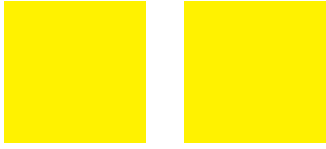
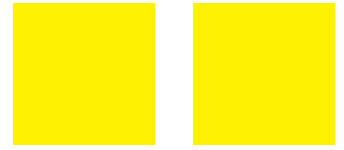
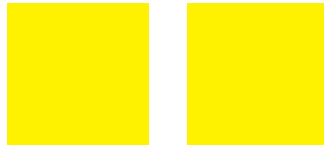


Empower



Enrich

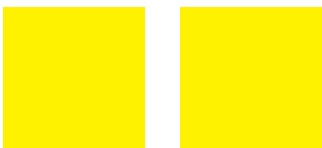


Education

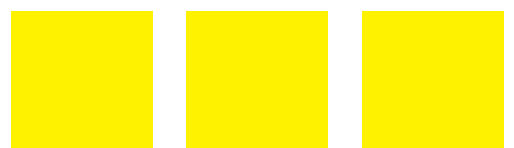
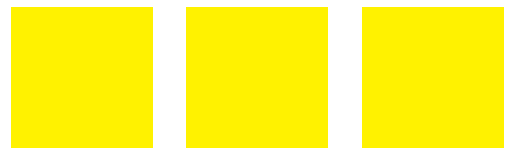
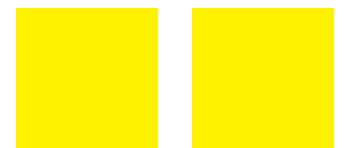


The Role of Object in Service Design

Goeun Shin



Enhance



Emotion

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Abstract

Abstract

For successful service design, how to utilize users' insight, knowledge and experiences are core factor to consider. How to facilitate the users' value creation by providing and delivering resources and processes through interactions between service and user is also another key factor. Designers focus on designing the interactions-touchpoints/evidences- as important part of their work. Through the service design processes of exploration and creation, the designers design a physical-, visual- or virtual- object to facilitate users' service experience.

However, the research of the designed object is limited only on their importance or a certain case. This study seeks different roles of the designed object in service design through case studies, which collected from three years of TOUCHPOINT- service design journals. Thematic analysis and affinity diagram tool were conducted to analyze collected data and categorize found different roles.

The study addresses five roles of the object: Empowering, Emotion, Enriching, Education, Enhancing. Designed objects empower users and their rights, deliver certain emotion or solve emotional problems, enrich users' lives by providing opportunities for users to interact others, deliver knowledge and share information and provide communication channels, and finally enhance service performance.

Furthermore an object sometimes takes multiples roles or changes its role to another. Designers bodily know how to utilize unique feature of the object in designing services. Some of objects enable co-creation and on-going service changes. The object and service element supports each other.

The study suggests that understanding the role of object in service design reinforces service designers' competence in shaping users' service experience.

Acknowledgements

Acknowledgements

This thesis was initiated from the UID course. Later I got more inspired from the Designing Services course. This made me interested in service design and I finally decided to write a thesis about the topic. It broadened my view and gave me a pleasure of learning. So that first of all, I appreciate to the courses and Professor Turkka Keinonen and Tuuli Mattelmäki for the initiation of the thesis.

My thesis is a theoretical work which was a long and lonely journey. Instead of having interviews, workshops or own design-case, it was a process of constant reading. My thesis was based on the TOUCHPOINT-service design journal. My second thanks, therefore, goes to the journal and authors of articles, which enabled me to analyze cases and finally get results.

This thesis was also finished with very proficient support of my supervisor Zagros Hatami. He guided me to understand more recent research notion and very appropriate help at right moments of the journey. I deeply thank him for his guidance and supervision.

I also thank to Brenda for sharing space, JungJoo & Kirsikka for initial comments and Chi-Hsia for helps when I felt lost at most. Sometimes only discussing about the thesis together was helping me to know where I am. Thanks a lot to my dear friends especially Victoria, Ram and Sarang. You made my amazing MA life in Finland, too.

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Finally my family, my parents and my little sister. I am sorry that I am away so long. I will keep trying to be your proud daughter and sister.

1.
Introduction

This master thesis ‘The role of object in service design’ addresses 5 different roles of object in service design practice. The thesis investigates designed objects through case studies of TOUCHPOINT service design journal.

To investigate different roles of the object in service design practice, the thesis is divided into 5 chapters. The first, **Introduction** introduces motivation of the study, research question and background of the research. The second, **Theoretical Framework** explains how to see a service and service design including service evidences, touchpoints, service design prototypes, and finally defines the object that the thesis is dealing with. The third, **Methods** explains the methods of the study, ‘TOUCHPOINT’ service design journal and how the case studies were analyzed. The Fourth, **Case Studies: Results** addresses 5 roles of the object that found through the case studies and illustrates each of roles and further findings. Finally, the fifth, **Conclusion** summarizes findings and reflects on the study. And it suggests further study direction for the future.

1.1 Motivation: UID Project

My Idea for the thesis has started from the User Inspired Design course in 2011 at Aalto University. In the course project ‘Design & Psychiatric Care’ each group took a specific topic they chose or found during research on the services of Helsinki psychiatric care and then tried to design for the better service. The project was launched with two units in Helsinki: Aurora psychiatric hospital and Malmi out patient clinic. There were also third sectors around two hospitals as stakeholders which cover any kind of mental disorder patients in Helsinki area with two main units.

In this project, what our group (Team member: Goeun Shin, Martina Frantzen, Shengjun Shi, Paolo Fausone) designed is a small note-pad, which has a sticker on the backside like POST-IT that we named ‘Journey Planner’ (Figure 1). Everyday, a patient gets one piece of Journey Planner from a nurse. It could be extended with using backside sticker as many as days the patient stays in Aurora hospital. A patient can write or draw anything he wants as a record of the journey of cure for his illness in rehabilitation ward.



Figure 1
Journey Planner

We decided to design this simple '(physical) object' because we concluded that there should be more interactions between the nurses and patients. During the research, we found that there is a big gap in between how the patients and nurses perceive the service in closed rehabilitation ward.

In Aurora hospital, there are three wards: Acute ward, Closed rehabilitation ward and Open rehabilitation ward. When a patient comes in, he is assigned a ward depending on his diagnosis. The type of the activity that can be implemented depends from the ward. In the acute ward, it is too hectic to implement almost any activities. The patients are usually not capable to join any activities. A length of staying is also shorter than the other wards. Open rehabilitation ward has well-structured activities for patients by nurses and therapists. However, closed rehabilitation between acute ward and open rehabilitation ward does not have any structured activities.

After a couple of interviews with the head nurse, we found out that the closed rehabilitation ward is a kind of transfer station where usually patients are waiting most of time. There are only two fixed schedules in a day, which are meals and medication. Patients meet a doctor only once a week to update his condition. The routine of the patients in closed rehabilitation ward is defined by few activities and patients mostly spend their time without anything to do compared with open rehabilitation ward. Patients are facing a problem of boredom that gets worse even on the weekend when there are no nurses. Especially, lack of interaction with nurses makes patients feel passive and neglected.

The intention of the journey planner, therefore, is to increase interaction between nurses and patients. It was intended to be a small trigger, which would bring spontaneous conversation between patients and nurses. Furthermore, it makes easy for the nurses to follow and report the condition of patients, as it is one of their duties. For the patients, journey planner could trace after-

ward the progress of condition in the hospital.

The objectives of Journey Planner

1. Giving the nurse and patient a common activity that increases their communication.
2. Helping the nurse's report about patients.
3. Making an overview of the treatment and the journey for afterward.
4. Making information visible and available for the patient.
5. Allowing the patient to freely express thoughts and feelings.
6. Easy to implement both practically and economically.

As the service in hospital is depending on people, in our case, the simplest solution would be convincing nurses to work closer to patients as their job is taking cares of patients. However, we decided to design an additional object to support their performance and patients experience in the service. There were many reasons why we conclude on object. It is because:

1. Nurses already have excess work such as reporting and organizing and ordering equipment and so on.
2. Caring patients was not their ideal job for some nurses. A caring profession may need genuine dedication more than any other profession.
3. Patients are having very exceptional period in their life while it is ordinary routine for the nurses. A gap of expectations between patients and nurses toward service is huge.
4. Working better or more is not compensated for nurses, which makes lethargic routine.

With given reasons, we thought physical object 'Journey Planner' would be affordable solution for both patients and nurses.

1.1.1 Reflection afterward: Why object?

During the psychiatric care project, many questions occurred to me.

Why we ended up designing something tangible (Figure 1) in such intangible service? What if training nurses works much better than having an additional object? What if better solution is re-training nurses, can I call it as a result of design? What If everyone understood it as a good design which found a core problem and accordance solution, is it something only designers can do? This diagnosis might be easily found from patients suggestion box or service feedback survey papers.

The project caused further questions: What is service design exactly?, what is role of service designers?, How can I (as a designer) be sure about design outcome?, Is this only designers can do best?" However, the biggest question was:

‘Why was I stuck with the object?’

There was also another reason that initiated this thesis about object. Another group (Team members: Tamara Amalia, Sanna Tuononen, Otto Schultz, Mike Walker) from UID course designed a piece of paper, called ‘Transfer Ticket’ (Figure 2) for the patients who had just been transferred from Aurora in-patient hospital to Malmi out patient clinic. Taking travel as a positive metaphor, the Transfer Ticket was designed to guide the patients’ journey from treatment to treatment. As the patients are in unstable mental condition, any problems during the transfer process can cause their stage of condition to get worse. Transfer Ticket was designed because the patients who spent long time in hospital had to face new environment which caused them to feel lost and stressed.

In the same project ‘Design & Psychiatric Care’, though both groups tackled different problems in different realms, both designed object as a medium to support user’s service experience and

Figure 2
Transfer Ticket (2011)
(Picture from [www.car-gocollective.com/mike-walker/Transfer Ticket](http://www.car-gocollective.com/mike-walker/Transfer-Ticket))



as a solution for the problems through research processes.

However both objects are slightly different in terms of taking roles in service. Though our problem was initiated from patients’ emotional dissatisfaction, it was more focused on functional benefits (e.g. for more interaction between nurses and patients, for easy reporting for nurses), while the other group was more focused on its emotional benefits (e.g. welcoming patients to another treatment).

Therefore, looking at two objects, which have different roles in service was fascinating enough to start this thesis. Objects like the ‘Transfer Ticket’ and ‘Journey Planner’, which are service design outcomes by designers, and are a kind of ‘touchpoints’ of the service but not any random touchpoints would have big value and benefit.

The reason why I was interested in the object is that objects are ‘designed’ by designers. So that looking at the object can be a lens to observe how designers design a service.

1.2 Background

Kimbell (2011) researched on different ways of approaching service design through exploratory study in three service design-specialized consultancies (IDEO, live|work, Radarstation). Her paper gives a hint to understand how designers approach service design practices. Kimbell (2011) asserted that the three of service design consultancies paid great attention to design of the material and digital touchpoints and focused on studying and redesigning artifacts and tried to represent the relational and temporal nature of service in visual form such as customer journey map with touchpoints. They made an important part of their work the construction of artifacts to make visible and comprehensible the complexities of the service with prototypes, sketches and customer journey diagrams (Kimbell, 2011, p. 48). The designers were trying to understand service through its visual-, physical-, and virtual-objects, called service ‘touchpoint’, which connected from service firms to users then take it also as important part of their work.

Visual objects such as customer journey map and sketches were also used to represent the services, which helps to visualize and understand complex nature of service. Different objects were used as tools during the design inquiry, for example visual representations were shown to managers for helping their decision-making. The objects were constantly used during the service design process as tools of understanding service, of generating ideas and of developing new concepts.

In the paper (Kimbell, 2011), two of important key words for the designers in designing services were ‘service design tools’ and ‘touchpoints’.

Design tools such as ‘customer journey map’, ‘sketches’ (Segelström & Holmid, 2009) and ‘service prototype’ (Buchenau & Suri, 2000) are often found in service design research. Not only three of given examples but also there are more of service design tools being used. The research on those service design tools is often ad-

ressing their usefulness and effectiveness in service design processes, such as ‘games’ to carry out stakeholders’ participation to service design process (Brandt, 2006) and ‘probes’ to gather inspiration and information and to build interaction with users, which was initially used for user-centered design process (Mattelmäki, 2006).

