

Design methods to innovate and solve service-related problems.

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ABSTRACT

This article addresses why so many companies enter the service-sector and problems that might follow such an approach. It aims to highlight how methods retrieved from design can help these companies to innovate and solve service-related problems. The article is based on a real case study at the Norwegian bank, DnB, and other relevant research. The design methods used in the case study are derived from service design and system-oriented design among others.

KEYWORDS: Service revolution, design innovation, design management, design methods.

1. INTRODUCTION

The goal for this article is to research if methods and tools retrieved from design can help a company innovate and solve service-related problems. The article is divided in five chapters. The first is about companies providing services, the second is dealing with innovation, management and design-methods in service-providing companies, the third describes two different design fields, the fourth is about the case study and the last chapter includes discussion and conclusion.

1.1 What is a service

A service is an action, deed, or effort performed to satisfy a need or to fulfill a demand [1]. According to the article 'Exit services marketing- enter service marketing' a service can be explained as a dynamic activity or process, and differs from products, which are described as static and tangible things [2].

1.2 Service revolution

In the past years, a new term has arisen called the service revolution [3]. This term indicates that more and more companies enter the service sector, either by providing services or a product-service combination. The service revolution has been interpreted in several articles and by different authors [4] [5]. It's based on a wide range of both technological and cultural changes.

The Internet, telecommunications, computers and wireless devices have made it possible for new services to evolve and grow.

At the same time the service economy is booming: Numbers from the World Bank can tell that 70% of the GNP lies within the service sector today [6]. Japan and USA are on top, and Europe is following.

There are three other important factors that support the creation of the service

revolution, based on a research by Stefan Moritz [3].

The first is the fact that the product market is satisfied. The industrial revolution enabled a new quality of life, and made it possible for the common man to afford designed products. One century later the products have gotten more similar while fulfilling the same purpose. Something is needed to create new value and make one product differ from the others.

The second factor is that new technology enables new services. This affects the relationship between clients and the company. One example from the world of banking is that the communication is no longer only through checks, phone, mail, and branches. Social media, applications and live chats are some of the services that have been provided because of the market's technological development.

The third factor is related to the increased diversity in customer offers that often are followed by even more varying customer-needs. Vargo and Lusch explain that a company designing products will discover that the customers' needs vary within a restricted range [7]. However, when designing services, the interaction between customer and service increases and varies according to the customers' specific operations. Which again means that providing different services is like providing a dynamic portfolio where the value is co-created with the customer. Creating Co-value has been discussed in a number of scholars, but as Katarina Wetter Edman explains in her research; "the customer determines the value of service innovations, but the company are still the one in charge of developing the proposition and collaboration-process" [8].

1.3 Actors within a service

According to the article 'Service design 101' there are a number of different

actors interacting with a service, and for a service provider all of them have to be considered [9]:

1. The Service Customers are those who purchase the service, but they don't necessarily need to be the ones using the service.
2. The Service Users are those who directly use the service to achieve an outcome.
3. Frontstage service employees are those who deliver the service to the user.
4. Backstage service employees make everything happen in the background, but the user does not see or interact directly with this group.
5. Partner-service employees are the other partners involved in delivering the service.

In addition to those mentioned above, there are also those who do not interact directly with the service but still are a part of it. Examples are those who plan and organize the company providing the service, or those who act and behave in a way that might influence the service.

2. INNOVATION, MANAGEMENT AND DESIGN METHODS

2.1 Innovation and problems

There is a link between innovation and problems. According to Larry Muller, Innovation could mean problem solving and problem preventing [10].

But innovation can also be associated with the implementation of new or significantly improved product or service, a new process, a new marketing method, or a new organizational method in business practices, workplace, organization or external relations [11].

2.2 Innovation and services

Even though services dominate the global economics and growth, innovation in services is seen as less disciplined and less creative than in the manufacturing and technology sector. The article, 'service blueprinting: a practical technique for service innovations' refers to a cover story in Business week featuring the world's most innovative companies [12]. Top twenty included service companies like Starbucks, Amazon and e-bay, but the number is not reflective the size of the service sector.

