MASTER'S THESIS

# CONVERSATIONS ON DESIGN THINKING: UNDERSTANDING, VALUE AND ADOPTION IN BUSINESSES TODAY

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**Summary**
Today design is part of coffee table conversations as much as boardroom discussions.  In everyday language design as a concept is understood differently by people with different backgrounds. The different interpretations pose a challenge, and it is commonly stated that design thinking lacks a clear definition which threatens it to end up as a management buzz word that will eventually fade away. In this master's thesis we will look into the ways design as a practice and its value is communicated and how is it understood outside the design community.

The theoretical review looks into defining the design concepts and methodology, and builds understanding what the academic community says about design concepts. Thesis also looks into research on how design is seen and used in organizations. The research for this master's thesis was done by interviewing four persons working in roles that are not traditional designer roles, to gain insights how people outside the design community perceive design thinking.

In this master's thesis we found that some of the basic elements of design thinking are understood by people outside of design community. Focus is heavily on user centricity. People entirely outside of design community seems to associate design with final form giving and visual aspects. Key to communicating value is understanding where and how value is manifesting. Best ways of communicating design value are demonstrating the design process itself and finding real tangible business performance measures to showcase design value. The intent to integrate design in organizations is there, but there are still signals that the integration is not complete. The need for interdisciplinary understanding came through strongly. Both in creating best possible design outcomes but also in being able to communicate design and interact with people with various backgrounds and being able to demonstrate design capabilities.

Key words: design thinking, communication, adoption, understanding

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# 1.   INTRODUCTION

## 1.1.   Background

Today design is part of coffee table conversations as much as boardroom discussions.  In everyday language *design* as a concept covers number of things and is understood differently by people with different backgrounds, but even by people within the field. The different interpretations pose a challenge and might be one of the key reasons why design, design thinking and service design and as a commercial service to businesses is not reaching its full potential. Design's value is appreciated and well understood among the professionals within the discipline. The challenge comes when trying to explain and justify the benefits of design for people outside the design world. The UK Design Council in their 2020 report "*Making life better by design: Communicating the value of design*" states that one of the biggest challenges is the communication and understanding of design. There are a lot of misconceptions and confusion about what design is. It is commonly understood as esthetics and the broader impact of design tools are still not well understood. (Design Council, 2020.)

For the general public design is often understood as making things pretty. Design is seen as art. It also seen as a more practical approach, covering industrial design and as the design of everyday objects. What is not as well understood is how design can be incorporate in supporting, improving and designing services and processes, designing optimal organizations and even business models and strategies. In today's digitalized world user interface design has a huge role in people's everyday life. Regardless of the field or application of design it is mostly thought as outcome, product or service. What is not understood well is that the greatest benefits lie in the process and way of thinking that can be extended to all parts of life and can support in an immense variety of challenges.

In everyday life when things are difficult to use, perhaps a mobile phone application that is hard to use, a government site impossible to navigate or a piece of hardware hard to use, it is often spontaneously said "*how can this be so poorly designed*". A good intuitive design can be the make it or break it feature for a product or service. That said, it still seems, that

even with those intuitive realizations, people and businesses are reluctant to invest money for the services of design professionals. It seems to stem from the persistent misconceptions of what design is, still been seen as the design for colors or fonts or as the final embellishments. It fails to see how profoundly design could affect the user experience and through that the success of design object. The question therefore is how could the potential impacts of good design be made more visible and tangible? Do we have the language and ways of communicating so that the average user or the decision makers in business can understand the potential? What ways are there to improve communication and incorporate design aspects into the decision criteria different stakeholder groups have? What are the decision criteria that business managers currently have?

In today's world we see a lot of good design, which also means people's expectations for design these days are high. We have companies like Apple that have brought great visual design to their products as well as well-designed and intuitive interface. We have technology and accessibility expectations, internet that works (almost) everywhere, children and aging population that needs to cope with new technology. Expectations are high and bad design is not well tolerated anymore. Design is so integrated that we hardly even understand that *everything* is design. Most of our time is not spent in organic world, it is a world that is in fact artificial and *designed* by someone. Just thinking me typing a way on the keypad, design by someone. Sitting in a chair more or less comfortable, designed by someone. Using a software with its more or less intuitive interface, designed by someone.

While design has permeated basically all aspects of our everyday life, we still seem to have a lack of understanding and appreciation for the design profession. We don't quite understand how the well-designed objects come about and what we don't understand we often underestimate and are not willing to pay for. If we compare what people and companies are willing to pay for cyber security aspects compared to design services. Is it because cyber security is so far from people's understanding and capabilities, that you are willing to pay for more on something which you can't possibly do yourself, but you see necessary? Do people feel that designing is easy and therefore is not worth as much? Or are the benefits of design not as obvious and need to be better communicated to fully demonstrate their value?

What is interesting to me is that design is everywhere and we are all subjected to it weather we want it or not. We might intuitively understand what good design is, enjoy the benefits of it and even base our consuming or investment decision on it as individuals. When it comes to companies, does that same apply? When we are not private persons anymore, and decision making is institutionalized, what is our decision-making criteria? Do we forget the usability aspects in the face of technological and financial criteria? We might be buying something that is so large scale that we have difficulties comprehending the usability aspects of it or how big of a role it plays. How can we keep the user experience in mind and tangible when doing these decisions?

Design thinking may be criticized of being a fad or just a fancy management discourse, flavor of the month. Comments like "design is everywhere" are meant to point out that design is important but also seems to dilute something from the practice. It is not precise; everyone can do it. Sustainability has become a must have in corporate discourse and with-it terms like "green washing" emerges describing the phenomenon where companies merely give the appearance of being sustainable through different tricks. Does design have the same problem? It is used in the corporate discourse as it is trendy, but are companies really using it and to what extent?

Some of the design professionals and academics fear for the gentrification of design, expecting that making it more accessible and understandable to the generic public would diminish its value. How to convince the non-designer audience of an idea is challenge recognized for a long time already. Does the designer community need to resort to objective and scientific proof when much of the design work is said to be the product of intuition? (Buchanan, Margolin 1995.)

## 1.2. Research questions

Design thinking is awarded to be a solution to support in solving many types of problems. Design thinking has gained a lot of popularity in many fields and suggested to be a tool to elevate problem solving. Around the buzz few key questions arise. It is commonly stated that design thinking lacks a clear definition which threatens it to end up as a management

buzz word that will eventually fade away. In this master's thesis we will look into the ways design as a practice and its value is communicated and how is it understood outside the design community.

**Research questions**

Design thinking is in the conversations everywhere. As design thinking has gotten more foot hold in the organizations and many claim that design thinking is important differentiator. Question arises how design as a concept is understood outside the design community.

**Research question 1: How is design thinking as a concept understood among people who are not directly part of design community?**

As part of the challenge of defining design thinking concept, is that it is difficult to communicate the value of design thinking. If design thinking as a concept is blurry, it is hard to understand the value it brings.

**Research question 2: How can the value of design thinking be communicated?**

Companies claim design in their discourse, but how is design thinking really visible in the organizations. Is it surface level discourse or has it truly permeated the company's DNA?

**Research question 3: How is design thinking visible in organizations?**

The research questions are broad. We aim to narrow the study by approaching this through the experiences of people working in organizations outside of the immediate design community and through their experiences gain insights into how design thinking lives and breathes in organizations today. The study will not be a comprehensive cross-section but an addition to the conversation bringing forward recent conversations from the pulse of the business world.

## 1.3.    Structure of the thesis

Chapter 1 "Introduction" will focus on explaining the context and researchers' interest in the topic and introducing the research questions. Chapter 2 "Defining design" provides a look into defining the design concepts and methodology, building understanding what the academic community says about design concepts. Chapter 3 "Design in businesses" looks into research on how design is seen and used in organizations. Chapter 4 "Methodology" describes the research methodology and process used in the master's thesis. Chapter 5 "Findings" summarizes the findings from this research leading to chapter 6 "Discussion" where the findings are discussed, research questions answered and assessed against existing research. Chapter 6 also addresses the limitations of this research. Chapter 7 "Conclusion" concludes with the contributions this research has and discusses further research opportunities.

## 2.  DEFININING DESIGN

Design, design thinking, designerly thinking, product design, service design, innovation, creativity. The list of words and concepts connected to the design field is plenty. UK Design Council's 2020 report reveals that one of the biggest barriers for businesses to use design is misconceptions and confusion of what it is. Who can blame them as outsiders looking into a field that has variety of concepts and even within the filed is lacking to find common definitions. In this chapter we will dive into the discussion around defining the field and gather some of the proposed definitions for the common design concepts.

## 2.1.  Defining design thinking

When looking at design history, design thinking reached wider knowledge in the 80's, although design science and methodology discourse has been around since the 60's. Fast forward to today design is viewed to be method of solving variety of challenges across professions and fields. The spread of design into vast variety of different areas can be viewed as a great success. The challenge arising from design thinking been so keenly adopted by other disciplines in the past decades, is the potential diminishing value of the design methods and research in long term as it is diluted by other disciplines. (Cooper, 2019.)

Designers are proud of their discipline as any other practitioner is of their field. It tells something about the professional proud of designers in their discipline that Nelson & Stolterman (2003) claim the discovery of fire for designers; "Humans did not *discover* fire – they *designed* it".  Leonardo da Vinci, one of the great historical figures, should be described also as a designer, instead of just artist and scientist. (Nelson & Stolterman, 2003.)

As design is sometimes regarded to be the solution for all problems, and everything for everyone, it has brought about a challenge in identifying and crisply defining what design is. The spread of design thinking across verity of fields, means it is being used and exposed to a lot of people outside the design community. This has created a demand for simplified

definition to help to explain what design thinking can do and what is its value. In addition to that the design concepts seems to have a varying interpretation within the design practitioners as well. Simplifying and finding a common definition has proved to be challenging. The ambiguity of the term makes it hard to understand and it feels disconnected from prevailing business processess, which causes doubts weather it will evolve as valid business tool. There are no qualitative studies to explain the impact design thinking is claimed to have in the general discourse.  The lack of clarity around the definition and application of design thinking has brought some researchers to claim design thinking is "dead". (Dorst, 2011; Roth et al, 2020; Cooper et al, 2009.)

When looking at some of the researchers attempts to define and crystalize what design is, purpose led creation is emphasized. Design is seen as creating new things, products, and services. Design has the ability ensure that the creations are meaningful. *"Design has the ability to imagine that-which-does-not-yet-exist, to make it appear in concrete form as a new, purposeful addition to the real world"* (Nelson & Stolterman, 2003, 10).

Designers observe and the observations lead the design work. Meaningfulness of design is emphasized, there is no value in creating just for creations sake, but the aim is to improve people's experiences. "*The mission of design thinking is to translate the observations into insights and insights into products and services that will improve lives"* (Brown 2019, 55).

Design is intentional. It has ability to shape experiences and guide the way we interact and behave, how we experience things. Design can do that through physically design object but also through designing services and process that guide behaviors. *"We are surrounded by images and objects produced by designers with deliberate intent to shape our experience and influence our actions"* (Buchanan & Margolin, 1995).

Design thinking is at the heart of design work. It is structed and intentional way of working on problems and creating concrete solutions. Design's strength is its ability to be applied to any type of problem and situation. *"What designers do is design; they create designs and solve design problems. - - in order to function effectively as designers, they must engage in designerly practices. At the core of this is design thinking, which includes tackling vague problems, thinking in a constructive and solution-focused way and homing in on concrete propositions"* (Garner & Evans, 2012, 10).

## 2.1.1. Design terminology

In the early days design has been connected to great design comparable to an art form, examples close to home are for example the work of Alvar Aalto. Today the use of the term *design* has been widened into many fields. In addition to more traditional product design, it covers services, processess, interfaces, organization and even strategies, to name a few. Design uses ever wider toolbox to be able to answer wider range of questions (Rodgers 2012, 59). Before diving into the practical design fields let's have a look at the discussion on how to define what design and design thinking is.

In the design discourse you would hear two very similar sounding terms; *designerly thinking* and *design thinking*. Johansson-Skoldberg et al (2013) take a comprehensive look into literature to decipher the meaning and evolution between these two terms. The main distinction between the terms is that designerly thinking is used to describe the way of working for design professionals; architects, designers and the likes. It is a term used by academics and scholars to describe the processes and ways of working for the design professionals. Design thinking as a term has emerged later and in the context of management research. It is suggested that design thinking emerged to simplify the academic terms of designerly thinking for the non-designer community, making it more approachable. (Johansson-Skoldberg et al, 2013.)

Design thinking is a word emerging from management literature, making design more accessible to the masses and not simply a secluded form for the rare academics. Design thinking provides business managers with a new tool to address products and services. The design thinking tools can be harnessed to support new ways of thinking. This involved visualizing concepts, focusing on people-based approach, and designing business strategies using design research methods.  There is a concern weather design thinking is just a buzzword and will not evolve as a valid business tool. (Cooper, R et al, 2009.)