Some service design research (Clatworthy, 2011) take touchpoint as central part of service design, however, approaching service design in touchpoint’s perspective gives biased image of service design.

“Unfortunately, a portrayal of touchpoints places service design on the wrong track, because it turns the design of services into a peripheral activity- namely, that of ‘Accessorizing’ an essentially intangible relation between service providers and their clients” (Secomandi & Snelders, 2011, p. 20)

Though the term of ‘touchpoint’ was not yet used, the concept of designing touchpoint was originated in Shostack (1982). She was a pioneer of service design, her papers (1977; 1982; 1984) explain what a service consists of and how a service can be designed intentionally and be monitored. A service is composed of service elements and product elements; product elements are services ‘evidences’ that are different with ‘true-products’. The service evidences are giving clues of service to a customer, a customer senses a service through evidences so that orchestration of evidences is important for service. Her ‘blueprinting’ (1982) helps to design and manage a service with both service elements and service evidences. Here, a service is something abstract, immaterial and intangible that shares conceptualization of a service as its one of four characters ‘intangibility’ (e.g., Parasuraman, Zeithaml, & Berry, 1985 ; Kotler, 2001; Palmer, 2008). Objects are regarded as

tangible things as opposite concept of intangible service.

Recent research sees the service in more evolved way that is 'service-dominant (S-D) logic' (Vargo & Lusch, 2004a). The S-D logic (Vargo & Lusch, 2008) says, "Service is the application of competences for the benefit of another party that is the foundation of all economic exchange. Thus, even when goods are involved, what is driving economic activity is service that is applied knowledge" (p. 4). That is summarized in one of S-D logic's foundational premises (FPs), that "All economies are service economies" (p. 7).

In S-D logic FPs (Vargo & Lusch, 2008), the customer is always a value co-creator and the beneficiary always uniquely and phenomenologically determines value. This 'value-in-use' (Vargo & Lusch, 2004a), value is only created when customer's usage, not from the production process including design (Grönroos C. , 2008). Thus the firm is not delivering value to customer but facilitating value creation for customer (Grönroos & Voima, 2013, p. 145).

Here design is facilitating a service and service experience for users rather than evidencing or tangibilising a service.

The object is interpreted in different ways that depending on how to see a service and how to think of designing a service. In addition, how to define the object from service design is matter. A touchpoint is different with a service design tool even though it might be in same form as physical object. So that talking about object in service design might be understood in totally different ways depending on what does an object mean by in service design.

Even some of objects can be a 'true product' (Shostack, 1982) in some services. Some objects can be touchpoints. Some objects in service design might mean service design tools as mentioned above. The object in service design could be anything. In medical service, for example, objects are everywhere, from a stethoscope to a chair in waiting lobby. So that defining and delimitating the object is important. In the thesis, objects as true-product and

service design tool will be excluded, however, the more detailed explanation of definition and delimitation onto object will be followed in next chapter.

Service design projects started for problem solving, for tentative (provisional) needs, or for a certain goal. The service design process is a iterative process that has four steps of 'exploration', 'creation', 'reflection' and 'implementation' (Stickdorn & Schneider, 2010, p. 126). It is an ongoing process, however after 'exploration' and 'creation' phases, designers usually design a new concept (strategy) that designer think it would effect upon the service and service users.

Not all the service projects have design results that are accompanied with objects, but many of services have design outcome with a physical-, visual-, and/or virtual object. As a service strategy has a certain goal for the service, its object often has been designed and planned to support the strategy.

With dramatic improvement in digital technologies, diverse virtual objects already have been being used in many of services recently. Virtual object such as mobile application or website is designed to facilitate service concept and experience.

However, research on the designed object in service design asserts only the object's importance (e.g. Clatworthy, 2011) or introduces a certain case study (e.g. Lo, 2011). The thesis will investigate diverse cases and their designed objects to find out how a designed object takes different toles in service design.

1.3 Research Question

This thesis will examine designed objects in service design and address different roles of designed objects. The thesis focuses on the service design process why designers chose and designed objects.

Not as a design methods or tools, It would be still valuable to look into the designed objects' roles, function and benefits. To achieve successful conclusion for both service provider and client (user), it is important to utilize appropriate tools that suit well to service context. Understanding different roles of object would be, therefore, competence for designer to design services. The thesis is not about approaching service design in 'touchpoint' (tangibles) perspective but enlarging perspective onto the object as designer's competence. Analyzing how designers use an object for service would be a lens to understand how designers design a service. So that main research question of the thesis is:

For which purposes are objects designed for service?

For the research question, the thesis is divided into five chapters. They are Introduction, Theoretical Framework, Methods, Results and Conclusion. Among them, the second part will investigate service and service design including what is mean by object through literature reviews. The fourth chapter follows with analysis of objects in case studies from three years of TOUCHPOINT journals. Furthermore it addresses 5 different roles of objects in service design.

The reason why TOUCHPOINT- journal of service design was chosen for case studies is that it covers many of case studies in different fields. The journal focuses on service design and each issue contains several case studies. As articles in the journal are written by service design professionals, they describe case studies in designers' perspective at most. An object designed for certain purpose can be used in different ways by users that designers would never have imagined beforehand. Researching on object in users'

point of view is different than designers' point of view. In this thesis, research on object has been on only designers' point of view.

The object that designers planned and designed for service experience might create bigger improvement and satisfaction in service experience than the initial intend of designer. On the other hand, users might fail to see object's benefits when they are using it. An object designed for service can be better or worse or even totally different than the original plan. So that, researching on object through designers' eyes can be different than how object is actually perceived and used by users. So that the analysis of objects is not including evaluation of the outcome of service design. Whether an object is well designed or not, the thesis follows designers' intention of the object to reach to the answer of the research question 'For which purposes are objects designed for service?'

2.

**Theoretical
Framework**

2.1 How you see service

2.1.1 Service as one of 4 characteristics 'Intangibility'

To look into object and theoretical background of the thesis, this theoretical framework starts from service's four main characteristics. Services are different from goods with four characteristics. To better distinguish services from physical goods, services marketing literature highlight the following four characteristics. Those are: Intangibility, Inseparability, Perishability, and Heterogeneity (Parasuraman A, Zeithaml Valarie, Berry Leonard, 1985 ; Kotler, 2001; Palmer, 2008; Shostack, 1977 et al.).

Among those four characteristics 'intangibility', as the most frequently mentioned feature, has many research of the marketing and management in service design started based on it. (e.g. Shostack's 'Blueprint') Services are immaterial and intangible. Palmer (2008) explains intangibility of service that "A pure service cannot be assessed using any of the physical senses - it is an abstraction that can not be directly examined before it is purchased" (p. 10). In Shostack's paper (1984), she brought examples, which explain services' intangibility. When people pay for hotel room, they don't take anything away from the hotel room but experience of night's stay. It is same also when you pay for a consultant. Though you may have a report after service, that means you bought immaterial knowledge but papers and ink (p. 134). However, Shostack (1977) argued that though services are having very distinctive character 'intangibility', it is wrong to call services 'intangible products' as the American Marketing Association (1965) defined services. Because intangibility is not a modifier but a state (p.73). She also argued that there are really very few pure products or services in the marketplace. Although the service itself is intangible, it includes some of tangibles, which she called 'reality' of the service in consumer's mind. Because of the abstract nature of service, consumer cannot experience service directly but through clues and evidences.

2.1.2 Service as value-in-use

Vargo and Lusch (2004a ; 2008) see the service in evolved way. Their Service Dominant (S-D) logic defines the service as " the application of competences for the benefit of another party that is foundation of all economic exchange" (Vargo & Lusch, 2008). According to Vargo and Lusch (2008), because goods are applied knowledge, all economies are service economies. Therefore, the conventional distinction between goods and services is not important (Grönroos C. , 2000).

In S-D logic foundational premises (FPs) (Vargo & Lusch, 2008), the firm cannot deliver value but only offer value propositions. In their FP 10. Vargo and Lusch (2008) added modified SDL that the "value is always uniquely and phenomenologically determined by the beneficiary" (p. 273).

Grönroos and Voima (2013) then specify the role of both service providers and customers in the value creation, which refers to customers' creation of 'value-in-use' (Vargo & Lusch, 2008). They explained with an example and even developed the concept of value creation further. When a customer reads a tour brochure and dreams about a vacation for the summer, value might be already created but it was not directly influenced by service provider. "The service provider can not influence or take part in the value creation process, except through the output (brochure)" (Grönroos & Voima, 2013, p. 143).

They (2013) state that "value may also be created in spaces where the service provider monitors, to some degree, the customer's use of firm-provided resources/processes/outcomes but cannot directly influence the customer's value creation process through active dialogue" (p, 143). Because, the firm produces (design, develop, manufactures, delivers) resources, which can be potential value for customer, when they are used by customers, they make value emerge. Therefore, the firm facilitates customers' value creation.

“When the customer creates value through experiences in an accumulating process, the firm as a service provider may facilitate the customer’s value creation by producing and delivering resources and processes that represent potential value, or value-in-use, for the customer” (Grönroos & Voima, 2013, p.138).

To illustrate how the roles of the service provider and customer differ in value creation, they introduced three value creation spheres. They are ‘Provider sphere’, ‘Joint sphere’ and ‘Customer sphere’. In provider sphere, the firm takes role of facilitating the customer’s value creation, which can take different physical and virtual forms.

“Value facilitation is not part of value creation. Rather activities performed by the provider result in outputs that customers may use in their value creation process” (Grönroos & Voima, 2013, p.141).

2.2 How you see service design

2.2.1 What is service design?

“Service design is an interdisciplinary approach that combines different methods and tools from various disciplines. It is a new way of thinking as opposed to a new-alone academic discipline. Service design is an evolving approach, this is particularly apparent in the fact that, as yet, there is no common definition or clearly articulated language of service design” (Stickdorn, 2011, p. 29)

There are, therefore, different definitions, which describe service design. For instance, “Service design is planning and shaping useful, usable, desirable, effective and efficient service experiences. Service design helps to understand customers, the market, resources available and insight into clients expectations, needs and experiences across all touchpoints and over time” (Moritz, 2005, p. 40)

The definition of service design from Mager (2007) lies same in principle and explains further service design process.

“Service design aims to ensure that service interfaces are useful, usable and desirable from client’s point of view and effective, efficient and distinctive from supplier’s point of view. Service designers visualize, formulate, and choreograph solutions to problems that do not necessarily exist today; they observe and interpret requirement and behavioral patterns and transform them into possible future services. This process applies explorative, generative, and evaluative design approaches” (p. 355).

Service design agrees on that considering stakeholders’ perspective and their different needs are essential guide to design. However designer can use various design methods and even create their own method in service design process. “In fact, the very first step of a service design process is to design the process itself” (Stickdorn & Schneider, 2010, p. 126).

2.2.2 Kimbell's Quadrant

Though service design is understood from different definitions it is still difficult to define service design clearly. Kimbell (2011) has made a paper that investigates service design through two of disciplines: 'Design' and 'Management'. She (Kimbell, 2011) pointed out that it is difficult to define and generalize about design, because of two important tensions, which are: 'see design as a problem-solving activity that aims to work towards a desired state of affairs that can be determined in advance' and 'see design as an exploratory enquiry during which understanding of an issue or problem emerges' (p.43). Service is also not defined as there is still lack of agreement, which sees the distinction between goods and services importantly or not. This distinction was presented in previous chapter 'How you see service'.

Kimbell(2011) rather drew four approaches of conceptualizing service design in her framework (Figure 3). Service design is divided into four different approaches with two axes: 'how service is understood' and 'ways of thinking about design'. With these two of axes service design is approached four distinctive ways of understanding, which labeled: Engineering, Non-engineering design disciplines, Service engineering, and Designing for service.

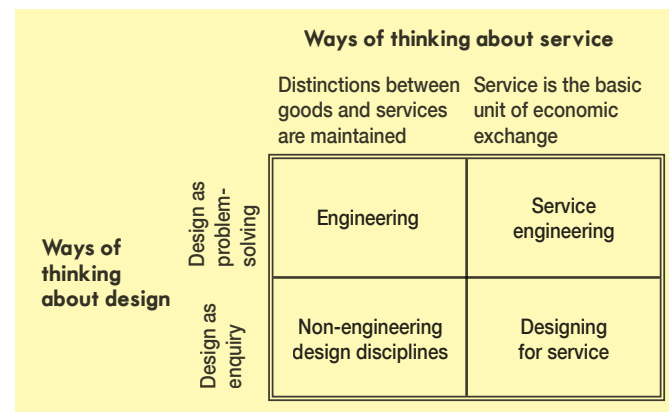


Figure 3
Approaches to conceptualizing service design

As four of approaches to conceptualizing service design were presented, service design could be understood differently with two axes of 'service' and 'design'. Here, the thesis does not pick up one from those four concepts of service design but rather focuses on her findings from practitioners.