Another example is from the university of Westminster in London that researched how companies design and investigate services [13]. The companies were within the fields of transport, charities, health, banking, insurance, public and private services. The result was the following:

More than half did not know what design of services was; almost half did not know what innovation was. One-third did not have a strategy implemented and only one fifth had a written proses for delivery of services. But the most shocking result was that 48% did no research prior to their development of a new service.

2.2 Creative methods to help innovate

There have always existed creative methods with intention to solve problems and innovate. One example is from the book 'The Art of Thought' from 1927 introducing four methods: Preparation, incubation, illumination, and verification [14]. During the preparation phase, the problem was investigated in all directions. The incubation proceeded with an unconscious processing of the problem over time, while illumination is the flash of insight that can appear after the first two phases. The last phase, verification, aims to validate and shape the idea into something less abstract.

Birger Sevaldson is also referring to this method, stating that incubation and illumination include a deeper understanding beyond what can be derived from observations [15].

2.3 Design and management

To be able to use creative methods to innovate and solve service-related problems within a company, one has to involve management in the process.

The use of design as an approach for leading and managing design projects started already in the beginning of the 19th century [8]. In 1930 Olivetti type-writers used designers to take part in corporate decisions. It was more about solving aesthetic problems than problems about working processes, but in the 1960's and 1970's this led to a question about how to integrate design competences and processes in other fields. In the 1980's the understanding that design could be used as a strategic tool emerged between companies.

Kothler and Rath wrote an article in 1984 presenting design as a potential strategic tool the companies could use to gain sustainable competitive advantages [16]. But the article also points out that companies often neglect this fact.

In a video, John Kotter explains that it is also important to involve the leadership in this process [17]. He says that management is dealing mostly with the status quo (keeping things in order) and leadership with the change. The article 'Service design leadership' takes this further by introducing the term Service design leadership as an approach where leaders in service organizations understand or use design methods- and tools for a visionary strategy process intended to create innovative services [18]. Service design leaders are those who can ensure design is used to turn visions into reality.

2.4 Design thinking

When referring to design methods- and tools, one may think of the expression design thinking. Said to be the third stage in design management, design thinking is defined as an analytic, creative, and above all, user-centric process that solve problems and innovate through use of a various methods [19]. The term has lost

some of its strength in the later years, due to misuse. The author of the book *Creative Intelligence*, Bruce Nussbaun says the reason is that companies and business schools turned Design Thinking into a linear, gated methodology [20]. In this process it lost some of the creativity that it aimed to give in the first place. An interesting fact is that Nussbaun was one of the main promoters in the beginning, but changed his mind in 2011, stating that the approach didn't deliver what it promised. But whether design thinking has failed or not, it is still used for describing a link between design and innovation. According to Lockwood design thinking in a company has gone from project level to include corporate level [21]. Other design professionals and business magazines like *Business Week* and *Harvard Business Review* are also agreeing that design thinking is seen as valuable for solving problems in more untraditional fields like organizational strategy, business transformation and even health services [18].

3 SERVICE DESIGN AND SYSTEM-ORIENTED DESIGN

There exist varied opinions if the next design fields to be addressed are originated from design thinking, just inspired or completely independent design fields. However, this article will present them as design fields with common methods and tools.

3.1 Service design

The first tool to be addressed in this article is service design.

Service design is an interdisciplinary approach combining methods from various disciplines to solve service related problems. According to Blomkvist, there exist two main practices related to this discipline: Designers with background in interaction design and designers with a background in product or industrial design [22]. In addition a large number of design methods and tools are merged with

ethnographic approaches, and methods inspired by marketing and management [23]. Sangiorgio also emphasizes the link to management and marketing explaining "service design role is positioned between Service Management and Service Marketing" [24]. The book 'This is service design thinking' focuses rather on the difference between marketing and service design. It states that marketing is about organizations creating relationships with the customer to co-create value, while service design aims to put stakeholders at the centre of the service and preferably co-design with them.

According to the same book, there is no common definition or language established within this field. One of the contributors tries to explain service design stating that; "when you have to coffee shops right next to each other, and each sells the exact same coffee at the exact same price, service design is what makes you walk into one and not the other" [25]. This is maybe a bit childish but good explanation that presents service design as a creative and practical way to improve existing services and innovate new ones.

3.2 Methods in service design

The methods in the toolbox of a service designer can be divided in four: Tools to explore, tools to create and reflect, tools to implement and a combination of the mentioned. This article will present fourteenth of the methods.