In this thesis we are interested what happens in the intersection of design community and other disciplines and therefore we will focus on the design thinking terminology. There is no universally agreed definition design thinking term, but the common theme seems to be the idea of having the user in the center of the thinking process. Rogers (2012) uses the

phrase "*being empathetic to the human condition*".  It is also described as "*human centered innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping and concurrent business analysis, which ultimately influences innovation and business strategy*". (Rodgers 2012, 69, 107.)

Due to the debate about the ambiguity of design thinking as a discipline and its lacking academic foundation Oliveira & Zancunl (2022) made an effort to contribute to building a better foundation for the design thinking consept. In their view the ambiguity around the term could turn it into an umbrella term or even collapse the whole design thinking theory development.  In their study they looked into number of studies to distill a solid definition for design thinking based on previous academic works. (Oliveira & Zancul, 2022.)

Oliveira & Zancul (2022) suggests that that design thinking is a context-dependent approach. It can mean a process, a method, a toolbox, a mental approach, a culture or a mix thereof. With that the writers aim to highlight that design thinking is a summary of dynamic attributes rather than a static definition. Oliveira and Zancul (2022) find that there is a stem in literature that aims to develop these flexible but clear definitions for design thinking but haven't yet been laid out in a formal construct. The study by Oliveira and Zancul aims to bridge this gap. (Oliveira & Zancul, 2022.)

The writers conducted a comprehensive literature review focusing on literature that sited design thinking. 100 most cited papers were selected from each of two selected time frames period of 2019 to 2022 and papers earlier to 2019, totaling to 200 papers. Out of the 200 papers, 21 was selected for the final analysis through a screening process. Oliveira and Zancu. (2022) present the following formal definition of design thinking: "*Design thinking is an abductive, human-centered approach for problem-solving*". Properties derived from this formal definition are presented in the below figure and complimented with a brief explanation about each of the properties.
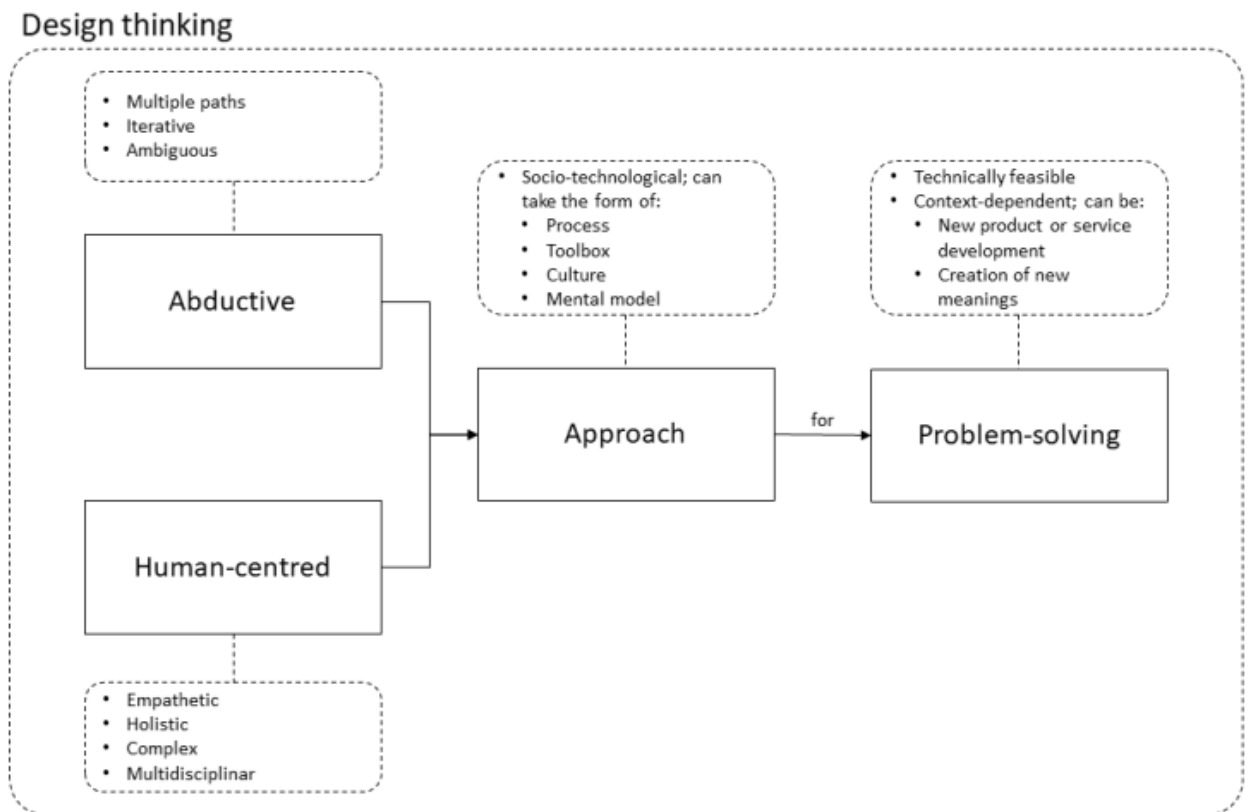
Picture 1. Design thinking concept. (Oliveira & Zancul, 2022, 46.)

Dorst (2011) also suggest that Abductive reasoning is a corner stone of the design thinking. To understand design thinking, Dorst digs into the building blocks which are different ways of reasoning. In *Deduction* we know what and how, that leads to an observed result. With deduction we can safely predict results. In Induction we know what and the end results, but we need to figure out the how. In science we have hypotheses of what might cause the results, and we make experiments to prove the hypotheses. (Dorst, 2011.)



Picture 2. Ways of reasoning in science. (Dorst, 2011, 523. )

In design the goal is to add value, which changes the equation from result to value.

**WHAT +**    **HOW**    leads to    **VALUE**
(thing)    (working principle)      (aspired)

Picture 3. Ways of reasoning in design. (Dorst, 2011, 523.)

*Abduction* is a form of problem solving where the value we want to create is known, we have the working principles know and we aim to create the what, that leads to the value. This is a typical problem-solving practice. This is for example product or system design. The more challenging type of abduction is when both the what and how is unknown and we only know the value we want to achieve. We need to create both the what and the working principle at the same time. This type of problem solving is what design is aiming to do. (Dorst, 2011.)

Cross (2011) builds on similar thinking saying design reasoning different from conventional inductive and deductive reasoning. Cross (2011) suggests logic has interest in abstract forms, science investigates extant forms, but design is interested in novel forms. Designers are encouraged to think more rationally, when a lot of designers argue that intuition is a large part of the design process. But what is intuition if not an accumulation of information and experience that is then pulled to use when a new situation arises. (Cross, 2011.)

Design is often said to have an unexplainable part that is called for example intuition, which adds level of mystery to the design profession. Kettunen (2013) also recognizes this "*design hero*" myth, that suggests some people have this innate ability to produce good design. This notion that design professionals would have this ability that others don't possess does add to the notion that design isn't for everyone and is best left for the professionals. Design thinking raises the designer above the people they serve, limiting the participation of people (Iskander, 2018).

*"In the process of creating a design there is clearly a place for both logical analysis and creative thinking. In fact they are both essential."* (Garner & Evans 2012, p.10.)

Design thinking combines two ways of thinking, analytical and creative. It focuses on asking the right questions, to explore variety of possibilities in order to expand the options for solutions and through iterative process it learns and starts to focus in on a solution. It is

generally agreed that design thinking is both a process and mindset. (Garner & Evans, 2012.)

A widely recognized building block of design thinking is user centricity, and it is said to separate design from other fields.  An engineer will understand the mechanics of how to make things work, a designer will need to understand the user aspect - how does the user want to use the technology. It is beyond just the shape and color of the object, that is traditionally seen as designer's realm, but it also shapes the path of use. There is a shift towards easing the user's life as much as possible, designing the objects and services to burden to user as little as possible.  (Buchanan & Margolin, 1995.)

Brown's (2019) thoughts on human centricity highlights three elements, insight, observation, and empathy. Watching how people behave can teach us so much more than just looking at a statistic. It can show us where people take short cuts, where have they found a stick figure solution to problem to get and can give valuable insights (Brown, 2019, 47).

*"If you can help people to realize for themselves why design is important, in terms they understand, they will embrace design like a champion "*(Lockwood et al 2001).

In the more popularized management discussion, the most common design thinking related process description is the Double Diamond model.  UK Design Council recognized as one of the fundamental challenges of enabling design to reach its full potential, the lack of common terminology and language between designers and non-designer population. The UK Design Council popularized and conceptualized the now well-known Double Diamond model in 2004. It was based on earlier work that recognized the design processes often centered around divergence and convergence, cycles, and iterative structures. (Design Council 2020.)
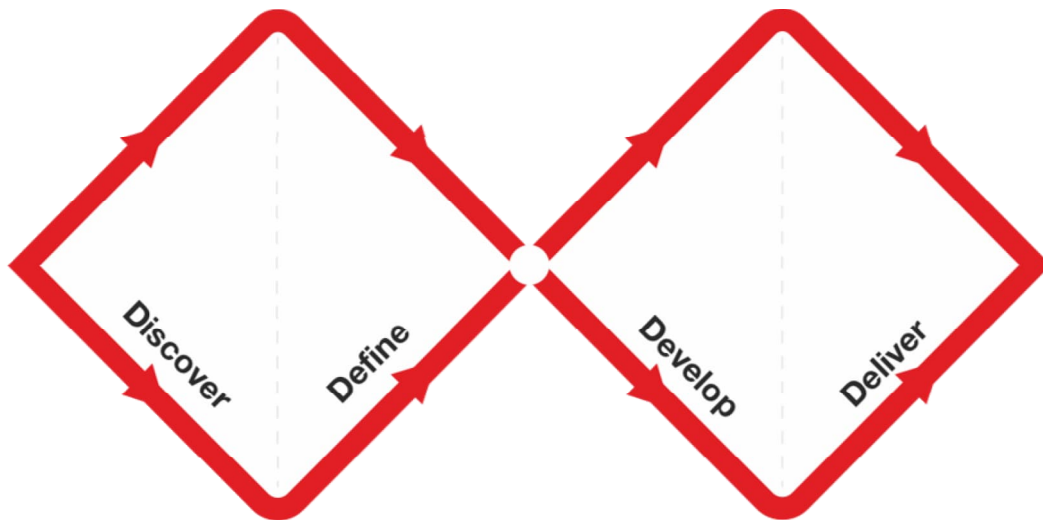
Picture 4. Double diamond model. (UK Design Council website.)

There are many variations and iterations that have similar building blocks to the Double Diamond model. Brown's (2019) way of describing the design process for design thinkers as overlapping spaces rather than linear process. He describes the process steps as *inspiration*, which is ultimately the problem statement; *ideation*, which is the ideation phase; and *implementation* that aims to launch the idea into the real world. The project can loop back through the steps several times during a project. (Brown 2019, 22.)

## 2.2.    Linking with other disciplines

In the 80's and 90's design research took new leaps and interest in the field grew. With that grew the interest in relationship between different disciplines. Design management had already emerged in the form of understanding the value and use of design in industries. Along side that the relationship between marketing and design started to grow. The angle was customer centricity in marketing; understanding customer needs, testing customer needs and how to bring all the other design tools to support launching new product successfully. (Cooper, 2019.)

The connection between design and innovation started also to blossom. This was one of the connections highlighted to establish the value of design to economy. It is still emphasized by many researchers how design drives innovation. It has brought about general assumption on the relationship between design, innovation and creativity. (Cooper, 2019.)

Cooper et al. (2009) states that design management is the ongoing management and leadership of design organizations, design processes and designed outcomes, which include, products, services, communications, interaction, environments and interactions. Design management traditionally has focused on individual design projects and incremental development. Design management is experiencing the shift from mandating tangible products into managing design of innovation and services. Design thinking has helped to raise awareness of design management in organizations. (Cooper et al, 2009.)

Design realm can be further split into different design areas and one popular area of the last decade is service design. Services has for a long time already has had a growing importance in economy. Economies grow more in the area of services than products, and in developed countries services cover majority of a countries GDP.

"Service design is a discipline that takes design practices and uses them for service development combining them with traditional service development methods" (Tuulaniemi 2011, p. 24). Service design is discipline that focuses on developing the services. One of the core principles in service design is form giving, service design helps to make the invisible visible and concrete, which helps to have discussions and develop the service experience further. As a core principal service design draws from the same basic principles of design divergence and convergence. (Tuulaniemi, 2011.)

Among other popularized design branches is UX design that emerged heavily due to accelerating digitalization on the past decades. Every digital tool has a user interface that is a major part of the user experience. UX has developed into a field of its own.

## 3.  DESIGN IN BUSINESSES

In this chapter we will move from concept definitions to understand how design lives and breathes in companies. We aim to understand how business see design, how it is used and what value proposition design has for businesses.

