

CO-CREATION IN SERVICE DESIGN; A MASTER'S STUDY ON HOW TO ACHIEVE SUSTAINABLE SERVICES

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ABSTRACT

Services are growing into complex systems and the needs of the people using them might not always be prioritised. Service design is an expanding field that is utilised to identify gaps in systems and processes. There is therefore a need to study the use of service design methods in product design education to learn how to view a service as a whole from the perspectives of the people using it. However, there are various kinds of services, and so there is a need to study different approaches to working as a designer.

This paper contributes by investigating how to involve people using the service in the design process to create optimised solutions. It is based on the following research question: *How can sustainable solutions be achieved by co-creation in service design?* The research methodology was triangulation, including empirical data from lectures and interviews with three different expert designers: Emilie Strømmen Olsen, service designer at Designit, Christin Mørch, ux-designer at Altinn and Anna Kirah, psychologist and anthropologist. The findings show how involving the people as co-creators throughout the process can provide a more sustainable solution, as the ideas are generated together with those who are experts in their fields and the solutions are based upon their needs. This paper concludes that co-creation can contribute to implementing people's values when designing services. The paper thus expands the knowledge on co-creation tools that are relevant in the expanding field of design education.

Keywords: service design, co-creation, people-centred approach, sustainability, value creation

1 INTRODUCTION – SERVICE DESIGN AS A TOOL FOR SUCCESS

While there are various reasons that services are designed in a particular way, efficiency and obtaining the largest amount of profit are probably two of the largest motivators. However, the focus on achieving these objectives may not always be advantageous for the people using the service. Today, the competition has increased. There are now many services to choose between, which has given customers the opportunity to realise and show what they need and desire. Due to fast information flows and increased knowledge levels, the gaps between the ideal social environment in people's minds and the level of satisfaction in reality have expanded [1]. Therefore, understanding the needs of users has evolved to become an essential part of the development of a service, and the people using the services have never been as highly valued as they are today. Service designers have tools to identify and map these needs and can facilitate the process of improving existing services and innovating new ideas. However, there are various kinds of services and users and thus many ways to work as a service designer, which can be connected or implemented to product design education. This paper investigates three approaches to service design as well as how different projects demand different tools and methods to achieve the shared goal of creating sustainable solutions.

2 BACKGROUND – COMPLEX SYSTEMS DEMAND THOROUGH UNDERSTANDING

An understanding of the user's needs is essential in developing a sustainable service and because there are many different types of services and users. Such research must focus not only on statistical customer descriptions but also on understanding the perspectives of the individuals who will utilise the

service [2]. This requires tools and methods that enable the service designer to slip into the user's shoes and understand the subjective experience and context. This serves as the foundation for the project, as this illuminates the needs and values of the users. Without these insights, the development of a service is based upon predictions of needs that may not correspond to what the users require, and thus the service might not be as good as it could be.

The previous examples show the importance of understanding the needs of the people using the services, as these are the people for whom the service was created in the first place. However, the end users are not the only people who can provide essential information; rather, all the different people interacting with the service, such as employees and stakeholders, are crucial for gaining a holistic view of the service. A relatable example is noted by Schneider et al [2]: 'Services are not tangible or standardised goods that can be stored away in an inventory. Instead, services are created through interaction between a service provider and a customer.' This explains the necessity of including all the different people using a service to be able to understand the whole picture. Moreover, it informs the needs and goals of those in the different positions and highlights the fact that neither party can operate on its own – and in fact, both are dependent upon each other to survive. The information gathered from direct contact is crucial to gaining a thorough understanding of the whole context and the valuable details within it [3].

To ensure a sustainable service, the involvement of the people using the service as well as that of the providers, employees and different stakeholders should not end in the research phase. While this information is needed to start the design process, the participation should continue into the design phase, as the service designers are not necessarily the people that will use the service. Indeed, the designers must involve experts in the field, that is, the people using or working with the service. This is known as co-creation, where groups with different expertise work together to create a solution that will benefit all [4]. As mentioned earlier, the focus has not always been on customers and their needs but rather on the stakeholders and their ideas. However, without customers there might not be a service. Thus, viewing the people using the service as stakeholders and inviting them into the design process will create value, both to the people and the service [5]. This value can have several positive effects, such as smooth interaction between the different stakeholders, employees and customers, which leads to a sustainable level of satisfaction in the actual service provision [2]. When the customer has a chance to add value during the early stages in the development of a service, it is likely he or she will feel some ownership of the ideas, which in turn can result in increased customer loyalty and long-term engagement.