In her findings through exploratory study in three service design-specialized consultancies (IDEO, live|work, Radarstation), Kimbell (2011) asserted that service designers think it is important to design material and digital touchpoints between firm and users and focus on research and redesign of the artifacts. The designers also understand service in a similar way to Vargo and Lusch (2004a), who propose that material objects play roles in constituting value-in-use, but the service is the fundamental activity of economic exchange. They understand service, firms' offering and creation of value through the relation of material and actors, and especially see the service from the point of view of users and firms. Furthermore, the designers made an important part of their work the construction of artifacts to make visible and comprehensible the complexities of the service, ranging from prototypes to sketches to the customer journey diagrams (p. 48).

2.2.3 Service design as facilitating service

If Kimbell (2011) explains how the service designers design services in practice, Grönroos (2008; 2013) explains what is the role of service providers which implies service designers' role.

Vargo and Lusch(2004)'s S-D logic was explaining the service value must be produced with customer and experienced by the customer. This value 'co-creation' is originally introduced by Prahalad and Ramaswamy (2000) that customers do not anymore passively consume companies' offers but more involve in value creation process with the firm. The customers are developers of customized experiences and they are co-creating market acceptance for products and services.

Further, Grönroos(2008) claims that value-in-use is superior to value-in-exchange.

“When value is perceived as value-in-use for the customer, the focus is no longer predominantly on a customized bundle of products or services exchanged for a price. Instead, value creation becomes an ongoing process that emphasizes the customer's experiences, logic, and ability to extract value out of products and other resources used (create value-in-use)” (Grönroos C. , 2008)

If the customers are taking important role in value creation, Grönroos (2008; 2013) is questioning then what is service provider's role. He asserts (2013) that firm can be characterized as a value facilitator when customer creates value through experiences. The firm may facilitate the customers' value creation by producing and delivering resources and processes that represent potential value, or expected value-in-use, for the customer. “The core of interaction is a physical, virtual, or mental contact, such that the provider creates opportunities to engage with its custom-

ers' experiences and practices and thereby influences their flow and outcomes” (Grönroos & Voima, 2013, p. 140).

Furthermore for the value-in-use, still it is crucial the service provider's ability to indirectly interact with the customer through the resources provided by firm. Grönroos and Voima (2013) also pointed out Shostack's 'line of visibility' (1984), which is evidences of service that customer can see and interact with and its control by provider is important.

By applying the firm as service facilitator perspective into Kimbell's (2011), service designers' design activities in her investigation could be understood facilitating service and user's service experience (value-in-use). The service designers were focusing on interaction with users -'joint sphere' (Grönroos & Voima, 2013) and touchpoints which may influence users' value-in-use.

In service design practice, service designers bodily understand how the resources from the firm and outcomes from their design-work are taking important role in service experience for users.

2.3 How you see object

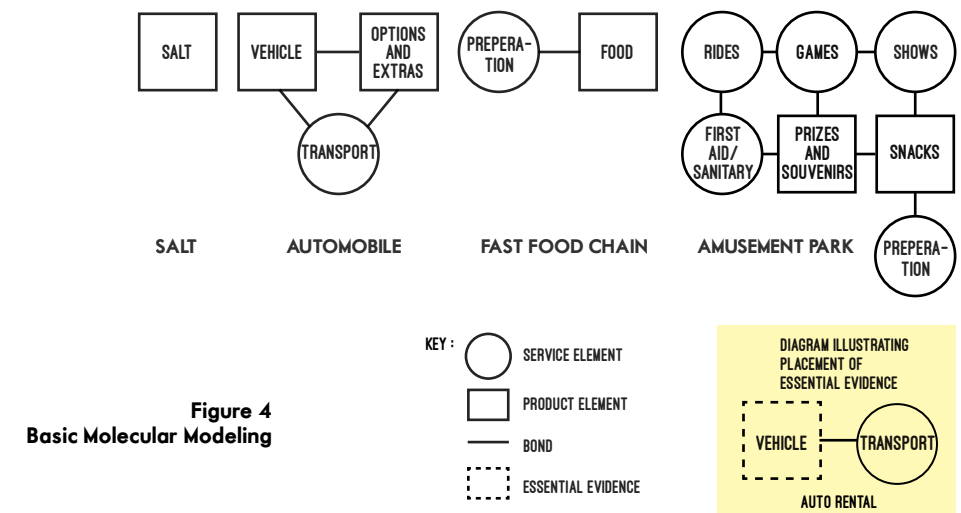
As the thesis “The role of object in service design” takes the object as main topic to investigate, here ‘How you see object’ section will define what object the thesis deals with.

To define and delimit the object, the section will draw from research of ‘service evidence’ and ‘touchpoint’ to understand what is the designed object. Then ‘service design tool’, which is sometimes designed during the service design process but used for different purpose will be also discussed. ‘Prototype’ will be also explored to distinguish service design tool and service design outcome from researching service design process.

2.3.1 Shostack’s Evidence

In Shostack’s (1982) “How to design a service”, her ‘molecular modeling’ (Figure 4) is a flexible tool which makes easy to understand service for the marketers. Service could be understood as a complex entity of combination of product and service.

“Services are often accompanied by physical objects which cannot be categorized as true product elements. These objects, or pieces of ‘evidence’, play the critical role of verifying either the existence or the completion of a service. A true product element, of course, never requires evidence. It is its own evidence” (Shostack, 1982, p. 51).



The ‘reality’ (Shostack, 1977), which indicates ‘evidence’, gives clues of services. She explains evidences with examples. The report bound from a consultant company is the reality of the ser-

vice. Interior of the hotel room where you stayed can be the reality that you can feel the service. A customer who experienced the hotel room may evaluate the service from the clues such as furniture, textile, lights, and even cleanness of the floor. They are giving tangible-ness of the service but customers do not own them.

Shostack(1984) points out that consumers often deduce the nature of the service from this type of circumstantial evidence so that the design of a service should incorporate the 'orchestration' of tangible evidences. This is mentioned in many marketing publications (e.g. Zeithaml) for the maintaining a service quality. In service quality measurement system 'SERVQUAL', 'Tangibles' are one of the five core dimensions of capturing service quality. The five core dimensions are: Tangibles, Reliability, Responsiveness, Assurance, and Empathy (Zeithaml, 1990).

Shostack (1982) introduces 'peripheral evidences' that when still services have abstract nature, they are offered with tangible elements, which have little independent value but prove that a service is being delivered. The peripheral evidence can be in a form of bill, ticket, souvenir or brochure. However, she distinguished the peripheral evidence from 'essential evidence', which has an important role in service but cannot be owned by customers. Essential evidences and peripheral evidences are both giving tangibility of service but essential evidence has vital impact on whole service. In the 'molecular modeling' (Figure 4), product elements are differentiated from essential evidence. Essential evidence includes people and environment in similar logic that they are affecting on much on the service that need to be managed well due to its importance.

Unfortunately what Shostack (1982) focuses on their importance sometimes remains limited viewpoint onto design. For example, mentioning improper clothing (people) and wrong color of wall (environment), they might not give credibility or authority

in its service context (e.g. bank). However, Shostack (1977; 1982; 1984) stresses that 'orchestration' of the evidences is important and beneficial for maintaining service's quality and customers' experiences.

Shostack is pioneer of the idea of service design that service could be designed intentionally with her 'service blueprint' (1982; 1984), which enables identifying service's functions, benefits, standards and tolerances for the service designer. With blueprint, it is easier to find out service process, fail points and profitability.

Her essential and peripheral evidence in service are not yet distinguished with 'touchpoints'. Still, her evidence has been used as touchpoint for example, people, object (tangibles), and environment. She introduced the concept of touchpoint. It is mentioned in research into touchpoint in paper of Clatworthy (2011) that is design point of contact between the service provider and the customer.

2.3.2 Touchpoint

Touchpoint is abandoned in design research nonetheless it is widely understood and used in service realm. “Despite touchpoints being a major part of service design, There is little, or no, documented research about touch-points within the area” (Howard, 2007).

It is easily proved with papers, for instance, Clatworthy (2011) who took touchpoints as central part of service design (Nisula, 2012, p173) mentioned that in service design existing knowledge mainly comes from practice-based consultancy and can be traced back to literature from marketing and CRM (Customer Relationship Management). The definition that Clatworthy took for touchpoint is from web-blog of service researcher (e.g. Howard).

Definition of touchpoint in Oxford English dictionary (2014) is giving 2 different definitions in US and British English.

touchpoint; (British)

1. a point of contact or interaction, especially between a business and its customers or consumers: ‘every touchpoint must reflect, reinforce, and reiterate your core brand strategy’
2. a point of reference: ‘one of the cultural touchpoints for the late 1990s’
3. a touch-sensitive area on an electronic device.

touchpoint; (US)

1. [Commerce] any point of contact between a buyer and a seller.
2. [Computing] on some laptop computers, a device like a miniature joystick with a rubber tip, manipulated with a finger to move the screen pointer.
3. a time, condition, or circumstance that is vulnerable or unstable enough to precipitate a highly unfavorable, pos-

sibly devastating outcome: a touchpoint for world conflagration

Above 2 definitions are giving broad meaning of touchpoint that is not close to service design.

According to Clatworthy (2011) research into touchpoint, in Customer Relationship Management (CRM), the term ‘multi-channel delivery’ was used instead of touchpoint, which has been focused on CRM systems. In eCRM (e stands for electronic) terms, a touchpoint refers to an intersection between a customer (individual/segment) and a communications strategy (generally as part of a marketing campaign). Within CRM research the term touchpoint has been used in terms of ‘efficiency’ (Payne & Flow, 2004) meanwhile, it is one major part of linking from experiences to the brand in integrated marketing; understanding of customer behavior, focus upon brand and the link to customer experience.

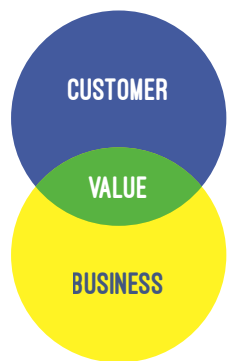
Service touchpoints are the tangibles, for example, spaces, objects, people or interactions (Moritz, 2005) that make up the total experience of using a service.

“Touchpoints can take many forms, from advertising to personal cards; web-, mobile phone- and PC interface; bills; retail shops; call centers and customer representatives. In service design, all touchpoints need to be considered in totality and crafted in order to create a clear, consistent and unified customer experience” (Live|work, 2008).

Though there are different focuses and approaches from different disciplines toward touchpoint, it is clearly including a concept of ‘between’ or/and ‘interaction’. Comparing with Shostack’s peripheral and essential evidences, it does not include a concept of ‘ownership’ by customers in its definition. However, still touch-

points can be evidences and vice versa.

This character of 'Interaction' can be found in 'Alignment Diagrams' (Kalbach, 2013), the touchpoints as 'The line of interaction'. Kalbach (2013) draws two circles of 'customer' and 'business' and these two circles meet and overlap where the 'value' is co-created (Figure 5). Kalbach (2013) asserted that the area where the activities of two circles meet, gives rise to touchpoints. This is fundamentally same with 'service blueprint', which shows chronologically how a service is composed and worked (p.71).



Important tools of service design, such as 'service blueprint', 'experience map' and 'customer journey', take 'touchpoints' as the most important elements to be designed which is because they lies in between of customer (user) and business.

Figure 5
Alignment Diagrams

However, this diagram is not 'Alignment Diagram'. It is, instead, a class of documents that encompasses methods, which seek to align customer behavior with business activity. So that service blueprint and customer journey map are the examples of diagram.

2.3.3 Service design tool

Service design tools, such as 'experience prototype' (Buchenau & Suri, 2000), 'game' (Brandt, 2006), and 'visualization' (Segelström & Holmid, 2009) are used in service design process for designers and stakeholders to engage users into process, to visualize problems and service and to test generated ideas.