## 3.1.  Studies on design use in corporations today

In the next section we will look at two studies, Finnish study published by the Ministry of Employment and Economy (MEE) in 2015 and a benchmark study by management Consultancy company PriceWaterhouseCoopers (PwC) in 2017.

MEE (2015) study looks into Finnish companies on how they take advantage of design and what are its impacts on their business competitiveness. The PwC's global study looks into how innovation executives are answering the growing demand to innovate and what are the challenges stopping companies from doing so. Interesting connections could be found in these two studies.

Most of the companies in the PwC (2017) study responded that innovation has had a major impact on their growth. Interestingly enough in their studies PwC has not been able to demonstrate a statistical correlation between funds spent on Research&Development (R&D) and financial performance. This would suggest that it is not all about how much money you spend, but how you actually approach innovation activities.

The missing connection between the spend in innovation activities and financial performance can be challenging. One of the survey participants states in the report that even if the benefits of innovation can be seen in other areas it is still very important to make investments that are financially driven. The financial success will encourage to do more investments in the area. It is difficult to argue for more investments if you do not see any financial returns and therefore talking about innovations financial return is still important. (PwC, 2017.)

In the MEE (2015) study it was noted that companies that stated design to have a strategic status in their company were also the top spenders in R&D activities. High investments in

R&D signaled also that companies use design. The more the companies were using design at the moment, the more confident they were that design would have significance in their success in the future. The respondents did find it challenging to measure the costs and benefits of design. Design investments could be seen as additional costs on top when design was not fully integrated in the R&D processess. When included in the R&D process early on, the costs were not challenged as much. (MEE, 2015)

One of the key aims of the MEE (2015) study was to understand designs impact on the companies' competitiveness. Even the responding companies noted that the benefits of design investments are somewhat subjective and hard to quantify. Where the companies saw the most benefits were in marketing and outside communication through unified brand and language. On second place the development of products and service as well as business design and strategy. In business design and strategy, the impact was seen through bringing in customer and end user perspective and bringing in new ways of thinking and recognizing new client needs. The least impact design was seen to have on internal processess and functions development. (MEE, 2015.)

In the MEE (2015) study when respondents were asked what are the challenges of using design, top reasons listed were that there were not enough resources to put on design, unclear benefits and not enough understanding within the company. In more detailed discussions on the topic repeating note was that adopting new ways of thinking was seen as one of the biggest challenges in using design. Many industries are used to a certain way of working, breaking in new methods can be a challenge. For example, in industries that are very technology or engineering driven, tend to start with what is it possible to create instead of what do the users need. (MEE, 2015.)

In the MEE (2015) study the respondents also mentioned the challenge of having insufficient dialogue between the designers and business leaders. Over half of the PwC (2017) study respondents state that aligning business strategy with innovation strategy is one of their biggest challenges. Bringing the business strategist into the same table with the innovation team from early on is seen as a solution to challenge (PwC, 2017).

In the PwC (2017) study, when companies were asked what operating models, they use to push innovation the top third answers, with over 50% of respondents, said open

innovation, design thinking and co-creation. The design thinking staples are visible in the PwC study. Human centricity is evident in the companies' innovation strategies. Over half of the respondents state that customer engagement strategy helps define innovation from early on and over third of the companies consider customers as the most important innovation partners. Companies also appreciate the feedback, and the insights only human experience can provide. One of the survey respondents said that *"hard data can show you that people behave a certain way, but it cannot explain why they behave that way"*. The experimental nature of design thinking is also visible, one of the respondents noting that it is better to fail fast and not lose any customers, than going forward with a project and losing money and time to fail later down the road. (PwC, 2017.)

In the PwC (2017) study companies indicate the internal employees are the most important innovation pool for the organization. Similarly, the MEE (2015) study shows that companies mostly use their own employees in the design work. Employees are consumers and can bring end user insights into the process and some employees are involved in business strategy bringing valuable insights from that side. It is stated by one of the PwC study participants that feedback needs to be taken from all corners of the organization, all people involved, not just from the senior management. When people get their voices heard it fosters a culture of innovation. (PwC, 2017.)

While people are the corner stone to successful innovation, one third of the PwC (2017) respondents indicated that finding employees with the right skill set is the biggest people related innovation challenges. And it is not merely the employees, 37% of the companies noted that establishing an innovation fostering leadership culture is a challenge. (PwC, 2017.)

The studies indicate that impact of design investments is hard to measure, causing some companies to see design as a cost rather than an investment. It is imperative to be able to demonstrate the value in financial or other terms if investments are expected to continue. The key seems to be to incorporate design early on as a fundamental building block instead of add-on service at a later stage, where design can end up in an appearance and form giving role that is polishing the surface rather than impacting the fundamental development process.

Companies use design mostly to develop client facing elements, communication, services, products. Some companies were using design also on strategy design but less so on internal process development. Understanding users and getting customer feedback was seen as the biggest benefit from using design methodologies.

One of the key challenges identified was having people with the right skill set in the companies. Leadership has hard time digesting new ways of thinking and employees don't have the right skillsets to use design methodologies. Creating an innovation and design thinking oriented organization is a challenge from leadership, working culture and employee's skill set standpoint. Without the right leadership sponsorship innovation is not on the top of the agenda, it is not funded or time allocated. Time of the everyday employee is instead used on the most efficient ways of getting the daily job done. While employees are concerned of getting their daily load of work done, they have little room or capacity to innovate. Even when time is not an issue, design thinking and innovation tools are something that need to be learned. Everybody has some problem-solving capability that can be called innovation, but to use some of the methods developed to support design practices, those are skills that need to be learned. Companies need the right people, with the right skill set. Employees need time and space to spend some of their time using those skills to innovate new things. To foster a culture where time can be spent on reflecting and not using every minute of your working hours as efficiently as possible, you need leadership that understands what it takes to do innovation and is willing to invest in it, both time wise and financially.

## 3.2. How to integrate design?

Wrigley, Nusem & Straker (2020) studied how an organization can integrate design as a strategic approach. Design thinking's ability to solve "wicked problems" is an interesting carrot for companies, whose challenges to keep relevant and profitable in the future are more and more complex in nature. Over the years, design thinking methodologies have been simplified and structured into a set of tools so the non-design people can access this box of tools as well. Another aspect that makes it especially interesting to business is design

thinking's ability to combine human needs, technical feasibility, and business viability. (Wrigley et al, 2020.)

Typically, design is seen used in design sprints, workshops and competitions, where the impact is one off, situational, short term and does not truly penetrate the company's ways of working. They take people out for a week to come up with new ideas. Some fine ideas might come out of these experiments. But when those people return to their regular jobs the learnings and enthusiasm quickly fades away unless there is a culture that encourages innovation in the everyday lives of the people. If looking for a genuinely and long term to boost the innovative mind set in the company, it needs to be instilled in the everyday work. In most companies the day to day is marked by efficiency. Not experimenting. It is hard to maintain inquisitive mind set when the focus of the surroundings is all about efficiency. (Brown, 2019; Wrigley et al, 2020.)

To truly integrate design thinking into an organization is a challenge. Typically, organization use design interventions, that are design sprints and the likes of that. Interventions can raise awareness and interest withing organization. To talk about integration organization needs to widely implement design through its staff and understands design strategic value and has the capacity to use it. To support moving from interventions to integrations, organization can have design catalyst, a person whose role is supporting organization to integrate design through interventions. (Wrigley et al, 2020.)

It is argued that today, the design mindset and skills need to be dispersed in the organization up to the C-suite level. The needs have shifted from designer companies coming in and designing a new object. Design has a more strategic role these days. It is a difficult shift for both the traditional designers who on the other hand might think that their core capabilities are not in need anymore, as the designers of objects or that other less educated people are coming and taking over their designing jobs. Similarly, for the people in organizations outside the design world, it is a daunting idea to have to grasp something that is so out of their realm of knowledge. (Brown, 2019.)

Through a case study Wrigley et al. (2020) defined four organizational conditions for design integration. The conditions are strategic vision, facilities, cultural capital and directives. Strategic vision implies to companies' ability to set a clear future vision, that the leadership

is aligned to and is forward looking. Facilities indicate weather company has the physical spaces and resources dedicated for design. If not, its design efforts are likely to appear as short term and situational instead of seen as a long-term activity and part of the company's standard operating model. Cultural capital refers to the employees and their knowledge and appetite to practice design. The organization needs to understand why design is important along with how to use it. Directives means that there is a real incentive for the employees to practice design thinking and innovation, by incentivizing the activity. Directives means that it is made clear that people are expected to work with design and are held accountable for doing so. (Wrigley et al, 2020.)

## 3.3. Communication and creating understanding

Design and business can feel like two completely different cultures and realms. These have very different language and norms. People find it difficult to jump between the two worlds. Garner & Evans (2012) suggest that some design practitioners have found ways to jump between these two worlds, while others break barriers and see these two combined. Some practitioners can speak the language of both worlds and even help others to learn to understand each other. A successful designer does need to have the ability to effectively move from one domain to another. Not just from design to business, but other practices such as engineering as well, to be able to have a compelling discussion and make a case for design. While we can expect and wait that other disciplines try to understand the design practitioners' world reality today might still be that designers need to be able to enter the world of other disciplines.

As design is breaking free from the frame of being just a tool for creating a new product, service or interface the more there is a need to be able to facilitate a discussion between different disciplines on what design can offer. As design wants to be the tool for solving all types of problems from societal issues to helping businesses create new strategies, it needs to be able to adapt to other disciplines and explain its value proposition. (Garner & Evans, 2012.)

Kettunen (2013) notes that designers make a lot of effort to fit design into established management paradigms to be able to take part in the conversations. Designers mold themselves to fit in the engineer and business leader discourse to have a seat at the table as early and as much as possible. (Kettunen 2013.)

In Zsifkovits' (2022) study on design thinking communication in projects one the biggest identified hurdle is pitching the use of design for the top-management whose knowledge on the discipline and time to educate themselves on its merits is limited. There is still mistrust on the field, especially in projects that have high reaching aims or aim to change the organizational design, which would require high involvement from the teams. The changes of getting companies with limited exposure to service design to invest in service design is limited.  (Zsifkovits, 2022.)

It is also suggested that the ambiguity of the design terminology leads to misunderstandings in the communication. When the terms are not explicit and the complexity of the field is not understood by the non-design counterparts, the value becomes increasingly difficult to explain.  The different design terms and fields, from design thinking, service design to UX design are using the same principles and methodologies, and in an outsider's view are practically the same, it poses questions where does one start and other begin. This ambiguity without a doubt causes uncertainty in the other side, what are we even buying. It makes the designers life more complicated having to justify what is that they can do and the buyer more confused of what they are getting. Confusion of what am I paying for is never a good position. (Stickdorn, Hormess, Lawrence & Schneider, 2018.)

In the study Zsifkovits (2022) concluded that when the project team is aware of service design before the project, it is more likely to be successful. If time needs to be spent on communicating and educating the project team on what is service design, it is not as successful. Zsifkovits states that when communicating service design one must overcome ambiguity, misleading information, a lack of information, mistrust, and unwillingness to change to convey the possibilities, outcomes, and values the discipline can bring to projects and organizations.

Zsifkovits (2022) also found that the project stakeholders in decision making position were convinced of the need for service designer by examples and information that targeted the

"bottom- or top-line" of a business or/and project. The decision makers are interested in the big picture and business impact. It was also noted that service designers are practitioners, and it was questioned whether they should be the ones pitching the ideas, which requires understanding of sales techniques. (Zsifkovits, 2022.)

Zsifkovits (2022) found the following main issues that caused difficulty for service designers in their communication to project stakeholders

- Becoming a service designer was a practice triggered event
- Service designers were often not the ones to carry out the communication of service design to project stakeholders
- The audiences' concepts of service design were abstract and ambiguous
- Service designers explained service design to project stakeholders through practice/Project stakeholders understood the concept and value of service design after a project
- Project stakeholders did not share the mindset of service designers and were reluctant to open up
- Maturity, expertise, and commitment of the service designer influenced the communication.

## 3.4.  Demonstrating value of design

Being able to demonstrate concrete, even financially measurable value for investments, including design investments is a key theme in the discussion of how to gain companies to adopt design practices.  In the next section we will look into some findings on how the connection between design impact and improved performance has been demonstrated.

Hertenstine et al (2001) did a study to evaluate the value of design to company's economic performance. The study looked into 51 firms in four different industries and used 12 different measures of financial performance. The first steps were to determine the measures of effective design and financial measures. To assess effective design, a panel of

experts was approached to rank the design effectiveness of chosen firms. Firms chosen were well known so the effectiveness of the product designs could be easily assessed. (Hertenstine et al 2001.)

