

Perspectives on the Value of Design in a Large-scale Finnish Service Development Organization

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Tutkinto ja koulutusala Muotoilija (YAMK), Muotoiluajattelu ja muotoilujohtaminen		
Tiivistelmä <p>Yli viidentoista vuoden aikana on julkaistu lukuisia tutkimuksia ja raportteja muotoilun positiivisesta vaikutuksesta yritysten liiketoimintaan. Muotoilun yrityksille tuottama arvo on ollut ajankohtainen keskustelunaihe ja tutkimuksen kohde. Silti alalla käydyt keskustelut edelleen korostavat muotoilijoiden tarvetta perustella ja selittää, miksi muotoilutyö on kannattavaa. Mikä siis muodostaa muotoilun tuottaman arvon, ja onko se todennettavissa ja miten siitä tulisi viestiä yrityksessä siten, että se olisi ymmärrettävää eri sidosryhmille?</p> <p>Tämän tutkimuksellisen kehittämistyön keskiössä on tutkia muotoilun merkitystä ja arvoa suuren suomalaisen palvelukehitysorganisaation prosesseissa. Tutkimukseen liittyy läheisesti se, miten sidosryhmät kehitysorganisaation sisällä kokevat muotoilun yritykselle tuoman arvon. Työssä pyritään tutkimaan keinoja, joilla muotoilun arvoa voitaisiin mitata ja tuoda esille eri sidosryhmille.</p> <p>Lähestymistapa on yhdistelmä tapaustutkimusta ja muotoiluajattelua. Työ alkaa teoreettisella kirjallisuuskatsauksella ja aiheeseen tutustumisella. Empiirinen tutkimusvaihe koostuu 17 puolirakenteellisesta haastattelusta, jotka pyrkivät kasvattamaan ymmärrystä eri sidosryhmien näkökulmista ja kokemuksista muotoilun arvosta juuri tämän yrityksen kontekstissa.</p> <p>Tutkimuksen seurauksena rakentui kolmitasoisia suosituksia. Ensimmäinen korostaa, miten muotoilun ymmärrystä voidaan lisätä. Tässä ehdotetaan käytännön oppimista ja osallistumista, selkeää ja ymmärrettävää viestintää, korostaen koko organisaation ymmärrystä muotoilusta ja johtajuuden roolista siinä. Ehdotetaan lisäksi systeemiajattelun ja -muotoilun käyttöä. Toinen teema keskittyy asiakasymmärryksen ja yhteistyön kasvattamiseen syventämällä ja jakamalla asiakasymmärrystä sekä kannustamalla monialaiseen yhteistyöhön ja tiimien sitoutumiseen. Viimeinen teema esittää strategioita muotoilukypsyys ja asiakaskokemuksen mittaamiseksi esimerkiksi muotoilumaturiteetin arvioinnin toteuttamisella. Lisäksi ehdotetaan asiakaskokemuksen parantamista ja keskittymistä toiminnallisiin oivalluksiin.</p>		
Asiasanat muotoiluajattelu, muotoilumaturiteetti, muotoilun arvo, asiakaskeskeisyys, käyttäjälähtöinen suunnittelu		

Abstract

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Title of Publication Perspectives on the Value of Design in a Large-scale Finnish Service Development Organization		
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Abstract <p>Numerous studies and reports have been published on the positive impact of design on business operations over the past fifteen years. Still, the discussions within the industry emphasize the need for designers to justify and explain why design work is profitable. Where does the value of design come from, can it be somehow verified, and how should it be communicated so that it is understandable to different stakeholders?</p> <p>The focus of this research-based development work is to explore the significance and value of design in the processes in a large Finnish service development organization. It includes gaining knowledge of how different stakeholders within the company see the value that design brings to the business. This work aims to understand the general significance of design within the company. In addition, it aims to learn if there are ways in which design's value can be measured and how to highlight the value to different stakeholders.</p> <p>The approach chosen for this thesis was based on the application of case study and design thinking. The thesis begins with a theoretical basis. The empirical research phase utilizes seventeen semi-structured interviews to gain a deeper understanding of stakeholders' perspectives and experiences.</p> <p>As a result of the study, three-level recommendations were built. The first one emphasizes how the comprehension of design can be increased. It suggests practical learning and participation, clear and understandable communication, emphasizes organizational understanding and the role of leadership and suggests using systems thinking and system design. The second theme focuses on increasing customer understanding and collaboration through deepening and sharing customer understanding and encouraging cross-disciplinary cooperation and team engagement.</p> <p>Last theme presents strategies for measuring design maturity and customer experience starting with implementing design maturity assessments. In addition, it suggests enhancing customer experience and focusing on actionable insight</p>		
Keywords Design Thinking, Design Maturity, Design Value, Customer Centricity, User-Centric Design		

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1 Introduction

Numerous studies and reports have been published on the positive impact of design on business operations over the past fifteen years. The value that design creates to a company has been a subject of discussion and research. Still, the discussions within the industry emphasize the need for designers to justify and explain why design work is profitable. Where does the value of design come from, can it be somehow verified, and how should it be communicated so that it is understandable to different stakeholders?