Segelström & Holmid (2009) assert that service designers use 'visualization' to interpret user data from very early phase of the design process to support research. Designers transform raw and abstract data into insights for idea generation and way of communication. Visualization is constantly used as a bridge between user research and actual design work as well.

Designers not only use existing tools but also create own tools to support research process such as co-creation workshop to utilize users insight and experience for designing services. Therefore, a designed tool could be a designed object or a service design outcome.

However the service design tools, as form of physical-, visual- and virtual objects, exist during the design process not after the service is set. Most of service design tools are for 'exploration', 'creation' and 'reflection' phase of service design process (Stickdorn & Schneider, 2010). Therefore, users (service customers) might not aware of these objects while they are using services (value-in use). As the object of service design tool is used during the design process and users do not directly experience it, service design tool is not included in this thesis as an object to be investigated.

2.3.4 Prototype

The service design process varies in literature and practice, but fundamentally they all share the same mindset (Best, 2006; Miettinen & Koivisto, 2009). Stickdorn (2010) explains service design process that is important to understand that the structure of service design process is iterative and the iterative four steps of exploration, creation, reflection and implementation are a very basic approach to structure such a complex design process (Stickdorn & Schneider, 2010, pp. 124-126).

The ‘Double Diamond’ provided by British Design Council (Figure 6) illustrates this four step of process.

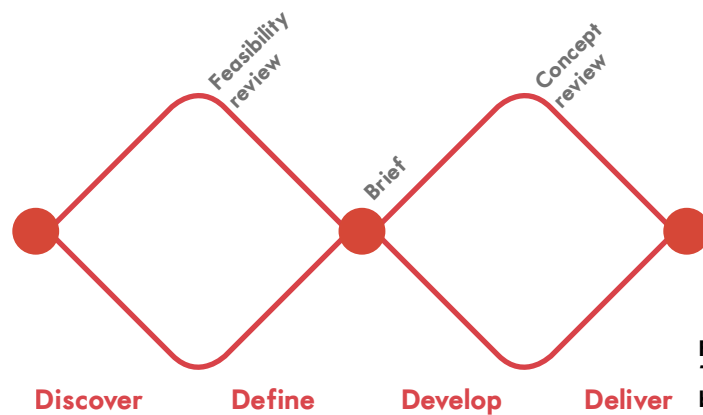


Figure 6
The Double Diamond
by British Design Council

The four steps of exploration, creation, reflection and implementation could be replaced with discover, define, develop and deliver, but fundamentally it draws the same concept.

In reflection (develop) phase, designers test ideas and concepts built in the creation phase. Prototypes from product design are used to test out the proposals and refine concepts before launching the definitive product (Viladas, 2011). In service design, the service

concept can be tested before it is implemented to gather feedback from users through interviews and questionnaires and to find out potential problems and improvements.

‘Experience prototype’ is one of the service design tools that is used in the service design process.

“The experience prototype is a simulation of the service experience that foresees some of its performances through the use of the specific physical touchpoints involved. The experience prototype allows designers to show and test the solution through an active participation of the users” (Buchanan & Suri, 2000).

Prototype or prototyping could mean an object (touchpoint) that needs to be tested or the process of testing a service concept that includes some touchpoint. Even in some service cases, after implementation of the service continues gathering service users' feedback to improve service experience.

So that, a prototype is difficult to separate from a service design tool to a service design outcome. It is still designed by designers and results from ‘exploration’ and ‘creation’ processes, so that it is included in the thesis as an object as service design is an on-going process.

2.4 Defining and delimiting object in the thesis

It is crucial to define what I mean by object in this thesis. As ‘object’ is already a very broad term, even more terms such as ‘thing’, ‘artifact’, ‘tangibles’ ‘touch-points’ and even ‘product’ which sometimes indicates same or different meaning depending on context cause confusion.

First, an object in this thesis means a touchpoint of a service in terms of ‘interaction’ that is the ‘entity’ that interacts with users. In terms of ‘form’, the object in the thesis is of the entity it is not necessarily always tangibles, but also visible- and virtual- ‘interactions’.

Especially, here the object excludes actor and space. People are ‘providing’, or ‘facilitating’ a service. Users ‘interact’ with them during service experience. Their effects on service are significant, however, in this thesis, they are not objects that people use. Space can be physical element but difficult to examine as whole. Because the space often includes many objects inside it. Space can be a group of objects that would result confusion in this thesis.

Furthermore, space is often essential evidence (Shostack, 1982) of service. The reason why essential evidence is not object in this thesis will be discussed later. A specific object in space can be regarded as object in the thesis but not the whole space.

Second, The object in the thesis includes peripheral evidence but not essential evidence. Returning to Shostack’s molecular modeling (1982), essential evidence of service is having important role in the evaluation of the services for purchase, which cannot be owned by users. User’s purchase is not including owning essential evidence but using it. Shostack explained essential evidence that is dominant in its impact on purchase and use.

It can be explained in different ways. For example, if a car designer designs a small-sized car of mid- range price (around \$30,000), he tries his best to design a car comfortable for users to

drive and looks beautiful in the design criteria. However, he cannot design it simply same in performance as super car, which has over 8000cc engine that takes only 6 seconds to 100mph.

Same for hotel service, upgrading hotel room (essential evidence) to same quality as 5-stars quality simply increases whole service quality to another level that clearly effects on users experience, but in marketing and service design, it is not scope that is marketed or designed.

Third, true-product will be excluded in the thesis. Some services exist around products. For example, KONE makes elevators and provides maintaining services for the products. They say that they are providing ‘people’s flow’ service but elevator is a ‘true’ product.

“Services are often accompanied by physical objects which cannot be categorized as true product elements. These objects, or pieces of “evidence”, play the critical role of verifying either the existence or the completion of a service. A true product element, of course, never requires evidence. It is its own evidence”
(Shostack, How to design a service., 1982, p. 51)

Designing better elevator can simply make better service for customer however it is then more ‘product design’ than “service design’.

Fourth, the thesis takes the object that is result of a design process but excludes service design tool, which is used for gathering insights and idea generation in exploration and creation phase. However, prototype can be included if it is an object resulted from the exploration and creation phase of service design process but to be tested in reflection phase.

Theoretical Framework

A service consists of many objects. When service designers approach service to design for better they may examine all elements but try to find out which elements are taking more important roles than others. It depends on the service context. For example in public bus transportation service, there are many tangible elements but only few may be important depending on how users find themselves inconvenient in using the objects.

In research process service designers will first look how whole service works and how users use it. Then next will be gathering opinions about weak points of the service. Depending on their research result designer will find out what objects affect services. If they conclude some of the objects have potential to upgrade the service experience it means they are more important than others.

The thesis takes objects that is designed through the two steps of design process exploration and creation (Stickdorn & Schneider, 2010). They are the object, which is screened, chosen and designed by designers that could be sometimes service prototype, so called 'design outcome'. It is because to investigate what designers were looking for in service design. And to find out the answer for the research question 'In what purposes an object is designed for service?'

Next chapter will address methodology to find out what kinds of roles the object takes in service design through case studies.

3. Methods

3.1 TOUCHPOINT - The journal of service design

TOUCHPOINT (Figure 7) is a service design journal, which is published by Service Design Network (SDN) three times a year from 2009. It covers services from various fields across the world. Each issue has a theme such as ‘Organizational change’, ‘Connecting the dots’ and ‘Culture change by service design’ where articles are focused on. In SDN website, aim of the journal is explained as to ‘facilitate a forum to debate, share, advance, and codify the field of service design and its practices’.

Though the title of magazine is ‘TOUCHPOINT’, however, it is not necessarily talking about touchpoints only. They are explaining projects (cases), insights, methods, processes and current issues on service field. It was essential material to learn about service design in general and to experience different fields of projects indirectly.

To analyze and classify objects and their roles, having more projects (cases), which have objects as design outcome was requisite for the thesis. Even though journal of TOUCHPOINT is not a collection of cases, it has benefits.

There are three reasons why TOUCHPOINT journal was chosen for investigation on ‘object’.

1. Diversity of the topic and cases

Because it is journal that collects papers from everywhere, It is not focusing on any specific topic but covers diverse topics and service fields. Unlike books, the cases are not screened in certain point of matter- viewpoint or intention.

2. ‘Up-to-date’-ness

As It follows current issues on service field and continues publishing issues regularly, it is adapting and evolving naturally according on changes of the field.

3. Proficiency

Most of cases were conducted by professionals with experiences in the field of service design. The published articles in the journal earn authority that they have passed review process. Most of cases in the journal were done with real clients. And many of them were already implemented and tested. Some of articles even contain users’ feedback of service design results.

Figure 7
TOUCHPOINT Journal



Researching on ‘object’ in TOUCHPOINT journal, 26 articles were found from total 159 articles from 3 years from 2011 to 2013 of TOUCHPOINT having physical-, visual-, and virtual object in their projects. Many of articles were excluded, as they do not have any designed object. Those excluded articles are explaining, for instance, conducting successful co-creation workshop, tackling other touchpoint such as actors, introducing design methods and tools, and talking about considerations in doing service design for specific area. However, still some of the articles were excluded because of lack of information to analyze.

Among 26 articles which have object in their articles, some explain the object in center of their project as it is their design outcome that how it was designed, what it is, and even how users perceive it in detail.

On the other hand, Some of articles do not have enough information to analyze. While I was reviewing the articles from 3 years

(2011, 2012, 2013) of TOUCHPOINT, some articles have limitation to include to qualitative analysis. The articles were excluded because:

- 1.** Each issue has a topic that all articles are focusing on. If main focus of article is to deliver other insight than case itself, object was briefly mentioned as one of their touchpoints in article.
- 2.** Each article takes one to two or three spread including pictures and graphs, due to space limitation; it might be difficult to explain whole process of a project.
- 3.** Though object takes important role in their project, it could simplify the whole, complex design process in terms of benefits in object. To explain the process more importantly than result, they explain only what objectives they had on their objects.
- 4.** Group of objects was discussed only in general level to explain as one part of service design. Objects were given as examples.

Due to the given reasons, some of projects needed to be investigated externally. For example, “No interdisciplinarity without disciplines” article by Guldbrandsen and Dijk (2011) illustrates 18 months long project that UK Design Council worked with Southern Water, a water utility company in the south of England together. Due to the diversity of the projects, many of agencies (e.g. STBY, Radastation, IDEO, Boag) and others were involved for a new customer experience of the new meter- installation process and the new tariff and billing system. Though there is the company ‘Boag Associate’ mentioned in the article took the task of redesign of the water bill, the article was focusing on collaboration between the organizations mostly. The design brief of the bill could be found from website of Boag Associate through conduct-

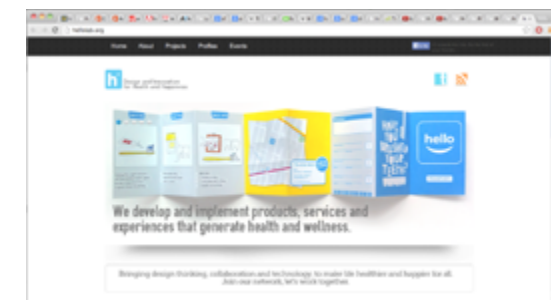
ing additional research.

In addition, not all the articles introduce one case or one object. Some articles have two or even three cases that each case has different service and outcome (e.g. “Live Labs’: Prototyping environments to measure customer experience”). Some of articles have a case having several objects in it. For example, in the article of “Creating the organic experience: Designing touchpoints in organic hospitality companies on different experience levels”, case has many of objects to build the organic experience for customer.

Some cases have a service package that has combination of physical and virtual objects or physical and visual objects including its own service strategy (e.g. AITO case from the article of “Helsinki central library as a gateway to the city”). However, if many objects were used as a group for one strategy and for the same service goal, The thesis regards them as one case.

The data was analyzed with the statement, explanation from the authors, as the cases were described by the designers who actually conducted and participated the whole process. In addition, some of the observations were done through pictures of the objects which were provided in the journal and their design agencies’ website (Figure 8).

Figure 8
The web site of hellolab



Here are the lists of articles from three years of TOUCHPOINT that have objects in their project. Nine issues of Journal were used for the data analysis.