The financial measures selected for the study were traditional financial measures such as cash flow and sales. The challenge with financial measures is in isolating the impact of design on them. There are certainly a number of other factors influencing company's financial success. The research settled on doing a peer evaluation within the industry to limit the effects of other industry related influencers. (Hertenstine et al, 2001.)

The results of the study were as expected, the companies ranked higher in the effectiveness of design outperformed the companies with less-effective design. Some of the caveats of the study are that it looks at a small number of firms and their performance relative to one another. It is not implicating that any firm with design focus will make it. Even more the study cannot show what part of the financial performance is purely attributed to the design focus. Perhaps the companies focusing on design aspects also made good decisions on organizing manufacturing or marketing. Lastly the study points that it cannot say anything about the mechanism that explains the link between good design and good financial performance. (Hertenstine et al, 2001.)

Roth et al (2020) participated in the discussion on design effectiveness with a study the effectiveness of design thinking in product and service development. Despite the growing interest in design thinking concept over a decade, there is little empirical evidence on the actual effectiveness. Roth et al (2020) points out that there is no quantitative empirical evince that demonstrate the alleged impact of design thinking and what mechanism could explain the positive effects proposed. In a study the team aims to do a study to get empirical results of the design thinking impact in product and service design. (Roth et al, 2020.)

The study was made with observing design students and the success of projects. Roth et al (2020) conceptualize design thinking as a set of practices that can be applied in innovation projects. They focused on the fact that design thinking is associated with making individuals feel more empowered and considered the psychological empowerment as an important mechanism that is linking design thinking practices and project performance. The research

question was whether higher level of design thinking practices result in better project performance and if psychological empowerment was the mechanism that creates the impact. Data was collected from 160 project members who participated in 62 innovation projects. (Roth et al, 2020.)

The study shows a positive correlation between design thinking and project success. The effect is through psychological empowerment, suggesting that design thinking is benefitting project success through psychological outcomes. This study shifts the focus from previous thinking where design thinking's impact was seen more due to its functional problem-solving approach. (Roth et al, 2020.)

To complement the need for empirical research and evidence of the impact and impact mechanism of design thinking, Robbins & Fu (2022) conducted a twofold study of the performance impact of design thinking. The study looked at two hypotheses, whether design thinking practices are positively associated with organizational innovative performance and whether the organizational innovative capability mediates the relationship between design thinking practices and organizational innovative performance.

The two research methods were explorative and confirmative. The first study investigated R&D professionals' opinions and perceptions of their firm's performance based on the use of design thinking. The results indicate that respondents perceive that design thinking drives organizational outcomes. (Robbins & Fu 2022.)

The second study on company's innovation performance is a hard concept to measure. Based on previous studies Robbing & Fu (2020) decided to use comparative scales for firm's performance. To indicate organizations innovative performance, two customer centric new product/service development measures were used; user centricity and getting customer input for innovation. The respondents were asked to evaluate their performance against competitors on three-point scale. The results suggest that organizational innovation capacity would mediate the relationship between design thinking and organizational innovative performance. (Robbins & Fu, 2022.)

# 4. METHODOLOGY

To provide new insights on how design thinking is perceived, understood and manifested in organizations today, this study looked to gather fresh insights from the business world. In the next chapters we will look into the research methodology used for this research and demonstrate the steps of the research.

## 4.1. Qualitative research

Research methodology used in this research is qualitative research. Qualitative research still prompts some doubt as a valid method of research, due to the nature of the research, which is a case study by nature, and not repeatable. Puusa & Juuti (2020) bring forward even some doubts that the findings are basically invented by the researcher and the researcher has very significant influence on the findings. The aim of this study is to gather insights how people understand the design concepts, how see it used in their working life ad what kind of attitudes the have towards it, making qualitative research the best approach.

The chosen method for this research was theme interviews. The interviewees were selected due to their professional role in which they do not directly work in a traditional design(er) role but either due to the role, company or through their studies interact and understand design concepts. The interviewees were equipped to discuss the design concepts but also had a view of the topic through business perspective. Insights form the intersection of these two worlds was the aim of the study.

Undoubtedly the number of interviewees could have been larger but is adequate to support the nature of the study which is to explore a snapshot of how design is experienced in the businesses at the moment. Qualitative research does not aim to do statistical generalizations, but aim to describe a phenomenon, give it a theoretical framework or to understand certain behavior. In qualitative research, compared to quantitative, the number of observations will always be smaller due to the nature of the research. In addition, master's thesis is a practice work, where students demonstrate the skills they

have acquired through the education on academic research. It can be argued the that the quantity of the data is not the most significant evaluation criteria, although in research in general, they quantity of data is important, to be able to demonstrate any general nature or draw conclusions from the findings. (Tuomi & Saarijärvi, 2018.)

## 4.2. Data collection

The chosen data collection methodology was partially structured theme interview. Theme interview consists of chosen themes and more detailed questions around the themes. The strength of theme interview is that one can ask more detailed questions based on the answers from the interviewees. Theme interviews have a wide range in terms of how flexible one is with the structure of each interview or are for example all questions asked from all interviewees in the same order or can there be variance based on the situation. (Tuomi & Sarajärvi, 2018.)

In this research the theme interview was more flexible in nature to allow the conversation to find its course allowing the interviewees to freely express their thoughts around the topic to uncover new thoughts and ideas. The interview was based around key themes and questions. The questions guided the interview, but it was free flowing and not intended to follow a specific order. Not all questions were asked from each interviewee if they had already answered the topic among the conversation. Interview asked clarifying questions that were not defined beforehand to encourage interview to go deeper into topics or insights.

The questions start with some background questions to understand the interviewees knowledge and attitudes towards design. This helps the interviewer to understand what kind of backdrop the questions are answered against (VIlkka, 2021). The theme questions are structured around why and how questions, encouraging the interview to describe the themes. Where possible the interviewee was asked to elaborate with specific examples.

Interview questions were structured around three layers and defined through the framework of the research questions. The aim of the questions where to understand how

the persons themselves perceived design and understood the concept. How did they perceive that the stakeholder groups they interacted with in work perceived and utilized design thinking and lastly on a more general level it was discussed how could design be communicated in a meaningful way and what is design role in investment decisions.

| Interviewees personal relationship to design |
| --- |
| <ul><li>Defining design concepts</li><li>How does design appear in current or previous roles?</li><li>What is value of design to the interviewee?</li></ul> |
| **Organizations and stakeholder groups perception of design** |
| <ul><li>What kind of role does design have in organization, on day-to-day and strategy level?</li><li>How do customers perceive design?</li><li>How do you communicate with customers or partners about design?</li><li>How do you valuate design?</li></ul> |
| **Understanding design** |
| <ul><li>How do you communicate about design to people with no design background?</li><li>How could design contributions be made more understandable?</li><li>Does design have role in (investment) decision making?</li></ul> |

Table 1. Interview question themes.

Four in-depth interviews were conducted between December 2022 and March 2023. Two interviews were conducted in person and two virtually, based on interviewees availability. An hour was reserved for all interviews and 3 out of 4 interviews lasted the full hour. In all sessions audio was recorded and the interviews were transcribed on key parts. The interviews were held in Finnish and quotes used in this thesis are approximate translations.

The interviewees are presented anonymously, citing the interviewees education, current job title and employer's industry. The interviewees were all working in Finnish companies, in four different companies.

| Interviewee number | Education | Job title | Employer industry |
|---|---|---|---|
| Interviewee 1 (H1) | • Master of Science in Technology, International Design and Business Management | Area Lead for Digital Services & Partnerships | Manufacture of machinery and equipment |
| Interviewee 2 (H2) | • Master of Science in Economics and Business Administration, Creative Business Management | Business Manager; leading workplace transformation projects | Manufacture of furniture |
| Interviewee 3 (H3) | • Bachelor of Applied Science, Textile and Clothing Engineering<br>• Master of business Administration, Change Management | Consultant; Culture & Change Consulting Lead | Management consultancy activities |
| Interviewee 4 (H4) | • Bachelor's Degree, Pharmacy<br>• Bachelor's Degree, Business Administration and Management<br>• Master of Arts, Collaborative and Industrial Design | Management Consultant; Senior Strategy & Foresight Consultant and Business Designer | Management consultancy activities |

Table 2. Interviewee presentation.

The Interviewees had versatile background and work experience. Two of the interviewees worked in manufacturing industry, looking at things through the lens of a company where core offering is a product. Two of the interviewees worked in management consulting, working with areas were design thinking and methodology is used to deliver the services. All interviewees also had a multidisciplinary education background.

The split of backgrounds gave a good mix of perspectives. The selected method of semi-structured theme interview worked well, allowing the discussion to find its way based on the interviewees experience. As the questions were quite high level and open, it allowed interviewees freely express their opinions and experiences, giving valuable insights on the themes.

## 4.3. Data analysis phase

Successful research demands that the data and findings can be elevated to a more general abstract level to be able to make broader assumptions, instead of just reciting the findings of the particular case study (Puusa & Juuti 2020). The aim of the analysis phase is to create a meaningful entity that allows the researcher to make conclusions on the subject at hand. This simplifying step is inevitable and necessary to allow any meaningful findings to be made from a vast and non-linear data.

Practical steps in the analysis phase are

- Selecting the subject of analysis
- Familiarizing with the data
- Simplifying data
- Categorizing data into themes
- Interpretation.

In practice the phases intertwine and the researched can go back and forth with the phases. (Puusa & Juuti 2020.)

Similar steps for data analysis are describe by Tuomi & Sarajärvi (2018):

1. Decide what is interesting in this data and make a strong commitment
2.
    a. Go through data and separate and mark the topics that are included in your area of interest
    b. Leave everything else out of this research
    c. Collect the marked items together and separate from the rest of the data
3. Create categories and themes
4. Write a summary

The research data often includes topics and findings that are interesting, but not relevant for the study at hand. It is important to be able to focus on the relevant findings for the specific study. (Tuomi & Sarajärvi, 2018.)

One of the ways of analyzing qualitative data is to find themes in the data and categorize them. This can mean categorizing them under pre-determined categories or more loosely defined set of similarities that emerge during analysis. Depending on the research it might be meaningful to even give the categories quantitative values. The main aim is to find repeating themes from the data for later stages of making interpretations from the data. Categorization is one the most critical phases of the analysis, as in this stage the researched decides what phrases and points belong to the same category. This phase is very subjective part of the research. (Puusa & Juuti 2020.)

As a next steps the categories are further gathered together as header themes and this can be continued as long as a meaningful general level is achieved that helps to elevate the case study into a more general level meaningful to make interpretations and draw conclusions. The aim is always to be able to find answers to your research questions. As details of the data is lost in the categorization exercise, often direct quotes from the data are used in the research to bring the flavor and to demonstrate the authenticity of the data and interpretations.  (Puusa & Juuti 2020.)

Inductive content analysis can be described through the following three steps

1. Reduce – Remove unimportant information for your current study
2. Cluster – find similarities, or patterns in the reduced data. Data points describing similar themes are clustered under same categories and further down to subcategories.
3. Abstract – The aim is to move from qualitative data points, f.ex narratives to theoretical concepts and interpretations.

(Tuomi & Sarajärvi, 2018.)

