centricity and thus co-design is not possible.

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