2011

January

Connecting the dots (5 /27 articles)

- From boardroom to boarding gate : Delivering a passenger-centered services strategy for the Portuguese airport group
- Listening and learning : The art of wowing the customer
- My police : Service designers as entrepreneurs : Just doing it
- Digital etiquette - 101 guidelines for the digital world
- No interdisciplinarity without disciplines

May

Learning, Changing, Growing (3/21 articles)

- Growing on its own : Energie- labor
- Local authorities : Tackling engagement challenges together
- Using service design education to design university services : Higher education as a future working environment for service designer

September

Organisational change (3/17 articles)

- Designing for doctor : Patient interactions during leave-taking
- Innovating in healthcare : An environment adverse to change
- Creating a framework for organizations new to service design

2012

January

From Sketchbook to Spreadsheet (4/14 articles)

- Designing human rights : A Service-Driven Approach to Social Progress
- Redesigning hospital food services for vulnerable older patients
- Austin center for design looks at homelessness
- Changing how we care : Innovating the dental care experience for underserved communities in New York City

May

Eat, Sleep, Play (3/14 articles)

- Reinventing flight. Porter Airlines : A case study
- Helsinki central library as a gateway to the city
- Creating the organic experience : Designing touchpoints in organic hospitality companies on different experience levels

September

Service design on stage (3/16 articles)

- Prepare to improvise : Losing the script builds better services
- Providing patients with a big stage : Using theatre to engage a healthcare audience
- Shaping vision through collaboration : Clubbers inspire the creation of a progressive nightclub

2013

January

Culture Change by Service Design

(0/17 articles)

May

Deep Dive: Collecting Relevant Insights

(3/16 articles)

- ‘Live Labs’: Prototyping environments to measure customer experience
- Life and death data : Merging qualitative and quantitative approaches to improve patient engagement
- Fusing qualitative and quantitative skills in service design : Engaging frequent flyers in the co-creation of a positive transfer experience

September

Designing Citizen-Centered Public Services

(2/17 articles)

- This time, it’s different : A Dutch service tackles inter-generational poverty
- Are free public libraries still needed? : Helsinki rethinks a 150-year-old service concept

3.2 The process of finding roles of object

The (Figure 9) summarize the process of categorization of different roles of object. The process has started with the TOUCHPOINT journal as data source, qualitative research method was used for data analysis. Then the cases were grouped and labeled by affinity diagram tool.

To investigate designed objects from service design cases and find out different roles of objects, the articles of TOUCHPOINT journal were read and screened based on authors’ explanation, description, statement and pictures of objects and cases. External research was conducted through websites of clients and design agencies to obtain further information of objects and service context. During the process, memos were used constantly (Figure 10).

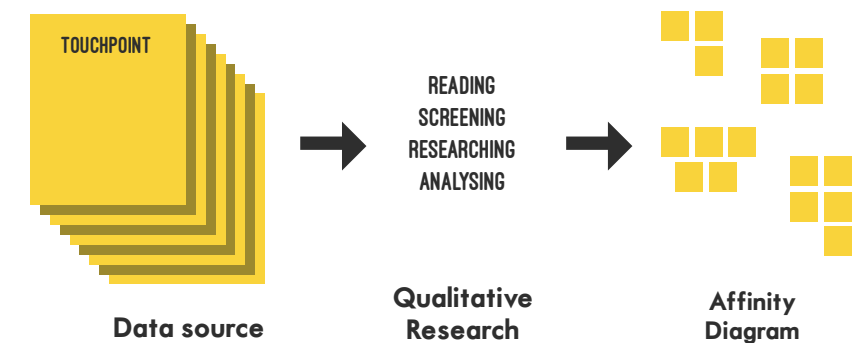
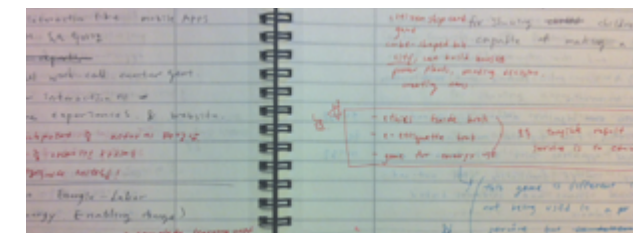


Figure 9
Process of finding roles of object

Figure 10
Notes



3.2.1 Analysis of collected data

The research method used in this thesis is defined as a ‘Qualitative research’ method. It is because of the question of this thesis naturally cannot be analyzed by quantitative research. Qualitative research is a method of inquiry employed in many different academic disciplines, traditionally in the social sciences, but also in market research and further contexts (Denzin & Lincoln, 2005). Mangal (2013) explains the qualitative method that investigates the why and how of decision making, not just what, where, when. Hence, smaller but focused samples are more often used than large samples (p.155).

Especially the thesis follows one of the most common form of analysis process ‘Thematic analysis’ (Grbich, 1999; Braun & Clarke, 2006) in qualitative research. Braun and Clarke (2006) explain the thematic analysis emphasizes pinpointing, examining, and recording patterns (or ‘themes’) within data. The themes are patterns across data sets and become the categories for analysis.

The thematic analysis follows 5 steps :

1. Familiarize yourself with the dataset (note initial comments and ideas)
 2. Generate initial codes (systematically code whole dataset)
 3. Search for themes (collate similar codes into potential themes, gather all data for potential theme)
 4. Review themes (check if themes work in relation to the dataset, check for examples that do not fit, generate a thematic map/ diagram)
 5. Refine themes (refine specifics of each theme and linkages between them, generate propositions, look for complexity, associations)
- (Rapley, 2010, pp. 274-275).

3.2.2 Affinity Diagram

To label each category, ‘Affinity Diagram’ (Figure 11) tool was also used to organize collected data. The affinity diagram, which is familiar tool for designers, organizes ideas, problems, and solutions into related groups after a brainstorm (Hut, 2008). The objects from service design cases in TOUCHPOINT articles were grouped with the tool after qualitative research. All objects must belong to one group. The theme for a group was constantly reviewed and reflected by objects.



Figure 11
Affinity Diagram

4.

Case Studies
: Results

Figure 12
Affinity diagram of 5 roles

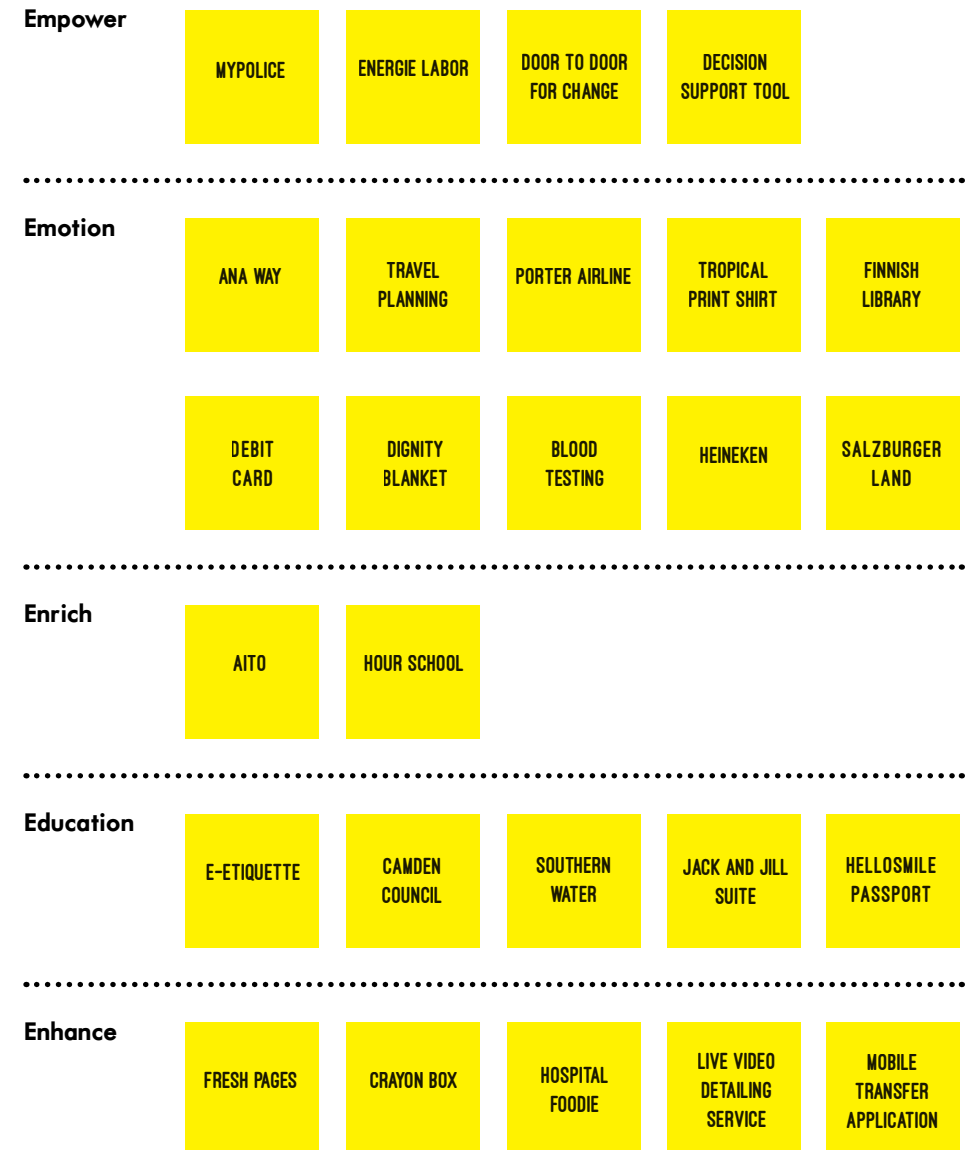
4.1 Findings - 5 different roles of object

Here the fourth chapter ‘Case Studies: Results’ will address the main findings from the study on TOUCHPOINT journal. The categorization process was conducted based on description and statements of the article and further, external research through web sites of the cases’ clients or/and design agencies. After categorizing the roles of objects with affinity diagram, 5 different roles were defined and categorized.

A object or group of objects were designed as mean of facilitating service goal which related with 5 different benefits, those are : Empowering, Emotion, Enriching, Educating, and Enhancing. (see Figure 12)

Each role will be explained with related cases, which described their service background, service design processes, service goals, found problems. And finally the chapter will explain what objects were designed and how they work within the services. Further findings from the research will be followed after the 5 roles.

Due to inconveniently long paragraph of each roles, more comprehensive analysis of each roles will be discussed in the fifth chapter ‘Conclusion’.



4.1.1 Empowering

Some of objects were used to empower users and their rights in service design cases. They support to express users' voice in more comfortable way, give more information that user should know for independence (autonomy), help users to change situation on their own to better, and educate users that they have power to change society in a more positive way.

One of examples, Snook, a design company in UK, designed software 'MyPolice' for the police public service, which enables the opening of a dialogue between the public and the police. MyPolice, a virtual object, provides space where people can get information about their local police and their works, the platform to send feedback of their police-experience which then gets delivered to the right person and the mechanism to collect data on real experience that creates a deeper understanding of what the public wants. The project started from a friend's experience with police when she was burgled. The process of giving feedback of the experience in police was not easy but traumatic, she felt pressurized, felt that no one listening to her and that the officer assigned to the case was clearly biased. The goal of change in the police service was to set in a direction to make the communication more of a 'conversation' than a 'complaint'.

**My police :
Service designers as entrepreneurs :Just doing it**

"In providing analysis and data for the police to act on, it informs policy decisions, ensuring that citizens have an active part in changing the police for the better. People can give their opinion at a time when they feel strongly about an encounter with the forth, or feel that service offered by the police could be improved. It's the place where people can see how their thoughts translate directly into action"
(Currie & Drummond, 2011, p. 46).

The 'MyPolice' supports the service goal 'changing communica-

tion' between police and public in more easy and empowering way for the public that, therefore, results in social innovation.

**Life and death data :
Merging qualitative and quantitative approaches to improve patient engagement**

Another virtual object was also used for empowering patients right as a decision-support tool for cancer patients in hospital service. In partnership project with the university of Toronto's Biomedical Communications Program, Bridgeable, a Toronto-based research and design firm focused an online decision support tool that patients, their families and clinicians could use together or independently. It is web-based, allowing for access inside clinical settings or into people's everyday lives. That was developed in a context that many of patients have multiple treatment options that each has different pros and cons on patients' lives afterwards but are not well enough understood to patients. The cancer patients do not have understanding or input into their own treatment historically and that causes frustration while for the physician educating patients are not compensated but regarded as a 'nice-to-have' feature. There is also a big-gap in understanding of what is really their patients' preferable treatments, for example, doctors believe that 71% of breast-cancer patients rate keeping their breast as a top priority but actual figure was 7% by patients. Even a cancer diagnosis can be misunderstood for some patients.