The interview answers were analyzed through the research questions. The recordings were transcribed and points relevant to the research questions were separated and brought into

an excel file. Through further analyzing the answers they were separated into common themes derived from the research question. Direct quotes were selected from interviews to bring to life findings.

| | Interview Questions | Question | ID | Finding | Theme | Question | ID | Finding | Theme |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Osa 1 - Henkilön tausta | | | | | | | | |
| | • Koulutus | Ja aloitetaan susta niin jos sä kerrot lyhyesti mikä sun koulutus on ja mikä sun ammatillinen? Taustaan eli millaisissa rooleissa sä oot toiminut ja millaisessa roolissa oot nykyään? | I1Q1 | Education in cross dicipline | Cross diciplne education and understanding | Koulutus ja ja ammatillinen tausta. | I2Q1 | Education in corss dicipline | Cross dicipline education and understanding |
| 4 | • Ammatillinen tausta, eli minkälaisissa rooleissa on toiminut ○ Nykyinen ammattirooli | 00:06:43 Puhuja 2 OK. Haluatko sä kertoa nyt tuosta sun nykyisestä ammatista roolista vähän spesifimmin eli mitä sä 00:06:57 Puhuja 2 Teet tällä hetkellä. | I1Q2 | vastaa koneen kaikista digitaalisista ratkaisuista | | Haluatko sä avata ihan pikkaisen enemmän sun nykyistä roolia minkä tyyppistä työtä se on? | I2Q2 | Johtaa työympäristömuutos projekteja | |
| 6 | Osa 2- Miten haastateltava ymmärtää muotoilu käsitteen | | | | | | | | |
| | • Mitä muotoilu ja muotoilu ajattelun käsite tarkoittaa haastateltavalle, löyhä määritelmä (design & design thinking) | Jos siirrytään sitten siihen muotoiluun käsitteeseen niin. 00:08:26 Puhuja 2 Muotoilu tai muotoilu ajattelu, niin mitä se sulle? Mikä olisi sun määritelmä sille? | I1Q3 | Parantaa käytettävyyttä, tekee ihmisläheisemmäksi, toimivammaksi, hienommaksi. Optimoida, parantaa. Asioita rajasista ihmisi silmille hiädelle ja mielelle. Prosessi ja softapuoli --meidän elmässä niin plakon lähemmin kaikki tällaiset käytettyvyys kuin että tässä hieno poteaa. = palvelu- ja UX desing. Jos mä en osaa jotain käyttää taijou oppi ei toimin -- mä lopetan sen käytön ja se ei ol omun vika että mä en osaa vaan se on sen asian suunnittelijan vika. Kun nyt kuitenkin on jotka on intuitivisia. | Definition of design parantaa käytettävyyttä ihmisille palvelumuotoilu ja UX jos on osaa käyttää, suunnitelijan vika | Sukelletaan vähän siihen, että miten sinä henkilökohtaisesti ymmärrät muotoilun käsitteen, eli mitä muotoilu ja muotoilu ajattelu käsitteenä tarkoittaa sulle ja niinku englanninkielisenä terminä design ja design thinking. | I2Q3 | Muotoilu prosesi ja muotoilu tuote. Muotoilua on joka paikassa konkreettista ammatillista muotoilu. Palautettu ja muotoilu toimii suppilona joka rajaa lopputulosta. | Deginition of desin Design is everywhere |
| 7 | | | | | | | I2Q4 | muotoilussa samoja elementtejä kun luovuudessa, mutta muotoilussa on kaupallinen tausta ajatus | Design, innovation, creativity. |
| 8 | • Minkälainen suhde haastateltavalla on muotoiluun | 00:10:42 Puhuja 2 Tsukaloidin korkealantoizet kysymys, mut mikä sun suhde on muotoiluun? Sulla on kuitenkin niinku koulutus koulutukon ksutta ja työkokemuksen ksutta niin kun. 00:10:53 Puhuja 2 Mitä mitä tunteita muotoilu sanassa herättää? | I1Q4 | se on mun mielessä ihan koko ajan. Sliden tekemisestä siihen miten --motivoi ihmisiä jopa siihen asakka niinku että miten mä muotoilen mun ajatuksen ja miten siitä tulee mahdollisimman ymmärrettävä ja urittää niinku viedä sitä asiaa tosien kontekstiin. Visuaalisuus,muisti in visuaalinen. Kauniita asioita | muotoilu on kaikkialla | , että mikä sun suhde on on muotoiluun tai mitä se merkitsee sulle? | I2Q5 | helppous ja intuitivisuus. Tapahtuu automaattiesti ja kaikki on helppoo käyttää ja omakuu. Käyttämisen helppouteen liittyviä asioita. | How does desing manifest. Easy to use and absorb. |
| 9 | • Miten muotoilu näkyy nykyisessä työssä | 00:12:13 Puhuja 2 Sun nykyisessä roolissa. Niin miten muotoilu näkyy siinä konkreettisesti? | I1Q5 | firmassa palvelumuotoilijoita Sisäiset prosessit | palvelumuotoilijoita firmassa muotoilaan myös sisäisiä prosesseja | Sitten jos mietitsin tuota sun nykyiseä ammattia. 00:12:31 Puhuja 1 Niin miten muotoilu näkyy sun nykyisessä työssä sun sun elämässä sun päivittäisyössä työssä | I2Q6 | asiakkaiden kanssa jatkuva osallistava prosessi. Sisäisiä juttuja, lanceeraus. | Designing with customers. Internal prosesess design |

Picture 5. Content analysis process.

In the next section, the findings are presented through the research questions.

Research question 1: How well is design thinking as a concept understood among people who are not directly part of design community?

Research question 2: How can the value of design thinking be communicated?

Research question 3: How is design thinking visible in organizations?

## 5.  FINDINGS

## 5.1.  Understanding design

Discussion on the design thinking field literature and research reveals the complexity of defining design concepts even by the design practitioners themselves. The same complexity was re-enforced in the interviews. When the interviewees were asked to provide a loose definition of design and design thinking, the answers were varied, high level and interviewees had challenges clearly defining the concepts. All the interviewees gave definitions that had many of the elements quoted in design research and literature; user centricity, enhanced usability and optimization while understanding the larger body of dependencies. Design was seen to have a commercial connotation; design work needs to be commercially viable and understand commercial needs and restrictions. Design was seen both as a final improved product but also as the process itself. It was also contrasted to similar frameworks describing creativity. Design is also something taken for granted, good design is expected and poorly design things quickly discarded. The ambiguity of the design definition and multidimensional views were very visible in the definitions discussed.

*"Design is understanding, purpose of use, needs and life's realities, understanding production realities and bringing that all together in a way that is actually also financially viable to do." (H3)*

*"Enhances usability and makes more human centric, more functional. Optimize, improve things especially for the human eye, hand and mind. Even simplify.*

*-- If I can't use or some app doesn't work, if I can't immediately find something, I will quit using it and it's not my fault. It's not that I can't but the things design is wrong. There are things that are intuitive, people know how to use them." (H1)*

*"Probably due to my recent education and the frameworks used there on creativity - - design means similar things to me as I see creativity frameworks. So design is many different levels, how I see it.  There is the final product, creative product or design output and then there is the process itself. And then how individual perceives different things and categorizes them*

*into certain entities, I see this as – individual level design. So kind of like these three different elements. It's kind of like design is everywhere.*

*And then more concrete professional design is that existing pieces are developed into something new and during the process it's reflected on things around, potential organizational things or client or societal matters and through that you kind of get feedback and then design is kind of a funnel that constantly defines it.*

*And why this type of answer, it's because I see lot of the same things as in creativity and innovation process. Design in my view is just a more commercial version." (H2)*

One of the interviewees articulated well the complexity in the design field, where the design professionals have challenges in defining their field and different "isms" compete while the field finds it shape. Due the misalignment or confusion within the field itself it makes communicating the design field to outsiders also more difficult. If every designer gives a different definition of the services they provide, the customer side cannot be expected to have a very enlighten opinion on what they are buying.

*"I notice that for a lot of people design seems to mean polishing the surface and giving final form, conceptualizing. And sometimes it's seen as a process, that it repeats certain steps, and it only has certain methods. I don't believe in this philosophy at all. And then we come to the moment that bugs me, that how could we communicate the meaning of design more structured, better and clearer, is that design can be aimed at many things.*

*-- So one of the biggest challenges in defining design clearly is our own inability to communicate clearly differences between different design 'isms', what is your professional title, because all of this is completely mixed up.*

*-- can we just leave out this role discussion and let's say I am design full stack; everything goes from strategy scenarios to UI design --*

*We (designers) can't ourselves say what is our role and where our design work focuses and what are we trying to achieve through the design work as everything is so completely mixed up and the 'isms' are still at the moment taking shape, it's a bit like art for the artists. We are slowly starting to understand that there are layers and ambiguity. The other side*

*(customers), it goes way over their head, they say about me 'when you bring in the service design methods', shining methods that we can glue on top…there are strong challenges in putting this into words." (H4)*

In the interview answer the frustration on the difficulty on articulating what the design profession can provide was evident. The design professionals are battling against misunderstandings and misconceptions of the design professionals and their capabilities. By the general public designers are still often seen as the final from givers, people brought in to pick the colors and fonts. Designers need to spend a lot of time to demonstrate what they can offer and claim the seat at the table right from the start of the conversation where visions and strategies are set. To do this, designers need to speak the language of the opponent's field.

*"I had a moment recently with a CEO with technical background who were a subcontractor in manufacturing industry. They wanted a growth strategy and yes I can do this, I understand your industry methods and the things they do and can challenge them, better that some of my colleagues that might be more credible in their eyes through some sort of technical or financial background. I had to pretty strongly claim that I actually understand, I understand the moment where their success is made from planning to the way the optimize their production. - -I had to talk a quite a bit that engineer-to-engineer language and fight through to get the credibility, because the starting position was that ' so you are the visualization person then for the end result, can you draw, we have this brand image here…'. And I say thank you very much, before we think about the visuals, we might want to think about the corner stones of success. And in these moments in the beginning, I can see that they don't speak TO me, but the answers are pointed to persons that are believed to be credible and I need to fight my way in through my sharp arguments and show that I actually do understand what is going on." (H4)*

*"I was in one of the large publicly listed companies and I had worked with them for year and a half already, -- and the digitalization leader introduced me -- we had done successful projects and done digital visions and roadmaps and development models, improved ways of working, we had substantial results, and he introduced me to a wider audience of 80*

*persons saying that here is our artist. -- I just was like you can't call me an artist, I've solved your business problems, in your benefit and now you call me an artist?!" (H4)*

When asked what design meant for the interviewees, a very pragmatic and practical approach was highlighted in the discussions. Design is a tool used to perform their work and for the interviewees in a more design flavored role it is a key tool.  But also the interviewees in more business roles described using design in their everyday work, in how they formulate their stories and output to people to convey the right messages for example. The interviewees minds were also taken from professional setting to a more personal level, where design meant ease of use in everyday life.

*"Pragmatic – practical approach to things, the goals can be quite high level but the actual practical work is pretty hands on. Understand people, understand goals, get there and possibly change your mind 5 times on what works before you get there, but be ready to release your creativity on thinking how do we get these people to do what is required of them." (H3)*

*"It's on the mind all the time – in what I do at work from creating slides to how I tell or motivate people and even to how I design my thoughts and make it as understandable as possible and try to take it into other persons context -- what do you think and how do I get this message across to you as well as possible." (H1)*

*"-- it means in everyday life ease and intuitiveness. Whatever it is, that the design is successful. Service or product, when you don't have to think but things happen automatically and everything is easy to use and take in." (H2)*

## 5.2.  Understanding design value

When discussing the value of design, it is described as irreplaceable. Design is seen as a set of tools that can help to inspire people to reach new heights. But beyond being the inspirer it was seen very important to truly understand the business requirements of the organization and create long lasting value. It was observed that the true value and impact of the design work is seen after a while, weather the implemented ways of working are

actually integrated in the company and has long lasting impact. There is a risk that the work is left as one off or separate in the guidance of the expert designer or consultant and does not get incorporated in the ways of working in long term.

*"Ah its irreplaceable. Particularly in freeing thinking and accentuating playfulness and in creating new. How you can through the methods of design release rutted and siloed and stuck ways of thinking and then you get away from those and you typically find incredibly important things in the organization as long as you can create the spirit, so yes it pretty irreplaceable." (H3)*

*"Ensuring impact – and I say impact because in my personal profession what bugs me a lot is that I can be an inspirer. I can be inspirational. I can make invisible visible, conversational, experienceable and decidable. But the thing that bothers is that they all can be made to happen with the design methods, but very easily they will stay as excitement, buzz and brand development, without diminishing brand building. But what fascinates me is that my work has an actual meaning, where it is strongly linked to understanding business requirements, understanding the real context and – organizations change readiness and change management at the same time as the design work is happening.*

*-- I get my reward and satisfaction only when I call the client six months or a year later, ' hi, what's up?' and the client completely exited tell 'yes we were in Italy and we update the strategy again and we used all the same models' and through this I can see that the tools that we worked on together, they are still in use and they have updated things on their own. They have thought through the requirements and assumptions and then I can give myself a pat in the back. Well done, now there was something that actually mattered, or I can see that their revenue has grown couple millions. Great I did something. I can claim all this success but at least I can see that the work done was not completely separated, it didn't go into desk drawer, but it led to something and there I think design has genuinely measurable and significant value." (H4)*

In the design value discussion design's all-encompassing nature is brought up. Design is seen as integrated and essential part of any business, as without good design there is no successful products or services nor employee experience. Good design is a must for a successful business. This could give the impression that before design became prominent

field there was no successful businesses, but it was said that we have just started to call it a different thing. We have not invented anything new, but it has just been given a new framework within design.

*"—this might sound similar to a saying 'data is everywhere', it's a bit the same with design, 'design is everywhere' -- a bit like without good design, at least when you think about your own work, without good design there is no business. Without good design there is no successful client experience. Without good design there is no good employee experience. So in a very vague way, if there is no design then basically nothing happens. Because if you do practically anything, you are in contact with other people or stakeholder group or customers, there is some sort of design work in the background. So perhaps in the last 10 years these things have been started to be phrased right. I see it in a way that we have not actually come up with anything new but now there is a constructive word for it." (H2)*

Different stakeholder groups understand and value design differently. From the manufacturing industry point of view, internal stakeholder groups and especially the leadership, it was seen that design has a very strong financial driver and it was not always appreciated how much effort good design requires. In a company whose products are also renowned as design products, design is appreciated throughout the company, but a design lead was just recently added to the leadership team.