The first method, stakeholder maps, is a representation of the various groups that are connected to a service or a problem, with an explanation of how these groups are connected to each other.

A service safari is another method and involves asking people to explore examples of what they feel is a good service. This is valuable to gain insights from other sectors.

The third method, a customer journey map, is a powerful tool to find all touch

points (interaction-points) between customer and the service. It is a structured but dynamic visualization of the users experience.

The fourth method, contextual interviews, are interviews conducted in the same environment as the service. It gives the researcher the opportunity to observe as well as listen.

Another method is called *A day in the life*, and researches a typical persona by creating a walk-through of their daily activities.

The sixth methods, expectation maps, are mapping out the customer's expectations within a service.

The seventh method, personas, is based on the users from a research. The personas represent a character that the researcher could use to find problems, ideas, and solutions.

The eighth method, idea-generation, includes many types of techniques like swot-analyses and mind mapping, and it is a method to inspire the brainstorming within a group.

The ninth method, scenarios are hypothetical stories. They are exploring a part of the service or the whole service.

The tenth method, storytelling, is small stories that share insights about a service. The stories could be from different users' perspective, and are often retrieved from personas.

The eleventh method, blueprint, is detailing the individual aspect of the service, from the user's view to the frontstage-users and the backstage-users.

The twelfth method, a customer lifecycle map, is a visualization of the customer's interaction with a service provider from start to end.

Rapid prototyping is a method where you make a prototype of a solution to gain feedback and insight on aspects like desirability and usability.

The fourteenth method, At-one, is a way of analyzing a service. It aims to investigate all actors, touch points, offerings, needs and experiences within a service and the relationships between them.

3.3 Service-Oriented design

The second design-field to be addressed in this article is system-oriented design. In this article the acronym SOD will be used.

SOD is developed by prof. Birger Sevaldson in the context of the OCEAN design research network with prof. Michael Hensel and PhD student Defne Sunguroglu Hensel. It is registered as a research project at the Oslo School of Architecture and Design, AHO.

SOD is an emerging field, mostly used for understanding complex problems.

Two pioneers, Peter Jones and Jeremy Bowes believe that design methods must be more systematic as we now are confronted with more wicked problems [26]. This means problems that are difficult to solve because of incomplete, contradictory, and changing requirements and that often are difficult to recognize.

System oriented design goes deeper in the analyses of relations between stakeholders; meaning it does not only investigate the interaction, but also what kind of interaction that take place.

The approach use mapping as a tool to organize and understand the system.

It is mainly a tool used in the research and the analytic phase more than the implementation-phase.

3.4 Methods in SOD

The techniques and methods used in SOD are retrieved from other disciplines as well as invented within this field.

Giga mapping is one of the tools, and means a complex map that visualizes and

investigates relations between different categories across multiple layers. For some companies mapping has always been a natural approach for visualizing complex structures or problems. The Walt Disney Company published a map in 1957 visualizing their company structure with lines that showed influences from the other instances.

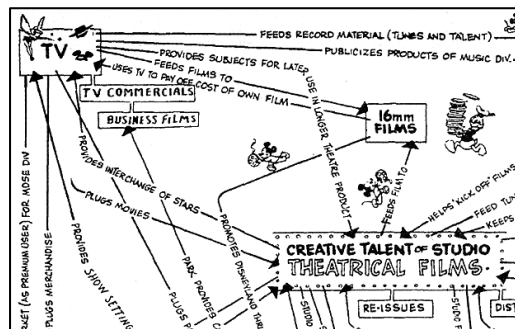


Figure 1: Walt Disney Company 1957, map using design tools.

Today's GIGA-maps are a bit more complex, and aim "to create an information cloud from which the designer can derive innovative solutions..." [15]. GIGA mapping is in general a way of organizing and simplifying issues, but it has no intention to tame the problem, but more to embrace the complexity of the problem.

Another well-used SOD-tool is a ZIP analyze. This tool involves finding interesting information and divide it in three groups: Information that need more research (Z-points), all information where we see a potential (P-points) and all information that could have a huge impact on the system (I-points).

Creating a rich designspace is also one of the key-factors within SOD. Because of the intense complexity there is a need for including the work space in the process. This means both the physical and the digital work space, and it is important to switch between these medias. According to the Sevaldson, this dynamic rich research space makes it easier to switch between research modes, between

exploration, reflection, generative work, and description [27].