"Given the historic lack of patient involvement in decision making, we set out to design a shared decision-making service that could effectively educate and empower concordant care" (Ferguson, Life and Death Data, 2013, p. 55).

The online decision support tool is assisted by a range of communication styles for communicating key contents such as definitions of treatment options in a narrative style with hand-sketches and a wide range of visual representations of data.

Another project, 'Energie-Labor' is also one of examples that object was used as empowering children for the better energy future. As reducing CO2 emission and encouraging sustainable energy usage is globally recognized issues, a team of service design students from Köln International School of Design developed a concept for primary school children to introduce an awareness of these issues at the earliest possible. For that, it was important to bring this topic into everyday life in active and exciting way. It is a complete learning unit that children can play a game to learn how to take a role for better energy future. It is a board game in which children build their city week by week, adding model houses and power plants, providing energy news for the citizen, and making important decisions about the energy production and use in their city. They developed characters to accompany the modules of game that the each of characters in the game is related to a real job from the energy industry. When they take on the role of each character and complete relevant activities that demonstrate the function of each profession that how they can take part of society in energy concerning matter.

"The key focus of Energie-Labor is to enable children to find their own approach, using active learning techniques to demonstrate to children that there is an opportunity for change. [...] Throughout the game, the children are treated as experts and are given responsibility for their city [...] They develop an awareness of their own energy-use habits, and are empowered to make positive changes in their schools, their homes and their communities. [...] we can enable a better societal awareness of the topic of energy, and ultimately contribute to real societal change. [...] Energie-Labor supports teachers in tackling complex themes in an exciting way, and ultimately encourages children to find their own way to contribute to the future use of energy"

**Growing on its own :
Energie labor**

**This time, it's different: A
Dutch service tackles in
ter generational poverty**

(Frauzemm & Simmons, 2011, pp. 28-29).

'Door-to-Door for Change' is another example that uses objects for better communication then finally empowers people to become active citizen. This pilot project in The Hague in the Netherlands is targeting 150 families who have been on social assistance for at least three years. Research tells that if parents are working and getting involved in the community then their children have more chance to work when they grow up. Main challenges for the project are how to inspire parents and how to motivate skeptical social workers to help their clients. To make the service different than other 'back-to-work' programs, they took different approaches, such as social workers visit families in their home, they ask to participants deep motivation to work, use interactive tools to encourage dialogue and create human relationship between family and social worker with using visual language in more informal and non- bureaucratic style. Here the objects, 'Motivation and Obstacle cards', 'My Plan' and 'handbook' are used to carry out the service goal.

"The materials are designed to guide excite and empower both parents and social workers to achieve their goals [...] This helps the participants find his voice and enter into a dialogue with the social worker. [...] There are cards to discuss obstacles that stand in the way of finding a job, such as 'Debts' or 'Language'. This enables participants to talk about personal issues involving their health and mental or social situation" (Ward, 2013, p. 34).

Like the Motivation and Obstacle cards, 'My Plan' booklet helps to define what participants want and marks their progress. The 'handbook' helps for the social workers to prepare fully for the program that guides them how to proceed the program step by

step.

The project was already implemented then could hear feedback from both social workers and participants about changes. The participants gave feedback of their new service experience that “completely different” to other city services they experienced hope and motivation.

4.1.2 Emotion

Many of objects were used to carry out emotional experiences for users. To give different emotions to users such as relief, excitement, affinities and dignity, objects were carefully planned and harmonized with service strategy. Some of objects were especially designed for the emotion that a brand is aiming to seek, that of a brand’s identity, and some objects were used as active solutions for emotional problems in services.

Listening and learning : The art of wowing the customer

Deutsche Bank’s service strategy was to deliver a positive surprise and exceed customer’s expectations; they set up an Internet platform, ‘Travel Planning’ where important financial information relevant for travelers is stored. To impress users they wanted to create a ‘wow’ experience that only resulted when users’ empathy and service’s flexibility are considered genuinely.

The ‘Travel Planing’ service offers storing their important information such as, credit cards, passports, driver’s license, car registration or certificate of vaccination. The documents are stored safely then customer can access to their information with password at any time. The virtual object for important information for in case of emergency that initially enables to store the information then allow to access anytime and anywhere eventually gives relief for the users. “We want to provide peace of mind to our customers on their trip! ” (Schick, 2011, p. 35).

Some of projects show how a brand utilizes the objects for their service and brand’s goal.

From boardroom to boarding gate : Deliver ing a passenger centered services strategy for the Portuguese airport group

‘ANA Way’ is the new vision for ANA brand was initiated to build more direct relationship with passengers and visitors for generating new revenue as a world-class consumer brand. For that, they identified three roles of the airport, ‘Advisor’, ‘Companion’ and ‘Hero’ for the brand vision ‘Preparing you for travel’. The service design goal was to create a passenger-centered strategy that

includes Customer service, Security, Passenger Information and Environment and new service offerings.

“ANA brand was created through dedicated environments called PODs that would also benefit passengers whilst in the airport and provide a touchpoint for browsing and purchasing premium services, booking onward travel services or services to help passengers refresh and recharge” (Nisbett, 2011, p. 29).

And one of project outcomes to achieve friendly service strategy for families implemented in Porto and Lisbon airport. “The baby car pilot in Porto; free to use for families with small children whilst at the airport and the baby changing pilot in Lisbon Airport, part of ANA’s Family Friendly strategy” (Nisbett, 2011, p. 29).

Another Airline service ‘Porter’ also tried to accomplish their refined service strategy through various objects from graphic identity to spatial touchpoints.

“The Porter business plan focused on designing and delivering a superb travel experience. Every element of the Porter flying experience, from marketing campaigns to booking to the actual flight, was carefully choreographed and meticulously executed. Every touchpoint supports the brand platform: ‘Flying Refined’” (Wright & Young, 2012, pp. 50-51).

To deliver refined luxury experiences to all Porter customers, they brought back the image of golden time of aviation industry when people were dressed up to fly and focused on details of all kinds of objects.

Reinventing flight Porter Airlines : A case study

Creating the organic experience : Designing touchpoints in organic hospitality companies on different experience levels

“[...] the uniforms for the flight attendants feature the retro pillbox hats as a salute to the golden days of commercial aviation. [...] the lounge seats are designed for comfort, not quick-wipe cleaning. [...] Free beverages, including beer and wine, are served in real glass or porcelain. Passengers are presented with an elegant box that inspires almost child-like curiosity” (Wright & Young, 2012, p. 52).

As Porter airline tried to deliver a ‘superb travel experience’ through retro and refined luxury objects that reconstructed as they were from golden aviation time, objects designed after understanding brand identity make special characters and give emotions that a brand pursues. “In a shop where your uniform is a tropical-print shirt, you are given license for a different kind of conversation than if you were wearing an issued logo-shirt” (Bottorf & Sobol, 2012, p. 37).

Another example, the ‘Bio-paradise SalzburgerLand’ also tried to make organic experience through orchestration of various touchpoints. The service aim was to provide a different organic service that guest should feel, experience and share along their whole customer journey. For that they structured touchpoints groups, which covered all the activities customer experience. The groups are such as ‘sleeping and living’, ‘caring, curing and recharging, ‘cultivating, harvesting, processing’ and so on, and those groups contains accordance touchpoints for example, furniture, organic breakfast, organic oils, planting your own plants and specialized library. They also focused details when a customer arrives, the first morning she learns the story about the heady herbal fragrance and the organic detergent that is used for the bed linen and about the chemical free cleaning methods employed throughout the hotel.

The Heineken project is also another example of using object to build emotions for the brand. The project, designing 'Heineken Club' was proceeded with understanding the needs of clubbers and brand's goal that beyond just beer but enhancing 'beer moments'.

Shaping vision through collaboration : Clubbers inspire the creation of a progressive nightclub

"The fashion designers transformed the staff and dressed them in other-worldly, origami-inspired outfit to match the identity of the club and to radiate positive energy. [...] Even the simple act of ordering a beer has been creatively deconstructed and carefully considered, anticipating the clubbers' need to attract the attention of the barman. Tap a bottle-shaped icon on the interactive bar surface and pulsing, concentric circles attract the server's attention and tell him that you have priority over the guy next to you. When your beer is served, the barman taps the icon to 'explode' it, showing that the order has been fulfilled"
(Troch, Ruyck, & Hoff, 2012, pp. 60-61).

The orchestration of various objects for a brand and a brand' identity or character is a common strategy that even public service can take for building brand-new character that changes old and cliché images of library.

Are free public libraries still needed : Helsinki rethinks a 150 year old service concept

"The service and spatial concepts are amplified by the revised visual identity, clear signage and even the work wear of the staff. [...] The library's existing quotation mark logo was kept at the heart of the new Library identity, supported by fonts, colors and a grid system to create a refreshed look of the library. [...] replace the images of books and the physical library environment, to create a vivid atmosphere"
(Mäkinen & Stanley, 2013, p. 57).

On the other hands, some of objects were used as solution for

Designing for doctor : Patient interactions during leave-taking

emotional problems and dissatisfaction in service design.

In Cleveland Clinic project, there was a confliction in perception in service between patients and physicians. When patients are seeking a clinic service with empathy, the service is historically very physician-led that the Cleveland Clinic takes it as great pride. It results frustrations and loss of dignity for the patients and their families but still the clinic could not take the challenges of being 'servant-leader'. The physician-led leadership could achieve great result in clinic care but patients complained about her doctor's arrogance and poor communication skill. The service goal was, therefore, to change caregivers' behavior with patients. For this, they focused one part of the patient journey 'the discharge experience'. The last few days of a patient's stay are important as for the patient it is the moment to understand his condition, to deal with emotional distress and incoherence. So that, the design team proposed to physician an interaction guide to recommend how to interact with patients for during the discharge phase. One of the concepts for the guide is the 'dignity blanket'; a physical object was used for the patients' emotions.

"The 'dignity blanket' - begins with a Cleveland Clinic caregiver covering the naked body of a patient about to undergo surgery and who is lying on the operation table. After the surgery and during the beginning moments of discharge, a physician presents the patient with the blanket that was used to cover them when they were at their most vulnerable. [...]Research revealed that patients lose a sense of dignity when they enter a hospital environment, especially when physically exposed. [...] This concept provides a way for the clinic to exercise transparency, eliminate a potential moment of preferential treatment and guarantee some protection and respect for all patients. It encourages physicians to show an explicit concern for patients' dignity

during their most vulnerable moments by providing evidence” (Lee, 2011, p. 37).

Another example also shows how objects were used to solve the users’ emotional problems. Designers found out that waiting time is key factor that increases anxiety for customers. Focusing on reducing waiting time, they installed an electronic queue machine and changed the environment of blood testing.

'Live Labs' : Prototyping environments to measure customer experience

“When we worked with a global medical diagnostic firm to create a new service experience for blood testing, we found the actual test took only a few moments. However, customer perceived their wait time as being insufferably long due to the anxieties [...] By focusing on the patient’s anxiety as the key experience driver, the company worked to minimize anxieties by altering the layout of the space, the information available and intake form, as well as installing an electronic queue that would allow patients to know where they stood in line” (Driscoll & LaRosa, 2013, p. 32).

4.1.3 Enriching

Some of objects were used for enriching users’ lives that enables different experiences and activities that accomplishes ‘well being’.

Helsinki central library as a gateway to the city

A service design project with Helsinki central library ‘AITO’ took a fresh approach that considering library service not only for usual users ‘local people’, but also for tourists who look for genuine local experiences from their travel destination ‘Finland’.

“The project aimed to develop the new service concept offering from the library that would support tourists in discovering a way of understanding their own authentic experience of Finland, while, at the same time, making a positive contribution to the library and local community” (Kim & Miettinen, 2012, p. 54).

For the ‘Authentic’ experience, four stages of service platform was prepared to open the service from the locals to tourists with diverse service concepts and touchpoints which cover 3 travel phases, ‘pre-travel’, ‘on the spot’ and ‘after-travel’. The physical and virtual-objects were designed according to the service concept such as ‘Welcome Package’, ‘AITO-website’ and ‘AITO-kits’.