*"Internal stakeholders in a company like ours, whatever the team, appreciates design greatly. -- Our management, I actually think when considering our stakeholder groups -- I feel that our management appreciates design the least. And now if you ask why it is so or how does it show, perhaps it's managements understanding of how much certain design processes take time, resources, money. You can't always invest in everything. So that does not mean in the management should throw more money at it. But how is design appreciated -- in storytelling and communication, in those things I don't feel it comes through enough, especially in a company like ours where design happens in so many different layers, and on different levels of understanding. Luckily it's happened in the past year that in our senior leadership, there is now design lead who is responsible for service and product design processess and overall the brand and design in the company. So perhaps through that*

*person it will spread in the rest of the leadership team. I would say that the management is furthest away from all of this. (H2)*

It was also emphasized that leaderships interest was heavily guided by motivations ultimately driven by financial metrics. Better design means higher price point, improved manufacturing process, cost cuts or products that are more appealing to the customers.

*"Business leaders' point of view is very financial. Can we sell them cheaper or with better margins? Does this help to achieve that." (H1)*

*"How do we get the product delivered or installed faster and cheaper and is more user friendly and environmentally friendly --. (Leadership) sees the value, but in the end the value comes from that we get more money. Or are faster. -- And in a capitalistic world I think it's completely right. - - People can and could learn to commercialize things, but it's a red flag, it sucks that people thing that you lose or you diminish your value when you commercialize something. - -How did the definition of innovation go. Was it so that it needs to make money for the company, it has to has x amount of users and -- third that you can say that you invented something new, that people actually uses. It's obvious that that's how it needs to go " (H1)*

*"Whether you design for you organization internally some processess, there are always LEAN thinking or something to push it what the aim of all it is. You want efficiency, savings, sometimes better employee experience or satisfaction, reduction in sick days, but they all can be measured in money. So in some way is it quite unambiguous that design has a commercial echo." (H2)*

When discussing client perception, and weather they value design, it is clear that the interviewees feel it is appreciated.  It is seen that customers value highly a well-designed product or service experience and are willing to pay for it. Especially if the customer is part of the design process and sees how much work goes into it, it is seen that the value in the customers eyes is increased.

*"Customers understand the value of services, especially when they get to experience good design, the experience immediately triggers it. -- You can make customers aware what is*

*the difference of good and bad design. And even more important is to include customers in the service design process. Then they give their own input into the design process and are part of it. It's the same with all inclusion, then they are more committed to buy it and they also along the way adopt a lot of information on the design process, so they understand how much work it takes and what are all then things that are considered." (H2)*

The value is also manifested in financial values for the customers through saved time or lower spending over time. Value can also be manifested through non-financial measures like environmental impact or acquiring specific knowledge that the company doesn't have inhouse.

*"For services yes, because it's consultative services so saved time is obvious, and perhaps the improved employee satisfaction in their organization, lower number of sick leaves, things like this. And then on (product) side it's even easier to count the euros, when you acquire this or that it will last a long time and it means that you don't need to invest in it in 5 years. Green values, circular economy, carbon footprint measures, saved time, complement the missing fields in client's knowledge with our knowhow. "(H2)*

Based on the interviews stakeholders do appreciate the value that design brings in many ways, direct and indirect. When discussing how to communicate the value gained from design or demonstrate it to anyone who is not yet convinced, the focus was on storytelling, making design benefits visible through everyday examples and opening the design process that can seem like a black box. It is acknowledged by the interviewees that you can put monetary value on the problems that good design will solve, but the discussion is had through showcasing the benefits through stories rather than putting figures in excel file. People have different motivators for actions and one needs to understand what is that buyers need that you can solve through design approach. It was also challenged weather it is it really through hard facts that organizations make decisions, or is it more driven by the feeling in the sales situation.

It is also seen that there has been a shift in the mindsets in the past decade. People in leadership positions has changed to a younger generation, that appreciates different types of approaches and understand the inherent value of design without having to define a monetary value for all of it.

*"I don't communicate design value directly as it's a thing that is under the surface. But I might talk about making tacit knowledge and skills visible or something like that, although the point is that we are using design methods to get these things out. – But I don't put monetary value on it as it's really hard to calculate." (H3)*

*"If we go back like 6 years, leadership styles were a more authoritarian and everything needed to be argued through quarters, we had quarter economics period about 10 years ago, and nothing else mattered than the excel files. – after that the way of working in the field was more liberated. Now when we have younger people in the decision-making positions, they understand the value of playfulness through their own upbringing and it's more in their DNA and I think that it's more foreign these days if you are not playful and innovative and progressive, but you'd only argue things based on money, I feel that is more foreign these days "(H3)*

*"Everything can be calculated in the end. You can for example calculate the cost of a slow system implementation to the point when people are ready to use it. – you can make an excel out of it." (H3)*

*"Best salespeople can read people and everything is interaction with people. If there is prejudice – some people need to be educated and inspired. It's easy to calculate a monetary value for productivity if your employee can (do a thing easier). It's easy to calculate. It depends on a customer what hook to use. Is it money or is it fear of missing out or something." (H1)*

*"I'd probably start with the things they are wearing or cell phone in their hand or things around us. Or what is in their daily lives. – take it to that person's context, how to inspire the people -- that everything they do has design involved in good or bad." (H1)*

*"-- for me design is in everyday life, easy to use and intuitively. If someone is arrogantly thinking that design is completely unnecessary fuss, (I'd say) well do you buy the milk carton that has the traditional spout or then one where you have screwed on cork? Are you willing to pay a bit more on the one with a cork? For a person like this I would start to open up things like this, because these are very close to all of us.*

*I think that with these simple examples you could already have a good conversation and have "ahaa" moments with a person who doesn't have much knowledge. – I don't think you need to much convincing; I think design is everywhere in our everyday life. And then when we move to services and service design, I'd see in sales language that the best way is value based on conversation, where you stir the discussion partner to think that also services have top notch design and it's worth paying for, for example by asking when have you experience bad service the last time and in what connection." (H2)*

*"Would be very interesting to discuss with a buyer what influences more, design or the feeling you get during sales process. It might be fun to hear sometimes that design impacts more and these things and decision making is not just based on feeling but there would be actually criteria. "(H3)*

## 5.3.  Design in organizations

When discussing the interviewee's professional experiences and how design thinking and design tools are present in their current organizations, it is clear that design roles and methodologies are more prominent today. Manufacturing companies have industrial and service designers working on product and service design, but design methods are also used to improve internal processes. Employees working in client interface participate in service improvement and see themselves very much taking part in design work. In addition to providing feedback to improve the products and services itself, it was also seen as participating in designing and shaping the organizational culture. For another interviewee design wasn't present in a prominent, outspoken way but it is a tool to help people grow to new heights, influencing their capacity and capability to come up with new solutions. In all of the answers it was highlighted that there are some clear outspoken and visible design activities, but design is seen also very much as a background influencer in many activities that aim to improve things.

*"We have service designers in the firm and we work with them when we are designing something new -- I am asked to join to give business perspective—this I see more as designer designing, product design and industrial design.*

*But sure we also have very well design processes and -- a lot of people who are responsible that (internal) processess are built in our way. That is very much design work." (H1)*

*"It shows so that I sell the concrete design outputs. But also if you think design as this participatory process, then my clients through me all the time participates in our internal design processes. So we take feedback to our designers constantly on what happens in the client interface of course. If you especially think service design then the guys who are responsible for that are themselves really close to the client interface. And I feel that the design process is such that you can in the work itself create projects when things need to get done and do a launch etc., but that I see more as continuous process.*

*-- 30 or 40 percent of my work is sort of internal development work. – I strongly see that as design work, what I mentioned earlier you are the messenger in the client interface towards your internal activities and even design them as you go, even the organizational culture, with your own work. "(H2)*

*"These days I design more atmosphere and emotions and it's not very visible. Well it shows in that people can produce much more than they thought in their own heads. It f.ex shows in good mood, it shows in belief and like purposeful life and fearlessness, boldness. It shows in things like this, but they are very abstract things in where it shows." (H3)*

Interestingly enough although companies had dedicated designer roles and functions in their organizations, some still saw a challenge in how those capabilities are used. On the surface design is incorporated in the organization and product design process, but the design mentality has not yet infused in all layers of the company. If the organization at heart is an engineer focused technology company the organizational culture is still dominated by these characteristics. This was described through product development process, which is still very much technology capability driven. If something can be technically produced, it is put into the product. Even if designers are part of the product design process, one still ends up with products that are filled with all possible features instead of truly assessing what the customer need is.

*"We have 'Nokia syndrome' in our company. We fill a really good product with half of things you don't need. We stuff in as many things as possible when we like to do something. Cool*

*things, features, features first for engineers. We listen to what is asked and we literally do them all. It's not structured, now we have these 100 asks and our competitors are offering this, so we need just that. It's not structured well enough in my opinion what we actually should build, what does our clients need and our users. It should be taken one or five steps further, the listening of needs." (H1)*

Organizations do not only have inhouse designer roles and design towards their customers, but they are also heavy investors in design services. The capabilities of buying design services or understanding designs impact in other investments has a key role. Most of organizations are dependent on technology enabling their daily work and companies do constantly major IT investments. After Covid everybody is adapting to new hybrid working world and figuring out the balance between offices and remote work.

The interviewees were unanimous in the fact that design should play a role in organizations investment decisions and that most of the time it is already there. Perhaps not in an outspoken way but written within the requirements. When discussing technology landscape, one challenges brought up is that while design aspects are part of the requirement list in large investments, there are challenges in how designers and substance area experts work together in bringing the best possible design alive. The challenge appears when the designers doesn't have deep enough knowledge on the substance area and can't challenge how it should evolve. On the other hand the substance area experts who can talk about the process in detail and envision future ways of working don't have the design capabilities to articulate that into a functioning process or system.

*"I have been part of preparing these large projects. And I have been able to concept what does future of work look like in this workplace and how do we create value. -- in the background there is an idea on what is the workflow, what is automated, how is data enriched and by who, who sees and where is it placed… and then all of that requirement gathering that has design methods a that background, the design works is hidden and distilled to that I say information entry needs to be easy.*

*The challenge is that when we talk about these requirement lists it's a very bad design artefact. It's not a design artefact it's a list made by engineer and it loses the spirit that service design tried to achieve, which was the idea of a flow--." (H4)*

*"—Philosophy was right and started with that people are the ones doing the work, not the user interface, so the interface needs to be completely dependent on what kind of behavior we are after. But there the problem was that the designer didn't truly understand what was going on inside the head of the expert and what should be going in inside their head. What the expert doesn't realize it should let go. "(H4)*

*"On another project I saw very tangibly, that in large project you think the salvation is that you have the substance knowledge and you understand what should be going on the persons head. But the challenge is that this person is not a designer, that could imagine it into a user interface or communicate it into a process, argue the business value and solve conflicting processess joint design, alignment and harmonized solution. So the answer is that (experts) who have been fast forwarded to user interface design and design professionals do not bring the value, because they don't have the necessary tools or mandate to start harmonizing discussion. The content created is disoriented and conflicting. Everyone does their dream project, dream system. There are no uniform design drivers and the design knowledge needs to come in in a way that there is a person facilitating these kinds of things, and the design drivers are internalized and they create cohesive big picture. "(H4)*

Design has a role in organizations, and it can be seen in many different layers in the company structure in concrete functions but also in more subtle ways. When discussed if design was seen in companies in strategy level, the answers were quite unanimously no. Design focus or design thinking was rarely seen as an outspoken statement in strategy documents. It was more often seen as a sentiment that is incorporated in the company, but that is not defined or detected strongly enough to make it to the strategy documentation. The companies that do have it are very strongly product lead companies where industrial product design has been the corner stone of the company's success. For others design is present in a more subtle ways in their strategy papers.

*"Not at all, not at all. There are for sure some, but I see this immediately as an iceberg pyramid picture, where there is the part you see and then the part you don't see and these design things are more often those values under the surface. Tacit ways of working that have been built over the years into the organization." (H3)*

*"It's extremely rare that it shows as a purpose level declaration. Then the company often is – end use product driven and it might be – earlier product design form giving has been the basis of success, which means design is seen as a significant part.*

*Another perspective, where it's (design) seen strongly as a part but is not quite verbalized – is that our communities design services can create significant emission or material savings, so all of a sudden design has a functional connection to the company's key message, but it doesn't say that 'design with us', but it says 'inventions are built together'. It's worded differently but it shows already a strong designs functional influence.*

*-- most of the companies are in the third sector where design doesn't show. They don't buy design from me, they buy certainty that our strategy is successful and works in different environments or that our company is ready for thing X or Y. So all of a sudden they buy through the value that design can bring. – in core value statements or strategy, it's at most mentioned as superficial comment as user friendliness or employee experience, but these are more unconnected anecdotal and often not connected to the company's true core business, that do not guide strategic decision making." (H4)*

*"As you said that if the design is product design, then is shows strongly for certain companies and they claim design. But then user experience development, employee experience development, that doesn't reach strategy level, but in the whole strategy documentation, where you tell about the change journey, where are we going, it's included, but it's not in the most important main crystallization. -- These are not front and center, but they are included in the background." (H4)*

In the earlier comments the interviewees brought up that there is a generational shift in companies' leaderships. One of the interviewees noted that, even in their heavily product led company a design lead was added to the company's leadership team just recently. As new generations raise to leadership positions inevitably there will also be a shift in perspectives. It is also visible in the educational background of future leaders, in the past decades multiple cross-disciplinary education programs have emerged combining for example design and business, like the degrees of two of the interviewees. This inevitably supports having a more diverse background to leadership teams, at least from educational perspective.