There are several reasons to involve the people using the service in the design process. As stated in the introduction, however, there are many kinds of services, and thus there are various ways of working as a service designer – and the possibilities for constructing user involvement are even more varied. To investigate some of the different approaches, the following research question was constructed: *How can sustainable solutions be achieved by co-creation in service design?*

3 METHODS – INTERVIEWS AND TRIANGULATION OF INFORMATION

The methods used in this master's study to address the research question were collecting data from lectures for students at the product design education, at Oslo and Akershus University College of applied science (HiOA). Expert interviews were conducted with three service designers to verify the information and to learn about examples of service design methods used in real cases. The information gathered was afterwards triangulated and discussed [6]. To gain a broad picture of how designers involve people in various types of projects, the information was gathered from three expert designers that work with different approaches within service design. The designers were Emilie Strømmen Olsen, service designer at Designit, Christin Mørch, ux-designer at Altinn and Anna Kirah, psychologist and anthropologist at Kirah Co and managing director at Design without Borders. These designers represent three different ways of working. Designit is a traditional design office, where Strømmen Olsen teams up in small groups and works with different types of clients as consultants. At Altinn, which is a web portal for electronic dialogue between the business/industry sector, citizens and government agencies, Mørch works as an in-house designer. Kirah has a different background as a psychologist and anthropologist, and has a third interesting approach to the field of service design. To answer the research question, the investigation was focused on when and how people are involved in different projects.

4 RESULTS

This section presents the gathered information and the findings on how the designers involve people in the design process.

4.1 Emilie Strømme Olsen, service designer, Designit

Emilie Strømme Olsen gave a lecture for master students in health and service design specialisation at HiOA, and was thereafter interviewed. She had presented a project where Designit worked together with a team at Oslo University hospital to improve the overall experience and reduce the waiting time for breast cancer patients [7]. As with many of the projects Strømme Olsen has participated in, the project was financed to perform research and design activities, where the result was the delivery of a solution that could be implemented by the hospital at a later time. This means that the designers had the opportunity to facilitate early in the process but not in the actual implementation phase. According to Strømme Olsen, this was due to the time it takes to carry out such large changes in complex systems, which would mean very high costs if a designer were to participate throughout the process, although she indicated that it would be valuable if it were made possible. These arrangements mean that the service designer's job becomes even more important, and that co-creation is crucial to find a solution that will be realised.

Strømme Olsen referred to the five keywords that Designit use as their foundation of service design, that should be employed to generate successful projects: human centric, holistic, co-creating, visual and iterative. There are variations of these principles, and the most used are probably: User-centric, co-creative, sequencing, evidencing and holistic [2]. Designit's definition is closely related to these, and when addressing these in all projects, there will most likely be an improvement in the experience of the service for the people using it. When discussing Designit's definition of the principles, the holistic view is crucial to obtaining knowledge from all participants and identifying the needs in every part of the system. This also includes all touchpoints and the space between them [2]. By using this viewpoint, the understanding of the system will be as complete as possible. Co-creating is vital for a successful result, as this is where trust is earned and motivation and engagement are formed. These activities create ownership and make the participants willing to undergo a change that might seem difficult at first glance [1]. Being visual when working as a service designer facilitates the understanding of the system and communication between the different participants. This is a useful tool that makes the insights and ideas easier to relate to, helping to keep the process moving in the right direction [2]. The last keyword was iterative, which refers to testing and improving, rapidly and often. To find a solution that can be implemented, it is important that the ideas and concepts have been tested throughout the process, so that when the designers leave, the implementation will be as easy as possible. All these keywords emphasise the focus on the people involved and the importance of co-creation in service design projects.