The ‘Welcome Package’ is for the tourists that can be simply ordered through the AITO website before their departure, and picked up in the library when they arrive. It contains a temporary library card in their name, and it primarily consists of a list of selected local culture, library materials and programs - including the AITO service based on personal interests, selected in advance through the website for each tourist. AITO Kits are also giving various resources that enables for tourists to encounter hidden, un-commercialized Finnish culture. For example, ‘Bike Kits’ helps to explore another side of Helsinki experience with a free city bike, a map with recommended routes for cycling and a bike

repair guide and tools. The objects in AITO service were designed to connect various needs for the people and enrich their lives on different levels.

“We hope that this service experience will enrich lives by offering international stimuli for self-discovery both for the tourists and locals, and will also offer the library an opportunity to strengthen its responsibility as a real cultural-based foundation for a wide range of audiences while, at the same time, leading the way in promoting Helsinki as a city which places a high value on social equality for all”(Kim & Miettinen, 2012, p. 57)

Another example, the service of peer-learning ‘HourSchool’ started for the homeless to make them feel they have power to change their own situations then it enlarged its service scope to people, for example, college graduates, retirees, stay-at-home mothers and professionals who do not feel fulfilled in their day jobs.

“The HourSchool service is therefore is a platform to facilitate peer-learning by means of small informal classes, with an emphasis on encouraging more people to share their knowledge and engage with their community” (Ku, 2012, p. 46).

For the service, they prepared a simple web interface that takes limited function in the service but automates service’s logistics and engage people in conversations to experiment and to perform iterations on their service then finally varies people’s learning experiences that enriches their lives.

Austin center for design looks at homelessness

4.1.4 Education/ Sharing information / Communication

Some of objects’ role is closely related to education (knowledge), information sharing and communication.

Education (Knowledge)

Changing how we care: Innovating the dental care experience for underserved communities in New York City

In the United States, though tooth decay is largely preventable problem for children, still many of low-income communities consider visiting a dentist as emergency treatment. Because of this, treatment in clinic is also focusing on fixing existing problem ‘drill and fill’, rather than trying to communicate how to prevent problems from occurring in the first place. So that, ‘hellosmile’ tried to prevent this through engaging children and their families with patient-centered approaches, empowering mid-level service providers as oral health champion, and connecting communities through the exchange of information. To focus on preventative-care, making patients and families return for regular check-ups and modify their behaviors in more healthy way were key factors. The service goal was to create more self-reliant communities by designing conversations, space, incentives, and products (objects). As dental care is costly and inaccessible for the poor, the ‘hello buddy’ is the name for a mid-level provider and dental assistant who hosts children for comfortable and engaging experience and support their behavioral changes through education and information sharing and provides preventative oral treatment under guidance of dentist. Furthermore, hello buddy motivates the parents for regular check-ups with enrolling patients of ‘Passport Incentive Program’.

“The hellosmile Passport, which acts like a membership rewards card and is given to children upon their first visit. For the hello buddy, the Passport Program provides a series of conversational prompts and props to engage parents in chair-side discussions about the causes of dental disease,

the importance of brushing and eating tips that promote better oral health” (Attaie & Burow, 2012, p. 52).

The Passport was designed with lovely drawings and explaining important information for the oral health such as healthy eating tips, brush tips, map of location and contact number.

Another interesting example shows also how an object was designed for education about digital manners for people. In Berlin, Deutsche Telekom Laboratories’ Gesche Joost’s Design Research Lab organized three different activities to identify and collect ‘dos and don’ts’ of digital manners when using digital media and devices. As our digital communication devices and services has been changes our lives dramatically, accordingly ‘code of conduct’ has become important. The three research activities with using cultural probes and co-creation workshop, finally they published a book eEtiquette - 101 guidelines for the Digital World after filtering and editing process.

Digital etiquette - 101 guidelines for the digital world

“[...] it helps to improve digital manners when interacting with others. For customer - driven innovation labs like the Creation Center it provides a foundation to the design of ‘well mannered’ is services” (Ibars & Leihener, 2011, p. 55).

This has even developed as web site where people can collect insights, rate guidelines and participate ongoing debate so that finally reaches up to more people.

Sharing Information

Another example of object is designed for delivering efficient information for people about water consumption. In UK, most of British houses paid for water based on an estimated use, but the system was about to change. The new service is that ‘Southern Water’, a water utility company, needs to install water-meters for

No interdisciplinarity without disciplines

every house so that people will pay for their actual use. The water-meter installation means a big change in the service that might carry out more customer-focused through careful communication with people. In the project several of service organizations were involved to build new service that includes changes of tariffs and billing system in more transparent and customer focused way.

“The bill re-design resulted in more human-centric information, e.g. comparing the customer’s water consumption with a household of a size, and making it clear to the customer if their consumption is reducing or increasing compare to the last bill through the use of simple and color coding. The bill has been identified as one of the key touch-points that could be utilized more efficiently and to this end, it now also includes water-saving tips” (Guldbrandsen & Dijk, 2011, p. 72).

Local authorities : Tackling engagement challenges together

Another example also shows objects were resulted for sharing information and for the communication. One of London’s 33 boroughs, Camden Council wanted to create a dialogue for sharing expertise between local authorities and other organizations. They asked Engine to design and facilitate a series of workshops with these diverse practitioners from across the country that is called the Beacon Learning Network. The workshops focused on ‘learning through doing’, with participants building on their collective experience to co-create new tools and methods for engagement challenges in their daily practice.

Engine went through three of workshops with participants that ‘Identify’, ‘Make’, and ‘Share and Plan’ to develop tools and methods for participants by themselves, based on their daily practice and needs. It resulted a strong bond and a sense of ownership for the participants. After, Engine produced two publications to

spread and share their results, which are tool kits for continuing the communication and knowledge sharing between Local Councils and their partners for future.

“To support sharing the result, Engine produced two publications [...] One presents a complication of the developed tools, including instructions and examples of use. The other presents the exercises and worksheets that enable other users to apply the workshop process to new engagement problems” (McManus & Piet, 2011, p. 37).

Communication

An object was used for better communication in medical service. In the Mayo Clinic Center for Innovation’s (CFI) mission was to transform the way health care is experienced and delivered. They looked for the possibilities in improving their service in more patient-centered way; one of the examples of CFI’s new ideas’ experimentation was the ‘Jack-and-Jill Suite’. It is a patient examination room that has not been changed much in the last 100 years. The design team, however, found out that the computer has changed the dynamics of physician-patient interaction among other developments in the practice.

“We’ve realized that we need to interact with patients in a setting more conducive to consultation. [...] The computer has become an active participant in the conversation. We’ve found that it’s better to be able to share screen views with our patients. Current exam rooms don’t allow that” (p. 52).

The design team did not add any facilities but only changed the lay-out of the room, which is focusing on the computer. It carries out better communication and more dynamic interaction between patients, physicians and care teams.

**Innovating in healthcare :
An environment adverse
to change**

4.1.5 Enhancing

Some of objects allow a service to achieve a certain function. Especially a dramatic improvement in digital technologies enhances service’s performance that was not possible before. The objects enable such as, 24-hours open access, easiness in use, recording, monitoring, and effective calculation.

**Using service design
education to design uni
versity services : Higher
education as a future
working environment for
service designer**

Higher education provides the learning service and the services for learning. If the first one is teaching, the second one is the supporting service for students’ study, for instance, library, housing, international and IT service that students able to get help with studying. Macromedia Hochschule für Medien und Kommunikation (MHMK) carried out with master’s students the design of a future-oriented service system for a media library. The students have accomplished a term-long, extensive research project that has been captured and summarized in the ‘fresh pages library’ concept.

“The ‘fresh pages library’ concept is to provide students, professors, and the faculty an open access to academic cross-media content in design, communication, management, technology and the related fields. The compilation of the customized services within one intuitive environment stimulates the use of information, creativity and personal and professional development”
(Faust, 2011, p. 43).

The fresh pages library concept is the re-imagining of a library as an information hub, the connection of the virtual and the physical space and accessibility to the library whenever and wherever. And new features also have been developed such as, peer-to-peer lending, media fetching and delivery, fresh pages live feeds, and a fresh pages credit point system.

Another virtual object also enables different functions in effective way. In 2009, User Studio carried out service design work for several local governments in France to help design public policy. However, the local governments were not used to design processes, such as ethnographic research, co-design workshops, and how to identify users' needs and frame problems. The User Studio tried to create the Service Lab framework for local governments, a series of tools that translates the service design steps of discovery and ideation into a roadmap that civil servants can quickly visualize. Virtual objects were developed, the 'Observation Map', an online application, to compile user insights gathered during their discovery phase and the 'Crayon Box' to give stakeholders a common language. Two of objects have many features that enable many functions. The Observation Map is using the Google Maps application program interface to geolocate rapidly landmarks, stakeholder interviews, key players and recurrent themes. The stakeholders can check how the project is processing in real time.

Creating a framework for organizations new to service design

"The Crayon Box facilitates self expression, adding a game like feeling to the exercise. An online application run on an iPad, it allows participants to sketch out their service ideas using custom-made pictograms relevant to the project's central theme. [...] This allows public managers to visualize the relationship between stakeholders' insights and potential solutions in specific streets or neighborhoods. An elected official, who was key to one project, told us, "This Crayon Box allows me to understand what my constituents want even if I am unable to attend the workshop." (Feigl & Schobert, 2012, p. 74)

Another object was used in redesigning hospital food services for vulnerable older patients. In the UK, 6 out of 10 people aged 65+ are having risks becoming malnourished or even get worse in

Redesigning hospital food services for vulnerable older patients

hospital. It is caused by nausea, reduced appetite, increased nutrition requirements and problems with physically eating then it delays recovery, increases risks, impacts on life quality and higher cost in healthcare system. To help the problem of insufficient nutrition in hospital, a new service prototype was designed including new foods, products and procedures and tools for managing nutritional care that named 'hospitalfoodie'.

The 'hospitalfoodie' focused on making the older people to eat food 'little and often'. And it is enabled by a series of nutrition management applications on a screen both at the patients' bedside and on staff interfaces.

"One of the key innovations is a new application which allows staff to record and monitor the nutritional intake of each patient. The bedside touch screen presents staff with an image of the food provided and prompts them to rub away the food eaten and the nutrients consumed are then automatically calculated. This data 'feeds' the hospital foodie system, highlighting patients who aren't receiving the nutrition they need and alerting relevant staff who are accountable for ensuring follow-up care" (Bamford, Macdonald, & Teal, 2012, p. 40)

Providing patients with a big stage : Using theatre to engage a healthcare audience

Finally, another virtual object was also used in medical service. The 'Cooler solutions' was hired to design services for a new drug for Roche Pharmaceutical's U.S. affiliate. The mission was to understand patients and physicians unmet needs. It was for finding new opportunity within competitive diabetes market. Here the problems laid in between pharmaceutical industry and physicians that came in 2008. Before the pharmaceutical industry was extremely conservative. To sell their product, they needed to send sales people to physician for explaining their products. It resulted an informal gift economy where sales professionals offer lunch

or gift free samples for accessing to physicians. However, when the regulation is changed on this in 2008, different problems appeared. An increased workload was pressured into doctors because of a 20% reduction in physicians who would see sales representatives. Finally two new services were launched in the market. One of that is a 'live video detailing' service that provides a live video link between pharmaceutical representatives and physicians on their computer.

"Live video detailing gives physicians 24/7 access to disease state information and the ability to order samples and schedule visits from a pharmaceutical sales representative from any location with an Internet connection" (Ferguson, 2012, p. 51).

The virtual objects enables different performance that is difficult for actor to do such as accurate calculation, 24 hour recording and monitoring. They are not only improving the service performance but also giving completely new solution in the services.

4.2 Further findings

Through the case analysis from TOUCHPOINT service design journal, 5 of roles were found and categorized. They are empowering users' rights, giving emotions that matches to service goal, enriching users' lives by providing opportunity to experience more activities, using an object as means of education, sharing information and communication, and finally enhancing service performances.

Here further finding will be addressed about objects in service design cases.

4.2.1 An object takes multiple roles

An object can take multiple roles. Some cases show that an objects enables two or three tasks.

The 'Fresh Pages', an Internet platform for the library has multiple layers of functions. It mainly enhances the service performance as a media library, but it also supports communication and stimulates use of information with one of features of the Fresh pages, such as peer-to-peer lending and live feeds.