The forth tool addressed in this article is looking at the impact the service has on the system. This impact can be categorized in economical, personal, cultural, systemic, technical and organizational impact among others.

3.5 Difference between service design and SOD

The differences between service design and SOD are harder to catch than the similarities. At the RSD3 symposium, this issue was one of the meta-questions that nobody were really able to answer [28]. Some of the audiences pointed out that SOD are solving more complex problems than service design, but this is not true for 100 % of the cases. When asking Jonatan Romm, the Design director at Halogen [29], his response was that there is a blurry line between those fields. But service designers might often feel more obligated prior to a project to define which stages the project might go through, and they might be hunting for a service outcome. While system-oriented designers have a more free approach, where the outcome can be anything from a service to a product. In a conversation between Birger Sevaldson and the author of this article, we concluded that understanding the difference between these design fields is complex in itself, because the fields are both different and similar at the same time [30]. But a quick model was conducted to try to understand a part of the big picture.

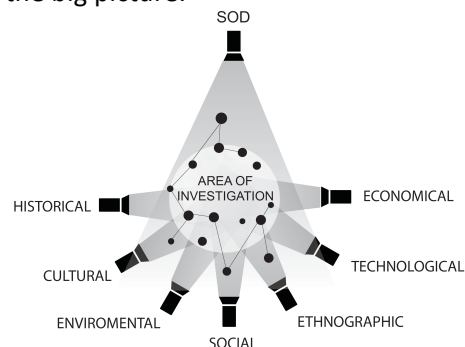


Figure 2: Model of system-oriented Design.

Figure 2 shows the model developed in this conversation that tries to visualize the relationship between SOD and an area to be investigated (for example a problem). The floodlights represent different way of looking at the problem, and the upper spotlight represent how SOD look at the whole system and interaction between the different philosophies. The white circle represents design thinking, and the small black circles and lines represent the methods and tools used for understanding the problem.

As the model indicates, some of the methods used for investigating, are retrieved from the different philosophies and copied in the toolbox of a design thinker. However, this figure is not 100 % accurate in explaining the relation between SOD and other fields. What it does not reveal is what kind of interaction there is between philosophies and problem and how the results from the methods can continue the journey towards a solution.

4 THE CASE STUDY

To research the topic of this article, the author saw a need to explore this further with a case study.

4.1 Introduction of the case study

This case study included three employees from DnB, and had duration of three months. The three employees were: The responsible for new services, Kristoffer Krohn Eide, Corporate Trainee, Gunnar Høivik and Business Designer, Martin Vollan. We were otherwise three students, Beate Romslo (the author), Siri Skoog and Anna Lisa Skoog working together on this project.

4.2 Problem as received from DnB

DnB have over the past years done an offensive marketing to get new customers. This includes commercials, a new graphic profile, and changes in the product, service and package range. Their

aim have been strategically to target a young customer group, with the belief that if they catch customers when they are young they will wish to stay in the bank when they become older and more profitable [31]. But the strategy has failed, and a large number of customers leave the bank when they are in a phase of life when they are considered more profitable. In the personal banking side, DnB got most of their profit of mortgage and use of credit cards so the customer groups that make use of this services are important to keep within the bank [32].

4.3 Process and results

The beginning of this study was mainly about getting facts on the table. This was a part of the research to explore the company. Even though DnB never had worked on this specific issue before, they possessed much knowledge about their customers. By arranging a workshop where DnB could tell about the company and their customers from their perspective, and write everything down on a huge sheet of paper, we together constructed a map. Working like this creates an atmosphere where is easy to spin freely around the problem.

A lot of information where also collected in advance, both about the company history, products and services. When starting to reflect around the problem, a customer life cycle map was conducted, showing life events of a typical bank user. We added the information from the workshop according to time, and performed a ZIP analyse. The result included many important findings, both questions and information. In a bank-customer's life there are some life-events, like getting a job, finding a partner, getting educated and raising a family, that opens up for a naturally curiosity towards other banks. Some of the ZIP analyse-results referred to this stage in the customer's life, which we named 'the big gap'. One example was how DnB could reach all the different customers in this stage. Even though there are different

ways of categorizing users, banks usually use age, profession or income as genres for which services the user may want. One of our zoom-points questioned this categorizing.