Strømme Olsen mentioned some activities that were carried out in the insight phase: a process workshop with 40 employees; in-depth interviews with 7 patients, which the employees observed; as well as contextual inquiries, phone interviews and roleplaying. Together these activities provided a wide and deep understanding of the system, both for the designers and for the employees and stakeholders, which might be even more important, as this builds the foundation for productive communication and cooperation [1]. Activities performed later in the project included idea workshops with employees, conceptualisation with employees and scenario testing with employees and patients. This type of co-creation is rewarding in the sense that the people participating in the design process get a thorough understanding and ownership of the project, which will have positive effects in the long term.

4.2 Christin Mørch, ux-designer, Altinn

As an in-house ux-designer at Altinn, Christin Mørch works very differently than Strømme Olsen at Designit. Mørch's function has been to participate in the improvement of the complex platform of Altinn, with a focus on usability. Digital technology has developed rapidly in recent years, which has led to an enormous expansion of the platform, and unfortunately the focus on user-friendly solutions has not been a priority. When Mørch spoke about the user involvement in the organisation, she addressed the issue of the large variety of users, as all Norwegians over 15 years of age have personal information in the system, and there are 43 associated government agencies involved. Considering this

volume, in an environment where the focus on the user has been modest, there is a lot of room for improvement. However, she stressed the importance of involving the people using the service to be able to make a meaningful change. Although, in several cases, the developers have been regarded as the main users, and often the testing has been done internally, which most likely has generated biased outcomes [8]. Mørch spoke about an idea that she believes could be applied to many large organisations that has not been able to follow the development of user-involvement: the design profession is thought of as ‘changing colours’ rather than focusing on functionality. She believes that designers need to fight for the definition of the profession, and for the importance of involving people throughout the design process. Nevertheless, there is an on-going change in the organisation, and Mørch stated that she was optimistic that the awareness of the involvement of people would increase. Despite the challenge of finding users that can represent the Norwegian population, Altinn do involve people in the design process to identify the needs of the users. To gather information about the usage of the system early in the project, interviews were conducted with stakeholders and observations were made in home environments while performing different tasks within the system, called contextual inquiries. By observing people in their natural environments when using the services, without interfering, the designers have the chance to see how the interaction flows between the system and the user, and thus see where there are challenges the need to be addressed. If this would have been performed as an interview, the interviewee might forget difficult parts, and even more, the designer has the chance to see where improvements can be made independent of if the user would define a task as easy or difficult. Involving users both early in the research phase and later for testing and iterating is beneficial, as these results generate information about the challenges and needs of the users. Mørch confirmed that these activities are very productive and that the same results would not have been found if the testing had been performed internally in the organisation [8]. She believes that a benefit of working as an in-house designer is that she has the opportunity to follow the design process longer, and iterate until the desired solution is found and implemented.

4.3 Anna Kirah, psychologist and anthropologist, Kirah Co and Design without Borders

With a background as a psychologist and anthropologist, Anna Kirah has yet another perspective on the methods used to develop successful solutions. Her first mission with the lecture was to make everyone stop using the term ‘user’, as it is in fact people we are working with. She thinks that the term ‘user’ minimises the honour and dignity of the persons being served and limits the potential for innovation by having the designer focus on existing users and who the users might be. This statement says something about the importance of the people involved in the design process.

Kirah talked about three principles of people-centred design that need to be addressed to achieve a successful solution. The first is to understand the problem from all possible perspectives. She exemplified this with the experience of giving birth, where understanding of the patient, the father, the doctor, the nurse and the room are all important. This holistic perspective will generate the knowledge needed to start the design process and will also recognise that there are more than one truth. The second principle is to bring back the natural curiosity and creativity in people. By this she means that if the designer can facilitate both curiosity and creativity among the participants, their enthusiasm will automatically guide the design process. This will also have positive effects further on, as it creates both trust and engagement. The third principle is to create *with* and not *for* people. Co-creation is important, as the people using and working with the service know the solution and goals the best, and they are the people that will be able to form a sustainable solution.

She offered examples from several large projects in which she has participated, where her function has been to identify the needs of the people using the different services. As Mørch, Kirah also talks about contextual inquiries, as they will uncover the real difficulties. Kirah also stressed the importance of involving the service providers in the research, such as stakeholders and employees, as it is the provider rather than the designer that should understand and own the issues with the solution. The people using the services have the answers regarding where the problems exist, and the service providers must understand the problems in order to solve them. This also creates motivation for implementation [1].