The 'Crayon Box', an online application for French local governments, helps them to design public policy. Basically the application is visualization tool to sketch out their service ideas with pictograms. Since the government workers are not designers, using ready-made pictogram such as drawings of people and infrastructure is much easier way to visualize their ideas. It helps their ideation process (enhancing). Furthermore it gives much more fun to use and express their ideas. It is visualization and communication tool.

4.2.2 Transition of the role

There is a transition of role in the object. An object enables a task that can be transformed to another benefit.

For example, 'MyPolice', a web based platform to give feedback of service experience in police, shows that the virtual object is used actually for giving information and better communication but eventually it empowers people. Users can express how they feel about the service and participate in changing service for better in easier way. An electronic queue machine enhances service performance in terms of saving time of waiting that finally could achieve little less anxiety on blood testing. In 'Hour School' case, the website is offering 24hour access to the program and better communication that finally providing more opportunity for users to enrich their lives.

Especially, 'empowering' and 'enriching' objects show the transition of the roles in their services as they are more complex to achieve than other roles.

4.2.3 Designers utilize the object's feature

Designers utilize original function or unique feature of an object to facilitate their services felicitously. Especially, virtual objects, such as web site basically could provide 24-hour access and anonymity, which is easier than human-to-human interaction. Most of cases who used virtual objects applied this useful function for services and users.

The example of 'Energie-Labor' also shows that the designer used distinctive feature of game for the service aim. They considered the users that educating them should be in more fun way. The object of Energie Labor enables to educate them active and ex-

citing way that naturally the kids can realize they have power to change their own energy future.

Designers in the articles did not explain why they choose a certain object and what trials they had to find out which object would work or not. But with their description of the objects they made decision according to their research and the objects' features.

4.2.4 Object enables co-creation, on-going service changes

Designer might deliver a final object but it becomes a platform that can develop by itself with participation of users. An object is not completed outcome but enables users' participation or even more importantly designed for the users' involvement. Manzini (2011) pointed out what is in effect being designed is not the end result, but an action platform to explain design 'for' services. The action platform makes a multiplicity of interactions possible. Making certain kind of behaviour is difficult so that designer open the interaction and leave opportunity free for action for users (p. 3).

Manzini (2011) explains then, a user who participates actively in the designing of a service in which they will themselves be an active component, with their own capabilities. A user takes an active part in both the service proposal and service performance (Bruns et al. 2006; Leadbeater, 2008).

The 'eEtiquette 101 guide book' was designed to educate people about digital-life manners. Then its website is designed for continuous development for the etiquettes, that collects insights about digital behavior and enables ongoing debate. As time goes, new digital devices or services come to our lives that will affect

to etiquette lists. People add or change the lists so eventually get richer and clearer. The 'Hour School' service also its success is depending on users involvement, an object is facilitating the service co-creation (Ramaswamy, 2000) and ongoing changes.

4.2.5 Service elements support the object

Designers are using objects with their service strategy. The object supports strategy and vice versa. So that there is not only an object designed as one outcome or solution. The 'AITO', a service platform for the Helsinki library for local people and tourists, includes physical and virtual object such as 'Welcome Package' and 'AITO service web site'. However, the service includes also 'AITO Culture' and 'AITO Buddy', which are the service concepts. They are for human interactions, the tourist can participate cultural program such as one day Finnish cuisine class with local people (AITO Culture) and the tourist can find a local and share a day doing some activities if their interests are similar (AITO Buddy). Both programs are aiming to provide higher level of experience than typical travel experience.

As the service crucially based on an interaction between local people and tourists, authentic and genuine experience, which the tourists are looking for is only possible from the locals' experience, knowledge and insights. So that, objects supports users' experience sharing and their participation makes the service objects attractive.

5.

Conclusion

5.1 Summary and conclusions

This final chapter of the thesis will restate the research question and review the methods used in the study. Then the summary and conclusions of the findings of designed objects will be discussed. Finally, reflection of the study and suggestion for the future study will be followed.

The introduction described the motivation of the study. The study initiated from my interests in designed objects of service design projects. I saw big potential in two objects 'Journey Planner' and 'Transfer Ticket' (see Figure 1 and 2), which designed during the project of 'Design & Psychiatric Care'. Both are designed to solve the found problems and help the services and users' service experience. Both groups gathered information during the exploration phase and analyzed gathered information to find out core problems to be tackled. We were inspired from users mostly. However, to design the objects, we used our creativity importantly.

Then the objects resulted through the service design process, seemed to take different roles. So that the thesis has started to answer to the research question, 'For which purposes are objects designed for service?'.

To categorize different roles of the object, TOUCHPOINT-service design journal was chosen for the case studies. The cases with enough information about its designed objects were selected for the analysis. The analysis of the objects is based on qualitative research through the authors' explanation and statement in the selected articles. Then affinity diagram was used to identify and categorize different roles in service design practice.

The study also relied upon a literature review that focused on service, service design and object. To define objects the thesis dealing with, the framework emphasized term definition and knowledge foundation.

To answer for the research question, finally 5 roles for these designed objects were identified. In the various service design practices, various object were focused as important touchpoint, changed as services demand, and created as following answers for problems and needs.

The identified roles of object in this research are :

1. Empowering users and their rights
2. Delivering emotions through an object or group of objects,
3. Enriching users' lives by providing more opportunity to experience different activities
4. Educating, sharing information and communicating tool
5. Enhancing service performances that is not easily accomplished by actors.

Empowering

Firstly, the object empowers users by facilitating their opinion, communicating, educating and getting information. To empower users' rights, the object is not used directly but indirectly. The object was taking role as bridge to enter the state where the user naturally and comfortably receives the service and its goal. By comparison with other objects, which were used as means of sharing information, education, communication, and enhancing performance, the empowering objects could not give power to people immediately.

The objects were used for example, removing unnecessary procedures and providing direct conversation channel between public and police (MyPolice case), providing opportunity to access appropriate information for the user who is a receiver of the crucial impacts of his medical decision but does not know well about his states, medical knowledge and possible options (Decision Support

Conclusion

Tool), engaging target users in more comfortable and accessible ways of conversation to help them to come closer to society (Door-to-Door for change), and finally educating about important social issue in more natural and fun way for children (Energie-Labor).

Designers utilized the unique and core character of the objects to achieve their goal of empowering people. Physical objects, the board game is suitable for children users to make the education process more effective (Energie-Labor) and the other physical objects such as 'Motivation and Obstacle cards', 'My Plan' and 'Handbook' were designed to be handy to carry when the social worker visits the unemployed family houses (Door-to-Door for change). Also Virtual objects, the Internet platform for giving feedback of police service enables for the user to write comments about their stories without spending time to visit police station and meet many people to get to the right person. Especially using simple function in website such as re-commenting, following history of conversation, and rating the service quality is helping whole process much easier (MyPolice). The other virtual object also using the advantages of object's feature that easy to search and provide prepared information and visual aids that finally the service could be consistent and well managed without depending on only actors (Decision Support Tool).

Secondly, the object is giving emotional experiences and solving the emotional dissatisfaction in service. Ten of cases show that their objects were designed for various emotions. To deliver certain emotions, which the service provider (brand) is seeking, objects were carefully planned and designed. Especially, the orchestration of all the objects was important factor that is often described in the articles. For example, luxurious objects for superb flight experience (Porter Airlines), various objects for the organic hospitality service (SalzburgerLand), and using clubbers' culture to design objects, which meet with their brand image (Heineken)

Emotion

explain designers are considering orchestration of the objects is important to provide consistent service experience.

Some objects even take active roles to solve the emotional problems in service. Protecting users dignity while they are in vulnerable situation (Dignity Blanket), reducing waiting time that occurs anxiety (Blood Testing), keeping important information for emergency situation that finally gives peace of mind when users are traveling (Travel Planning).

Except for these two- orchestration of objects and solution of emotional problem, giving friendliness for airport users (ANA Way), liveliness for library users (Finnish Library), relief and comfort for the poor families in Pakistan (Debit card), and finally easiness for shop visitors (Tropical print shirt).

Enriching

Thirdly, the object enriches users' lives. The objects were designed not to give certain emotion but to achieve higher level of development, self-fulfillment by giving opportunity to interact with others and to experience more activities. They are certainly different with objects for emotions.

Designers designed the objects for genuine and authentic interaction, activities and experience for the local and tourists (AITO) and prepared the object to facilitate for users' peer-learning service by themselves (Hour School). These two very unique services are aiming for the users to interact with others and to fulfill their deep inside needs that eventually enrich their lives.

They are especially focused on giving customized service experiences that is related to their interests and specialty. The AITO service provides various kits that is related to users' interests and meeting opportunity for users who shares same interests through their website. The Hour School's service platform is also designed for users to attend interesting classes, which share different interests and to have teaching experience from various people who have different knowledge. It was designed for users to overcome

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lethargic day jobs through website that facilitates the system of the peer-learning service.

Fourthly, the object is designed for education, information sharing and communication. The object is providing knowledge to change behavior, sharing useful information, and helping better communication.

Education
Sharing information
Communication

A physical object, such as publication is prevalent means of sharing information. The case of 'Camden Council' and 'eEtiquette' are examples who used books as means of delivering information, which they found during the service design processes of 'Discover' and 'Define' (see Figure 6). The 'Southern Water' case also redesigned the bill to share useful tips for saving water and deliver information of users' water consumption. These 3 of objects are examples, which show the designers utilize objects' features adequately for sharing information.

For educating children for better oral habit the designer designed a friendly looking physical object (HelloSmile Passport). The object was designed with lovely drawings that explain tips for healthy teeth for target users and contact information for visiting. Especially, a membership program behind the object maximizes the education effects.

A case 'Jack and Jill Suite' shows a physical object 'computer' to facilitate communication between patients and physicians. Designers did not design any new object but change lay-out of the room that is focusing on the computer after discovering the object is important for the patients-physicians communication for their service.

Finally, the object enhances service performance, which might be difficult to achieve without digital technologies. All of examples used virtual objects to enable functions such as, application for quick visualization and real time visual-communication

Enhancing

(Crayon Box), 24-hour monitoring, recording and automatic calculating for hospital food service (Hospital Foodie), 24-hour access to information on disease state and easy ordering for diabetes pharmaceutical industry (Live video detailing service), upgrades of media library for higher education (Fresh Pages), and real-time notification and communication for in-flight transfer (Mobile transfer application).

With development in digital technology, 24-hour access or real time performance are available which might be difficult through human-to-human interaction. Precise calculation and 24hour recording and monitoring might be also difficult to accomplish with actors.

As 5 roles of object in service design were addressed above, the object takes different roles according their service goal, context, problems and users' needs. Furthermore some of objects take multiple roles. And some of objects show the transition of the role. An object that functions one role eventually achieves other role. Designers are utilizing objects according to their unique features. The designers did not explain why they choose certain objects specifically, through their description of designed object, they bodily know what object is suitable for their service context and found problems. The process of designing objects was crucially depending on 'exploration' and 'creation' processes. Some of objects open the service design process for the actors to get involved development of service design results. They facilitate co-creation process that enables the service evolves by itself. Some objects were completed state and some were on-going state. Almost all of the objects were supported by 'service elements' (Shostack, 1982), strategy or service program, which is acted by stakeholders.

5.2 Reflection & suggestion for future study

The study has started with strong curiosity on the designed objects of service design projects but framing the research process had to endure many trials. Furthermore defining objects was difficult part of the study. First plan to address different roles of object was set with presumed roles that I found from service design cases from school, media and experience. And the object was also limited only tangibles initially.

To build up a reliable list of roles, scientific research framework was needed. The TOUCHPOINT journal was effective methods to research many cases indirectly. However the explanation about designed object was sometimes limited. Only 26 articles were selected from 159 articles, as the journal was not a collection of case studies and not all the articles had information relevant to this thesis. Especially qualitative research on articles was not interactive unlike interview with designers. The study findings would have been much more vivid with interactive research with designers such as contextual interview.

Though the thesis investigated limited data here, the findings of the thesis could be evolved with further research into the design outcomes of service design projects. With the evolution of service design practice and its application in new territories, new possibilities and roles for designed objects could emerge.

Most of time of study was spent for reading and finding cases. During the reading of 3 years of TOUCHPOINT, I could learn diverse knowledge about service design not only about designed object but also methodologies, considerations for design, sketches of various service fields and challenges to be tackled. It was another achievement of the thesis work.

Through the many of creative designed objects from reading of TOUCHPOINT I am encouraged to state the object has crucial impact on users' service experience. In addition designer's creativity is major competence for service design.

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