Other results from the ZIP analyse asked questions about how DnB could get information about the customers' needs, without acting intrusive, and loyalty issues towards banks.

The research process continued further with the development of a stakeholder map and customer journeys of the users interaction with the bank. How could and would the customer reach the bank, how was the company structured, who worked with what and how did the customer react on this process. This was researched further in a survey asking 100 users about their relationship with banks, and in 10 interviews exploring these issues even deeper.

It was important not only to research the problem based on DnB, but also banks in general. This is because the research showed that people perceptions of banks are in general quite negative. Statistic from the Norwegian service, kundebarmeteret, indicates that this doesn't necessarily mean customer is dissatisfied with the service provided, but that the word *bank* is associated with negativity [33]. From the survey, we found eight words associated with banks: Money, boring, rich, safe, big, greedy, and loan.

By using a tool much similar to service safari, we found out which services bank-customers are fond of, and why. This was useful information to bring further into the ideation phase.

During the exploratory and reflection-proses, we visualized our findings and methods in GIGA-maps which we showed both to the DnB and others to get feedback. This was also useful for both structuring the content, and draw interaction-lines.

The research process was soon constructed into ideas; one resulting in a rapid prototype. This rapid prototype did not represent a final concept, but more a tool to promote questions and get feedback from the test-users. It consisted of one screen-based and one paper based product. A finding from the prior research was that many customers wanted to receive a more personal treatment from the bank, but at the same time they wouldn't let the bank know everything about their personal life. The majority also wanted economical help from the bank. The idea behind the prototype was therefore to design a screen based program that allowed the user to create an anonymous fictive persona, representing their wishes and needs. This fictive persona would be presented to the bank so that they could create special offers, budgets, and economical plans for the user.



Figure 3: Testing of a rapid prototype

The paper prototype, figure 3, was a version of the screen-based, but invited more to interaction. On a time-line marked with "now", "before" and "later", the user could place icons representing things they had needed, needed now and might need in the future. Simultaneously they placed icons for more and less time, more or less money, and more or less interaction with the bank on the same time-line. The result confirmed that wishes and needs are not necessarily just affected by age, profession and income. We also found out that many different life-events do occur simultaneously

somewhere in the customers life but it's hard to predict when.

After gaining the new insights, our team decided once again to analyse all our content. On a three days workshop everything were explored. The goal was to find the real underlying problems, personas based on the research, and design ideas. This phase required a systematic approach and we created a huge workspace, organizing everything on tables and walls. By dividing the users' needs, wishes, problems, statements and quotes from the research in three groups, we found personas representing the most common users, the average users, the less common users and the corresponding problems. All problems were later transformed in to an underlying problem stating that: "The bank-customers are not seen as individuals, which often leads to not feeling important for the bank. This is supported by people's negative perception of the word bank".

To solve this underlying problem we started an ideation phase, designing 30 different ideas and idea-scenarios. By pulling the personas through the problems and ideas, each persona were linked to common problems and ideas that might solve them. By structuring in this way, it was easier to both discuss and understand the content. Choosing the ideas that solved most problems for most of our personas made it possible to find a concept that would work for the majority of bank-customers.

While still taking the rest of the ideas into the next phase, one concept was chosen. More analytical methods like blueprinting, impact analyses and customer journey were done before creating a last prototype.

5 DISCUSSION

5.1 A need for using new methods

As mention before in this article, there is a need for change in the way companies

design, plan and deliver a service.

Companies have to meet the users needs in a different and larger scale than before. A finding in the article "Closing the delivery gap" is that 80% of companies believe they deliver a superior customer experience, but only 8% of their clients agree [34].

This was also emphasized by one of the participatory from DnB in a workshop stating: "The bank is still thinking in numbers but the customers are thinking in experiences".

In a movie about future banking, the CEO at DnB explained that other leading companies from Silicon Valley are starting to design bank services. This means that DnB will compete in a new marked, and therefore must change their strategy [35].

5.2 Advantages of design methods

When companies have customer-related problems, there are often both visible and underlying causes. Even Albert Einstein addressed this issue: "If I were given one hour to save the planet, I would spend 59 minutes defining the problem and one minute solving it" [36]. Companies, including DnB, are not sufficiently rigorous in defining the problems they're attempting to solve.