Design is an area of expertise that requires special skills and education. But for a design to work in fully beneficial way in company, the principles of design thinking should be known and potentially utilized by every employee. The advantages of design manifest when everyone understands the basics of design thinking and knows how and when to apply design principles in their work.

During the recent years, design has become a significant factor in the competitiveness of companies. Studies show that companies implementing design at a strategic level perform better compared to their peers.

The focus of this research-based development work is to explore the significance and value of design in the processes in a large Finnish service development organization. It includes gaining knowledge of how stakeholders within the company see the value that design brings to the business. This work aims to understand the general significance of design within the case-company. In addition, it aims to learn if there are ways in which design's value can be measured and how to highlight the value to different stakeholders.

Through theoretical framework, the goal is to identify relevant metrics which could be used to highlight the potential benefits brought by design. As the theoretical review reveals, the effects of design on a company's operations and results can be diverse, based on how design can operate within a company. Additional means are needed to measure and communicate the value of design, to create conditions where design can function in a way that maximizes its benefits.

Artificial intelligence (ChatGPT) has been utilized at some parts to create suggestions of enhancing the fluency of sentence structures. However, no text has been created with the help of AI.

2 Exploring Design Value in a Large Finnish Service Development Organization: A Case Study

2.1 Case-Company Overview

The case company where the research-based development work is conducted, operates in Finland. The case company has a huge development organization which also serves as a home to a newly established in-house design team consisting of a significant number of designers who collaborate with engineers and business professionals in the development organization. Besides in-house designers, the company also uses the services of external designers.

The company's strategy, that was updated a few years ago, focuses on constructing more customer-centric operating models to stay responsive to evolving market dynamics. This involves bolstering technical capabilities, forming agile teams, and integrating customer-centric methodologies at the core of the operations to create successful business cases.

The structure of the development organization combines different teams from areas such as eCommerce, brick-and-mortar concepts, and IT functions. Parts of the organization work in an agile model that consists of cross-functional teams. These functional teams have different roles like business developers, product owners, software developers and designers. The daily work is done in the agile teams, but all these different roles also have their home in the development organization.

Forming cross-functional teams working in an agile model is one way for the company to stay responsive. Some parts of the organization are still using a waterfall project management model as a basis for the development work. Teams working in waterfall model do not utilize designers as permanent team members.

2.2 Perspectives on Design Value Within the Case-Company

The purpose of this research-based development work is to study the value of design within the case company, with the focus in understanding how design's value is perceived by the different stakeholders in the development organization. The objectives of this development work are to provide valuable insights for the case company's design leadership and design team in achieving the following goals: How to measure the hypothetical value of design and how to communicate about it.

To understand the value of design within the development organization, the study is divided into three following research questions: *How could the significance and value of design be*

clarified for those who may not have recognized its importance yet? Is it necessary to measure or verify the value of design from stakeholders' point of view? And in what ways could the value produced by design be measured or showcased in a way that its importance becomes apparent even to those who are not design professionals?

The first question addresses the clarification of the general importance of design. The second investigates the organization's stakeholders' attitudes towards the need to measure the value of design. The third research question studies how the value of design can be measured or showcased especially to those who are not design professionals.

This research-based development work combines theory and practice with a qualitative approach. The approach chosen for this thesis was based on the application of case study and design thinking. The thesis begins with a theoretical basis, improving the comprehension of the research issue and expanding overall knowledge of the field. The empirical research phase utilizes semi-structured interviews to gain a deeper understanding of stakeholders' perspectives and experiences. Proposed suggestions chapter is based on the research findings and observations from the theoretical basis.

The goal of this research is to generate new insights into the value of design, but also, it's communication within the company, providing a deeper understanding of how different stakeholders perceive the value of design.

The topic of this thesis was primarily chosen based on the needs of the case company. At the same time, perspectives on the value of design are an area of interest for me. The final topic and research questions in this thesis were shaped through multiple discussions with representatives of the company's design leadership team.

3 Understanding Design Value

3.1 The Concept of value

When discussing the value generated by design, it's important to comprehend the concept of value and understand its formation. The concept of value is multifaceted and can be examined, categorized, and defined in various ways depending on the field of study, perspectives, and needs.

Different views on what is valuable or invaluable guide the actions of individuals, communities, and societies. Values often relate to larger value systems, making understanding the connections between values crucial for comprehending their significance. (Kamppinen, Malaska & Kuusi 2003, 38-39.)

The Helsinki Term Bank for Arts and Sciences (Tieteen termipankki 2023) defines values as high goals placed above conflicts that individuals or societies can strive towards but can never ultimately achieve.