*"I think especially in Finland it's a bit too strong, or comes up too strongly, that we are an engineering country. - - Things have improved but it's the middle-aged man who is in the leadership and that generation, they don't have that idea, and a lot of them do a really great job but it would not be bad idea if they would have a sounding board." (H1)*

*"It was 12 years ago when I was in the IDBM program and there was nothing like this in Finland. How much it has changed during this time, we have service designers in practically every company." (H1)*

*"--When next generation starts to come in... it's developed and during the past 20 years different types of people have been hired, myself included." (H1)*

Diversity is promoted heavily these days to support having the best outcomes. More perspectives, more diverse ideas, better outcomes. In the design community there is strong sense of pride in the discipline and what it can do practically in any area of life and Finland among many other nations has a national program to promote the use of design to boost economic growth. Is design the cure for all? One of the interviewees discussed the need for certain egoism in which ever field you work. This shows also in organizations, where obviously all disciplines must be promoting the value of their work. Engineers will be proud of the contributions they make in the sense as designers. But the idea behind diversity is that the magic happens in the cross-section of different disciplines. So how necessary is it to claim whose discipline has all the best tools and what is it called, if we could just enjoy the outcomes.

*"– certain polishing appearance or egoism is needed, but I don't think that it's purely associated with design but weather you know the latest on (certain technological aspects). It's more about ensuring your leadership mandate. And how you decide to do a claim that, some talk about being technological front runner. You can look up in google how many Finnish company says that.  -- all there DI and people with tech background says in their own leadership position that they are extremely important for the company." (H4)*

*"If you interview anyone that has a title with head of design or director of xx, especially if they are on the leadership team, they will go on and on about (design), because they want it egoistically. They want that design penetrates the whole company, but if we really think*

*that is it that you want to be validated professionally or that is it that 'I'm important, let me be seen out there'. Is it more of that? Or is it really so that designer's greatest value is to be pragmatic solution centric problem solver, or is it designs actual value to be egoistically in the center of attention? This is my 'isim', shut up. Look at this, I made this. Or is the value of design that the methodologies are there on the background and everyone feels so powerful ownership that the surface of the story can be something else? This is the dilemma that I myself am faced with. – If it's important to claim things in the name of design, that it was there to make this happen. Who cares? That doesn't have any value to the employee, how the engagement was achieved. In many companies they talk about CEOs of their own work or something. – I could do a huge speech, but when I actually look at that person – I made you the program which made you the CEO of your own work, isn't it wonderful that I am a design expert. No I say isn't it wonderful that you can focus on your own work, I talk about impact. The most important dilemma where I have my self started to turn to the idea that perhaps I am just a humble servant that makes it happen "(H4)*

## 5.4.    Summary of findings

In the past decade design has gained more foothold not only in discussions but also in organizations. The research revealed that people find design to have significant role on personal and organizational level. While design has found its way to organizations also in Finland the maturity of design roles, practices and use can still be improved. The ambiguity that still is present while the design field is forming its cross-discipline frame has a part in explaining the maturity level in organizations.

| Research question 1: How is design thinking as a concept understood among people who are not directly part of design community? | |
|---|---|
| Defining design | • Design definition is ambiguous, but the definitions given had some of the elements attributed in design research and literature; user centricity, enhanced usability and optimization while understanding the larger body of dependencies. Focus is largely on user centricity. |

| | |
|---|---|
| | • Design field itself has challenges defining the work, making communication ambiguous and confusing to people outside the industry. |
| | • Designers battle against misunderstandings and misconceptions; they are often still seen as purely the final form givers. |
| Design meaning for interviewees | • Pragmatic and practical approach was highlighted in the discussions. |
| | • Design is a tool for thinking and presenting thoughts. |
| | • Design is visible in everyday life as intuitiveness and ease of use. |

**Research question 2: How can the value of design thinking be communicated?**

| | |
|---|---|
| Value of design | • Irreplicable in adding value in organizations. |
| | • Importance of ensuring long term impact through business value, new ways of working are truly internalized. |
| | • Design is everywhere and without good design there is no good business. |
| Leadership understanding of design value | • Company leadership does not always understand the amount of effort good design requires. |
| | • Leadership interest heavily driven by ultimately financial or performance measures. |
| Customer understanding of design value | • Customers appreciate good design. |
| | • Can be made aware through taking part in the design process |
| | • Financial and performance measures also key drivers. |
| Communicating value | • Helping people understand design through storytelling and opening up design process. |
| | • Top management is interested in business improvement KPIs and financial metrics. |
| | • Generational shift in past decade, supports the shift towards storytelling and understanding the inherent value in design. |

**Research question 3: How is design thinking visible in organizations?**

| | |
|---|---|
| Design presence in organizations | • Companies have design organizations and roles, but design is also visible in internal process design and in ways of thinking. |
| Maturity of design practices | • Organizational culture seems to still be dominated by engineering culture. |
| | • Organizations as buyers of design services can still be improved. |
| | • Reasons for failing to incorporate design capabilities in larger investments are in combining in house process competences with outside design capabilities. |
| Design on strategy level | • Design not manifested on strategy level. |
| | • More prominently worded in companies with product design success as a background. |

| Organization structures | <ul><li>Generational shift happening in leadership roles.</li><li>New forms of multidisciplinary education support diversification.</li></ul> |
| --- | --- |

Table 3.  Summary of research findings.

# 6. DISCUSSION

As the research findings demonstrate the ambiguity in defining design as a discipline still creates a challenge for communicating and demonstrating the full value design can offer. As UK Design Counsil's (2020) report states misconceptions and confusion are the biggest barriers for people to not use design. Barsalou (2017) reflects that as designers are continuously absorbing new methods and theories into the filed on how to practice the profession better, therefore trying to define design thinking is like aiming on moving target. Barsalou suggests that perhaps it would instead be better to let go of the notion of finding a firm definition and embrace the process.

In the next section we will discuss the research findings in dialogue with earlier research. The section is structured around the research questions.

## 6.1. Understanding design

Research question 1: *How well is design thinking as a concept understood among people who are not directly part of design community?*

The research focused on people outside of the design professions, to gain insights from the non-design community on how people perceive design and design thinking. The research findings show that the basic elements of design discourse are known and in peoples' minds at the heart of it is user-centricity. It is manifested by asking feedback, understanding end users' needs and creating products and services that are intuitive and co-created with stakeholders. It was visible that people could also understand that design methodology is not purely form giving, but the contribution is also in the methods and process itself which can be applied to any number of challenges.

The interviewees all had some level of personal interest towards design discipline showcased through their studies. Due to this the interviewees do have a head start in understanding the design concepts and possibilities. Even if not in a design practitioner role working with the tools daily, the interviews did engage in design activities actively. In the interviews it became clear that other stakeholder groups without exposure to design

through studies or work experience are not as well introduced to design and its benefits. These stakeholders seem to have the traditional view of designers; designers are form givers, brand designers, artists. Design in many minds is still trapped in the visual arts family. As studies show design continues to be seen to be mainly about aesthetics or refining an end-product (MEE, 2015; UK Design Council, 2020). This creates a challenge where design practitioners need to spend a lot of energy showcasing the benefits design methodologies can bring, designers' ability to understand the key differentiators in different fields and the concert value design can bring, to even claim "a seat at the table".

In 2013 Finland's Ministry of Employment and the Economy created a program called "Design Finland" (in Finnish "Muotoile Suomi"). The program's purpose was to increase the use of design in the economy, as design was globally identified as a way to support business to grow, find new business areas and improve productivity. The report identifies that design has more potential than just the visuals. The program doesn't even want to define design, but state that design thinking is understood as design and execution that is derived from user needs and values, is comprehensive, takes into account the surrounding ecosystem and follows sustainability principles. The key target of the program was that by 2020 design would have become a core competence in private and public sector in Finland. (MEE, 2013.)

In the mid review of the "Design Finland" program the challenge of ambiguity of the design term was brought forward. "Design" term still takes people minds into the more traditional product design world and the many applications of design methodologies as value creators are missed. The programs impact was seen to be moderate in the current state and was decided to integrate with other initiatives.  (Keinänen, Oosi, Rausmaa & Pitkänen, 2017.)

In addition to being a blocker for further use and spread of design practices, the ambiguity of the discipline's definition shows also as frustration with design practitioners themselves. Everybody talks about design capability bit differently and the same methods are used in different areas for design, product design, service design, UX design. When the same methodology is used for everything, you need terms that can cover it all, like design thinking. But here the term starts to become ambiguous and for people outside the design field it starts to become too abstract and loose its meaning. What is it concretely? When the design field itself has so many definitions of what they do, how can the customer or

design services buyer be expected to understand what they buy. To be able to convince people to engage in design practices, they need to understand the value it brings. How to communicate value when the term itself is ambiguous?

As stated earlier all of the interviewees had a multidisciplinary education, and the impacts on their understanding and acceptance of design methods was clearly visible. The interviewees had an education that had multidisciplinary curriculum or the person had done multiple degrees. The "Design Finland" mid review paper also highlighted the need for multidisciplinary education as a way of supporting the use of design practices. When companies were interviewed for the study one of their asks were that design education programs would develop towards being more multidisciplinary, for example towards technology and social studies. (Keinänen, Oosi, Rausmaa & Pitkänen, 2017.)

In conclusion for people outside the direct design community some of the basic elements of design thinking are understood. The focus is heavily on user centricity. Multidisciplinary education has a major role in growing the understanding and appreciation of design methods. People entirely outside of design community and without exposure to design methods through education or work experience still seems to associate design with final form giving and visual aspects.

## 6.2. Understanding design value

*Research question 2: How can the value of design thinking be communicated?*

The value design can bring is spoken very highly by the interviewees. It is seen as an irreplaceable tool to achieve better results. It was said that everything is design weather people understand it or not. Product, services, ways of working. Everything ultimately is designed by someone. The emergence of design is not seen as a new thing but as a change in discourse – now we have better or at least different words to describe what is being done. It was also brought up that in order to provide real and long-lasting value design methods needs to be integrated in the ways of working. Otherwise, the risk is the benefits will be short lived and the true value of continued improvement is missed.

For the persons with a personal commitment to design, its value is evident and greatly appreciated. In many ways good design is also taken for granted. If product or interface is not well-designed people will stop using it. In business context the ultimate decisionmakers for design investments are the top management. For these stakeholder groups the value of design was mainly tied to financial metrics. The value created is not always explicitly monetary, but ultimately will be reflected in the financial results. It can be increased sales through better product or lower costs due to better manufacturing process. It can be transmitted through better employee satisfaction and less absences. The stakeholders also see the value transmitting through buying skills that the company might not possess or simply by adding more resources.

A mindset shift was also seen in the past decade, that is in some parts attributed to generation shift. Younger generations are seen to be more open to explore new ways of doing things. Different types of people are influencing in corporate leaderships today. We also see the emergence of new multidisciplinary educations that equip people with new skill sets.

In order to communicate design values, financial measures were discussed. Many of the drivers to use design ultimately has a goal of improving the business performance. It was also highlighted in the discussion that rather than spending time on finding monetary value for improvements, people can be inspired and made to see the value through examples and stories. Helping people understand the design process is seen as a key to help people understand the value. Making the design process less ambiguous, allowing people to take part in the process to understand how much work goes into good design. Similar views are brough up in the UK Design Council report (2020), "people need evidence to value design, as well as powerful stories to understand how it works".

It is an ongoing challenge to quantify the value design can bring. What is important to understand is that people have their own preferences about how they receive information and what they find convincing (UK Design Council, 2020). In leadership roles the key deciding factor is often financial. The top leadership need to be able to handle enormous amounts of information in variety of fields, and simplifying things is the only way to cope. They rarely have time to participate in long process to familiarize themselves with new topis. We would also need to understand the factors important in different industries as

well as educational and professional backgrounds to understand what are the metrics that the particular group responds to. This comes also down to the sales techniques and Zsifkovits (2022) posed the question weather the design practitioners should be the ones pitching the ideas. This was also brough up in the interviewees that a good salesperson knows which strings to pull. It is not about diminishing the value of design by exposing it to sales techniques but understanding the motivation of the other person to find a common language to talk about the matters. If we cannot get our foot in the door, how can design start to make a difference?