From the case study one might think the problem might be that they dont provide enough services. However, after all our analyzes we found out that it was more about meeting the users individual needs *in* the services.

The service design researcher Lindquister, is agreeing by stating that because of our design methods- and tools, we are able to translate what the users say in to an underlying need. Skilled designer are able to lift what currently is, to what could be. When working with the case-study, my partners and I discovered that using the design-methods made it easier to illuminate the problem from different angles and advocate the end-consept.

The collaborative partners in this case study, DnB, have also experienced

favorable outcomes from working with service designers. They chose to collaborate with service designers primarily because they needed someone to gather opinions and information from both the external users, and different employees, and facilitate for a common understanding.

In this way they were better capable of understanding the touch points as a part of a holistic service, instead of looking at them individually [32].

5.3 Disadvantages of design methods

When design thinking became more a hype than a solution, professionals with a background from design started to leave this approach because it didn't turn out like they visualized. What further happened was that new fields arose, and either acknowledge themselves as a part of design-thinking, or distanced themselves from it. I have presented two of those fields in this article, but there are many more. An important fact that Stickdorn and Schneider express about service design (which also counts for the other tools and methods), is that the major challenge lies in establishing a structure [25]. Some professionals are still trying to challenge and explore the basics, while others continued further by researching how to integrate the practice to non-design fields. This basically means that design thinking professionals haven't fully understood this field and its location, but they do however see the benefits with using methods and tools derived from it. In other words, this would make it harder to convince companies that these design-approaches are beneficial, when not even skilled professionals truly yet understand them.

5.4 Implementation

There are two ways of implementing methods and tools retrieved from design within a company: One is to hire designers skilled in these fields to work in the company. The second option is to train the employees in the company to

take on a more design approach.

Option one has its advantages and disadvantages. To be able to provide efficient and useful services that can take place in a complex and holistic environment, it is not sufficient to hire designers and believe the work is done. As mentioned earlier in this article, it is especially important that the management and leadership are welcoming the process [18]. According to Gorb and Dumas there is something called silent design: "Design by people who are not designers and are not aware that they participate in a design activity [37]". Gloppen explains this by saying silent design is when management and leadership take decisions when entering a design process [18]. Topalian argue further that the outcome of a design project, whether it is a service or not, and how the solutions are presented on the marked always rest within these executives [38].

Lindqister also emphasizes this importance in an interview [39]. She says that many brilliant solutions are not implemented due to scepticism, so it's a designer job to create a common platform for understanding and creating enthusiasm within the company. As the service design is rooted in an involvement with the company and user, the solution will always be created together. The project is therefore more likely to succeed.

The second option, to train the employees, is also possible to a certain degree. DnB, The Norwegian Postal service and Telenor are all examples of companies that have adapted some of the methods retrieved from design, but more important is maybe the fact that they want to incorporate more designers because of successful results [39] [40]. According to Lindquister and DnB, both user-studies and the creative concept development are areas where there is a need for a

designer. That said, Lindquister also argue that it is due to a designer's methods and tools, not any God-given creative sense [39].

Even though a service design- and SOD approach can be valuable for companies, the implementation can sometimes be hard. Jonatan Romm means it depends on which design field we are talking about [29]. Using a SOD approach where the outcome might be invisible could be harder to invest in, than a design approach where the outcome might be clearer.

He also said the actual implementation also depended if the company are in the private or the public sector. The public sector includes more stakeholders in the decision making phase. This means that the process might go slower, but the positive aspect is that more people will get involved and feel a part of this project. In a private company the decision-making often goes faster but fewer people might feel a part of the decisions.

5.5 Conclusion

This article has raised the question about methods retrieved from design being helpful in innovating and solving service-related problems for companies. It has presented advantages and disadvantages of using such an approach in these situations.

To summarize, there is a need for using new methods in service-providing companies. According to the research and the case study, methods retrieved from design have proven to be beneficial if they are used correctly.

That meaning it is important with a close collaboration between designer, employees and even management and leadership. There is also a need to establish structures around these design-fields to easier advocate and convince companies of their advantages.