Until now, large organisations have often relied on big data – large samples that produce quantitative data. However, Kirah states that it is even more important to look at qualitative data, that can be collected from a very small sample. If three people have difficulties when using a service, there is a

guarantee that many more will, although it contradicts the big data. This is due to the level of depth involved in understanding the hows and whys of people's attitudes and behaviours. Kirah mentioned several examples where her qualitative research had not been appreciated by the project leaders and thus ignored, and when the products were launched they failed for the exact reasons the qualitative data indicated. Hence, listening to and understanding the people using the services can be crucial to creating successful and sustainable solutions.

5 DISCUSSION & CONCLUSION

Emilie Strømmen Olsen discussed the processes of several of her projects. Due to economic factors, designers often take part in the insight phase, where the goal is to gather data and design a solution that can be implemented afterwards. This makes the involvement of the people using and providing the services crucial to creating a solution that will be implemented and successful. She stated five keywords that describe successful service design according to Designit: human centric, holistic, co-creating, visual and iterative. All these terms are directly linked to the focus on the people and the interaction between them and the service. She mentioned activities that were carried out with the goal to gather information about user needs, create trust between the different participants and find sustainable solutions.

Christin Mørch is participating in creating a people-centred approach in the large organisation Altinn. She strongly believes that close interaction with the people using the service during the development process generates data that are crucial for creating solutions that are easy for people to use. There are on-going changes in the organisation, and Mørch is positive for a structural change in the work environment, where there will be higher focus on usability. She spoke about activities that have been carried out, where people were included to gain information usability, and how these were rewarding in terms of receiving valuable data. Working as an in-house designer allows the design process to be iterative over a longer period of time, as it is possible to participate in testing and improvements until the desired solutions are implemented.

Anna Kirah also stressed the importance of the involvement of people. She discussed contextual inquiries, and how this qualitative and small scale research will have a great impact on the understanding of the interaction with the service. Another important aspect is the involvement of the service providers, which helps to ensure that they understand the situations and challenges. She stated three principles of successful service design: seeing the service from all perspectives, finding the natural curiosity and creating *with* rather than *for* people. These principles emphasise how the involvement of people in the design process is vital for finding sustainable solutions.

Conclusively, this study shows how the three designers, representing three different approaches, emphasise the importance of involving people in the design process. Depending on the size of the project and the role of the designer, there are different possibilities for doing this. In projects where the designer enters as a consultant and leaves the project before the implementation, such involvement is crucial since the designer will not be able to participate in an iterative process after the delivery of the solution. In projects constructed in organisations where the designers are working in-house, the designers can often take part in the implementation process, where there is room for iterative testing.

The study was conducted to find an answer to the research question: *How can sustainable solutions be achieved by co-creation in service design?* The findings show that there are many different tools and methods that can be used in the involvement of people, such as various workshops, contextual inquiries and in-depth interviews. The research also highlights the importance of having a holistic view of the system [3], and that the interaction between the designer and the people using the service is as important as the interaction between the service providers and the end users. After all, these are the people that will have a continuous relationship after the project is finished, and when the designer has left. However, the essence of the study shows that the key is to include people throughout the entire design process.

Three learning outcomes were identified that can be relevant for product design education. First, it is important to have knowledge about the foundation of service design, through the five principles, as these will provide a successful approach when being addressed. These could be used in design education to prepare the students for successful projects in the future. Second, involving people in an iterative process over a longer period of time will produce valuable results when launching a new service or product. Thus, practice placement and internship periods would benefit design education. Finally, a learning outcome related to design education is the importance of having competence in

qualitative data collection, such as interviews and contextual inquiries, as these activities will generate important information that can result in successful projects. Design education could learn from other fields to enrich the knowledge concerning people interaction, such as anthropology and psychology, where these activities are standard procedures and where learning happens through practical experience.

The study contributes new knowledge to the field of service design, with documentation of three expert designers' subjective viewpoints. The study should therefore be generalised with caution. However, as the results show distinct connections to service design theories [1, 2, 3, 5, 6], the study could be valid in a wider context and expands the understanding of the different approaches to sustainable solutions utilising co-creation in service design.

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