The "Design Finland" program's aim was to raise awareness of the benefits of design in real and financial terms but it is still found challenging (Keinänen, Oosi, Rausmaa & Pitkänen, 2017,44.) In a similar way areas like marketing have had to create concrete measures to demonstrate the values, to justify investments. UK Design Council (2021) contributed to the design value measurement discussion by publishing a Design Value Framework.  It is a conceptual model to make visible the holistic value of design.

Zsifkovits' (2022) states on communication of design thinking in projects, that one the biggest identified hurdles is pitching the use of design for the top-management whose knowledge on the discipline and time to educate themselves on it is limited. Therefore, we need communication methods that are simple and familiar. For top management this tends to be financial figures. Zsifkovits' (2022) also pointed out that project stakeholders often understood the value of design after the project and understood the concepts when being demonstrated through practice. In the interviews it was also suggested that the best way to start communicating value of design is by explaining the process or helping people understand how they are exposed to design every day. When moving to strategy level discussion, this becomes more difficult, and examples of milk cartons might not do the trick.

Multiple studies have been made to try to decipher the mechanism of how the value of design is realized. One of the interviews pointed out the importance of design methods in bringing out the best in people, being able to inspire them to new heights. Roth et al (2020) studied similar approach, finding a positive correlation between design thinking and project success. The effect was trough psychological empowerment, suggesting that design thinking is benefitting project success through psychological outcomes.

Key to communicating value is understanding where and how value is manifesting. If we don't understand they ways value is created through design practices it is extremely difficult to demonstrate, communicate and convince the use of design. Based on the findings, the best ways of communicating design value are demonstrating the design process itself and finding real tangible business performance measures to showcase design value, for example through financial performance measures.

## 6.3.  Design in organizations

*Research question 3:  How is design thinking visible in organizations?*

In the past decades design has found its way into organizations in Finland. Many companies have inhouse product and service designers, used both in external and internal development, and are investing in design services. Employees feel they are using design activities when acting in client interface or improving internal process. There still seems to be room for improvement in how design methodologies are used organizations. It takes time to develop a design thinking culture in an organization, especially if it is traditionally dominated by other disciplines.

The study demonstrates that design is not yet seen in organizations at the strategy level. It is already in many corners of the organizations but not in strategy statements. Design is not seen as a core differentiator or success factor unless company is seen making it success as a product leader.

We start to see more diversity in leadership teams these days. Generational shift is visible in this area as well. As new people raise to leadership positions, we start to have variety in backgrounds including educational backgrounds. Versatility is starting to be embraced, slowly. Every discipline has its pride and people might feel that they don't want to dilute the discipline. It is important to ensure a discipline area continues to grow and develop, new research is made. In the end people's actions are often guided by emotions. The pride people take in their expertise area was discussed in the interviews. Pride of their discipline and fear of losing its relevance. Diversity is called for in all aspects of life these days.

Breaking down silos between disciplines to be able bring together the best out of all of them, is a key differentiator and success factor.

Wrigley et al. (2020) discusses the need to understand the organizational conditions for design thinking to have a long-term impact. You need support from management and leadership, employees with the right skills and capability to adopt new ways of working. It is a cultural shift for the whole organization, and you need an organization that is capable of that. It is argued that it is unlikely for an organization to achieve design integration without the right organizational conditions.  (Wrigley et al., 2020.)

Four organizational conditions were identified that are required for design integration:

- Strategic Vision: the organization's long-term strategic goals and intent.
- Facilities: the physical spaces and resources that are dedicated to design activities.
- Cultural Capital: the understanding, knowledge, and capability of the organization's workforce in relation to design.
- Directives: mandates that call for the use of design and hold the organization's staff accountable for using design.

(Wrigley et al. 2020, 134.)

As Wrigley et al (2020) suggest for a company to truly be able to integrate design in the organization, on a strategy level there needs to be a willingness to grow and appetite for change. As demonstrated in this research, design has not found its way yet to the strategy level in companies, but with a changing generation with more diverse background we can expect to see more appetite for change. World keeps changing in an ever-increasing speed and keeping up with change is make it or break it point for many organizations. To truly be a market leader, you need to be in the front row of change.

The facilities aspect of Wrigley et al (2020) findings refer to actual physical spaces and other resources dedicated to design. This aspect is extremely important as this truly shows if the organization is dedicated to design. For results you need investments. Too often it is expected that people will improve ways of working or come up with new ideas while they are doing their day-to-day work. Companies expect groundbreaking innovation to happen by accident as a side product of the everyday work. What design thinking and new

innovations need is time and resources to learn new ways of thinking, time dedicated for exploration. If design methodologies are new for an organization, you need time for people to educate themselves to truly learn the new practices. It takes time, it takes patience, it is an investment. In this research it was seen that many companies already have dedicated roles for design practices, which is creating the right kind of conditions.

Cultural capital refers to the organizations capability to understand the value of design and capabilities of practicing design (Wrigley et al 2020). In this research there were few examples where it was visible that even design was practiced, the full potential was not yet realized. You could see it through the comments where designers were employed to support business improvements, but even after successful business impacts the design practitioner were still seen as artist, diminishing the full capabilities of the designer. Another example from a manufacturing company showcased they had in-house designers involved in product design, but the products were still often pushed full of features, missing the mark on the true customer needs. These examples demonstrate that the design capabilities are not being put to full use.

The last condition presented by Wrigley et al (2020) is directives. Clear mandates and instructions for people to practice design. Challenges can be manifested by organizations setting up design hubs or roles but are not following up or expecting results from this. For a change to happen, it needs rigorous follow up. Often even if the conditions are there, change rarely happens organically. Especially if change is perceived to be hard. To ensure change, you need interventions and follow up.

The Design Ladder is a rating tool developed by Danish Design Council in 2001. It is widely used method of assessing company's use of design. It consists of four steps, shortly summarized as:

- Step 1. Non-design: Design is an invisible part and is handled by non-designer.
- Step 2. Design as form-giving: Design is viewed exclusively as the final form giving stage, styling.
- Step 3. Design as process: Design is not a result but an approach that is integrated at an early stage in the development process.

- Step 4. The designer works with the company's owners/management to rethink the business concept completely or in part.

In the MEE (2015) report the significance of design in Finnish companies are rated on a similar four step scale as follows, one being the lowest level of design adaptation.

| Design adaptation level | Percentage of respondents | N |
|---|---|---|
| Step 1 | 14% | 29 |
| Step 2 | 24% | 37 |
| Step 3 | 22% | 35 |
| Step 4 | 40% | 62 |

Table 4. Percentage of Finnish companies on four step design ladder. (MEE, 2015, 29.)

The report states that the companies responding are likely using more design services as the ones not responding. The results might therefore be slightly skewed on the positive side. (MEE, 2015.)

Based on the findings in this research we can see the intent for organizations to be on the fourth ladder where design is integrated as part of the culture. Companies have inhouse designers, they are employing the services of designers to support strategy setting and employees feel that design is incorporated in internal process development. Based on the interviews, the intent seems to be there, but there are still signals that tells that the integration is not complete. Example brought up in the interviews illustrating this was of a company that is heavily product design oriented but has just recently added a Design Lead into the leadership team. Another example brough up highlighted the "engineer" mindset still guiding the product development work.

## 6.4. Limitations

The biggest limitation for this research is the size of the interview population. As the number of interviews made was only four, the conclusion and findings on this research cannot be generalized. This research should be viewed only as a case study to provide insights into current thought landscape in Finnish businesses. Given that design has been widely recognized as a significant tool to support business and economies to grow

sustainably and ensure future wellbeing, it would be interesting to continue to interview people in the business roles, to understand the barriers and challenges in adopting design in growing manner.

Theme interviews as the method for collecting information was appropriate for this type of study where the intent is to gain insights how people perceive and understand concepts. Statistical data can help to create a picture on the situation but given that we want to understand motivations behind behaviors, interviews is an appropriate data collection method.

In future research, it would be interesting to understand more the research already done on the mechanisms of design impact. What are the connections found, what is the mechanisms of design impact and what potential KPIs have been developed to demonstrate this. Based on the research for this study, there is still work to do in this area.

# 7.  CONCLUSION

In this master's thesis we studied how design thinking is lives and breathes in today's businesses. Design thinking is at the moment still popular management discussion topic and seen as a key tool in supporting companies, economies and societies to continue to grow sustainably.

We looked at the topic through three different research questions:

- Research question 1: How is design thinking as a concept understood among people who are not directly part of design community?
- Research question 2:  How can the value of design thinking be communicated?
- Research question 3: How is design thinking visible in organizations?

The study was done by interviewing four persons working in roles that are not traditional designer roles, to gain insights how people outside the design community perceive design thinking. The interviews were conducted between December 2022 and March 2023.

In this research we found that some of the basic elements of design thinking are understood by people outside of design community. Focus is heavily on user centricity. Multidisciplinary education has a major role in growing the understanding and appreciation of design methods. People entirely outside of design community and without exposure to design methods through education or work experience still seems to associate design with final form giving and visual aspects.

Key to communicating value is understanding where and how value is manifesting.  If we don't understand they ways value is created through design practices it is extremely difficult to demonstrate, communicate and convince the use of design. Based on the findings, the best ways of communicating design value are demonstrating the design process itself and finding real tangible business performance measures to showcase design value, for example through financial performance measures.

Based on the findings in this research we can see the intent for organizations to be on the fourth ladder of design integration where design is integrated as part of the culture. Companies have inhouse designers, they are employing the services of designers to support

strategy setting and employees feel that design is incorporated in internal process development. Based on the interviews, the intent seems to be there, but there are still signals that tell that the integration is not complete. Example brought up in the interviews illustrating this was of a company that is heavily product design oriented but has just recently added a Design Lead into the leadership team. Another example brough up highlighted the "engineer" mindset still guiding the product development work.

Through this research the need for interdisciplinary understanding came through strongly. Both in creating best possible design outcomes but also in being able to communicate design and interact with people in companies with various backgrounds and being able to demonstrate design capabilities. It would be interesting to understand the significance interdisciplinary education has had in supporting design breaking through in companies. Based on the research for this study, consensus on the mechanisms of design thinking's impact on business performance has not been found and design value frameworks and KPIs are needed to illustrate and convince people of the value of design.

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# Appendix 1

**Interview questions**

Interviews were conducted in Finnish, hence the material is in Finnish.

Haastattelu tehdään Pro Gradu tutkielmaa varten, joka suoritetaan Lapin Yliopistossa Teollisen muotoilun koulutusohjelmassa. Tutkimuksen tavoite on tutkia miten muotoilun arvoa ymmärretään ja miten sitä pystytään demonstroimaan ja kommunikoimaan paremmin mutoiluyhteisön ulkopuolella.

Haastattelu toteutetaan puolistrukturoituna teemahaastatteluna, eli minulla on ylätason kysymyksiä, mutta keskustelu on vapaata ja saatan esittää jatkokysymyksiä keskustelun pohjalta joita ei ole ennalta määritelty. Haastattelun tavoite on saada näkemyksiä siihen miten muotoilun arvo koetaan ja ymmärretään yritysmaailmassa, joissa isolla osalla toimijoista ei ole formaalia muotoilu koulutusta tai ammatillista taustaa. Haastateltavat esiintyvät tutkimuksessa anonyymeinä ja heistä eritellään tutkimuksessa työtehtävä ja yrityksen toimiala.

Osa 1 - Henkilön tausta

- Koulutus

- Ammatillinen tausta, eli minkälaisissa rooleissa on toiminut

    - Nykyinen ammatti/rooli

Osa 2- Miten haastateltava ymmärtää muotoilu käsitteen

- Mitä muotoilu ja muotoilu ajattelun käsite tarkoittaa haastateltavalle, löyhä määritelmä (design & design thinking)

- Minkälainen suhde haastateltavalla on muotoiluun

- Miten muotoilu näkyy nykyisessä työssä

- Aikaisemmissa rooleissa

- Mikä mielestäsi on muotoilun arvo

Osa 3 - Mitä muotoilu tarkoittaa sidosryhmille, haastateltavan kokemus miten muotoilu näkyy työympäristössä

- Millainen rooli muotoilulla on ollu omalla työuralla yrityksissä:

  - Yrityksessä

    - Osana strategiaa

    - Päivittäistä työtä

  - Asiakkaille

    - Miten asiakkaat kokee muotoilun

    - Miten sitä on kommunikoitu asiakkaille ja yhteistyökumppaneille

    - Miten muotoilun arvoa on kommunikoitu, määritelty, mitattu, miten siinä on onnistuttu?

Osa 4 - Yleinen taso

- Miten kommunikoida muotoilusta henkilölle jolla ei ole muotoilu taustaa?

- Miten muotoilun merkitystä voisi tehdä ymmärrettävämmäksi?

- Onko muotoilulla roolia päätöksenteossa?