Bibliography

- [1] webpage: www.businessdictionary.com.
- [2] Evert Gummesson, *Exit services marketing- enter service marketing*.: The journal of customer behavior, 2006, vol. 6.
- [3] Stefan Moritz, "Service design, practical assets to an envolving field"., 2005.
- [4] Simon London, Mc Kinsey office Interview: Travis Fagan, *Understanding the services revolution*.: www.mckinsey.com, 2014.
- [5] Joe Macleod, *The Customer-Generated Service Revolution*.: UX magazine, 2013.
- [6] Susanna Lundstrom, and Rahul Anand Saurabh Mishra, *Sophistication in Service Exports and Economic Growth*.: The world bank: Economic Premise, 2011.
- [8] Katarina Wetter Edman, *Service Design - a conceptualization of an emerging practice*., 2011.
- [7] Vargo and Lusch, *Competing through service: Insights from service-dominant logic*., 2004.
- [9] Lauren Chapman Ruiz and Izac Ross, *Service design 101*., 2014.
- [10] Larry Myler, *Innovation Is Problem Solving. And A Whole Lot More*.: Forbes, 2014.
- [11] Kristian Uppenberg and Hubert Strauss, *Innovation and productivity growth in the EU services sector*., 2011.
- [12] Mary Jo Bitner , Felicia N. Morgan Mary Jo Bitner, *Service blueprinting: a practical technique for service innovations*., 2007.
- [13] Daniel Kindström, "Towards a service-based business model-Key aspect for future competitive advantage".: European Management Journal, 2010, vol. Volume 28, Issue 6, December 2010.
- [14] Graham Wallas, *The Art of Thought, 1927*.: The book treasure The Creativity Question, 1974.
- [15] Birger Sevaldson, *GIGA-Mapping: Visualisation for complexity and systems thinking in design*., 2011.
- [16] Philip Kotler and G. Alexander Rath, *DESIGN: A POWERFUL BUT NEGLECTED STRATEGIC TOOL*., 1984.
- [18] Judith Gloppen, *Service design leadership*., 2009.

- [17] Video of John Kotter, *Kotter international: Because change is essential.*: Forbes: Change Management vs. Change Leadership -- What's the Difference?, 2011.
- [19] Rachel Cooper, *Design Thinking and Design Management: A Research and Practice Perspective.*, 2009, vol. 20.
- [20] Bruce Nessbaun, *Creative Intelligence.*: HarperBusiness, , 2013.
- [21] Thomas Lookwood,, 2010.
- [22] Blomkvist, *et al.*, 2010.
- [23] Raijmakers, & Holmlid Segelström,, 2009.
- [24] Sangiorgi,, 2009:2.
- [25] Stickdorn/Schneider, *This is service design thinking.*, 2011.
- [26] Peter Jones and Jeremy Bowes , *lecture: is worth revisiting when thinking of the emerging field of Systemic Design.*, 2012.
- [28] RSD3 symposium, *Oslo School of arcitecture.*, 2014.
- [27] Birger Sevaldson, *Rich Design Research Space.*: FORMakademisk, 2008, vol. 1.
- [29] Halogen Presentation with Jonathan Romm,, 2014.
- [30] Birger Sevaldson, *Conversation with the author of this article.*, 2014.
- [31] Information from two workshops with DnB,, 2014.
- [32] DnB, *Interview with Kristoffer Krohn Eide.*, 2014.
- [33] webpage, www.bi.no/forskning/norsk-kundebarometer/resultater-2014/., 2014.
- [34] J., Reichheld, F., Hamilton, B., and Markey, R. Allen, 'Closing the delivery gap', *Bain & Company.*, 2005.
- [35] Video presentation with Rune Bjerke, "Fremtidens bank- Neste etappe på digitaliseringsresier er I gang "., 2014.
- [36] Dwayne Spradlin, *Are you solving the right problem.*: Harvard business rewiev, 2012 (des).
- [38] Alan Topalian Alto Design Management,..: Quoted in Judith Gloppen, designing for leadership.
- [37] Peter Gorb and Angela Dumas, *Silent design.*, 1987, vol. 8 (3).
- [39] Interview with Berit Lindquister, *Researcher in the field service design.*, 2014.
- [40] Second interview with Kristoffer Krohn Eide, *Collaborative partner at DnB in the casestudy.*, 2014.