According to Helkama (2015, 8), the sociological meaning of values emerged in the late 19th century, when values started being seen as something considered valuable and important by individuals, groups, or societies. Values began to be seen as psychological attributes of individuals, rather than just the qualities of things and objects.

Tieteen Termipankki (2023) describes values as active, non-objective symbols of the human mind, guiding actions, choices, and behaviors on both conscious and unconscious levels. Values can change with a person's age and accumulated experiences. From a logical and knowledge-based viewpoint, values are subjective compared to objective knowledge (Helkama 2015, 8).

Cambridge Dictionary (2023) defines value as an amount of money that can be received for something, as worth, importance of benefit, and ad beliefs of right and wrong.

In ethics, values are seen as states or attitudes of an ethical consciousness that, together with knowledge and emotions, steer human actions, choices, and deeds on both conscious and unconscious levels (Tieteen Termipankki 2023). To individual, value can represent a symbol that shapes actions, decision-making, behavior, and choices across different circumstances. The sociological definition of values reflects them as abstract foundations for justifying and evaluating people's choices and behavior. (Helkama 2015, 8.)

Often value can also be seen as a concept or attribute based on which something, an object, a matter, or a being, is considered valuable. The chosen value-theoretical solution affects

where the value is located but also what supports it. An intrinsic value can be defined as valuable regardless of the chosen value theory, so that the object, matter, or being is valuable in itself. If something is valuable only so that it can fulfill another value, it's an instrumental value. An instrumental value is a means to achieve a final goal. (Nurmio 2000, 2.)

3.2 Perspectives on Value

Design revolves around creating value not only for the company's owners but also for customers, other stakeholders, and society on a broader scale (Miettinen 2014, 12).

Valtonen & Nikkinen (2022, 84-85) see the diversity of values as a driving force of contemporary design. They highlight that through design, it is possible to steer the development of technology in a human-desirable manner. Design can create understanding towards humanity and address societal inequalities. Furthermore, design can have the potential to create a future and well-being that is within the limits of our planet's capacity.

Design has been perceived solely as a value-added activity for a long. However, with design extending its reach to encompassing leadership, social innovation, and sustainable development, a new realm of design expertise has emerged. This expertise enables the creation of value beyond mere profit. (Valtonen & Nikkinen 2022, 85.)

According to Tarjanne (2015, 6-7), the concept of economic significance relates to the value enhancement in a company's product or service. This is based on an understanding of customer needs and finally delivering value to the customer. Various factors like sustainability, ethics, aesthetics, usability, or some other personal need or value can create value for the customer. A successful business idea involves the insight and speed to recognizing user needs and responding to them.

3.3 The Evolution of User-Centered Value Creation

Over two decades ago, Pine and Gilmore introduced the concept of the "experience economy," anticipating a shift from goods and services to creating memorable customer interactions. Understanding individual needs is vital as socio-demographic factors' influence on behavior on individual-centric and diverse consumer landscape. (Pine & Gilmore 1999, 3.)

At the same time, the service sector has become the dominant industry in Western countries, surpassing agriculture, and industrial production. This shift recognizes the unclear lines between products and services, and it has been referred to as "servicification".

Servification aims to fulfill user needs, building stronger user relationships, and gaining a competitive advantage by enhancing overall competitiveness. (Koivisto, Säynäjäkangas & Forsberg 2019, 16-23.)

Service design aims to develop user-centered services that meet both the users' needs and the business goals of the service provider. The aim is to create services that are useful, desirable, user-friendly, and consistent and at the same time being economically beneficial, competitive, or enhancing the provider's effectiveness. Service design is a way to enhance the ease and convenience of using services, as well as providing meaningful experiences to the user, appealing to emotions and values. (Koivisto et al. 2019, 34-35.) In order to succeed, designing services requires collaboration with users and adaptability in a changing competitive environment (Kuula 2015).

According to Koivisto et al. (2019, 16-23), companies are shifting from product-centric thinking to offering more comprehensive product-service bundles. Unlike product-centric thinking, service-centric thinking recognizes the central role of the user in value creation and purpose.

Adopting a strong user-driven approach and thoroughly understanding user needs is essential for succeeding in servification. The design process should be continuous and consistently focused on the user. (Kuula 2015.) According to Koivisto et al. (2019, 16-23), servification was seen to provide a broader solution beyond mere products, delivering diverse value to a user. However, servification may require reorganizing the company's value creation network and collaborating extensively with various stakeholders.

3.4 Design Thinking's Role in Business

For a long, design was seen as merely aesthetic activity utilized at the end of the product development process. However, design has gradually evolved into a more strategic role in product development processes and in the overall business development. This has been made possible by design's role as interpreter of human needs. (Koivisto et al. 2019, 16-23.)

User-driven design prioritizes understanding user needs to ensure a positive user experience. As the starting point of design process, the goal is to deeply understand the needs of the end-users. (Ideo 2023.) User driven design consists of three iterative phases: inspiration, ideation, and implementation (Figure 1).

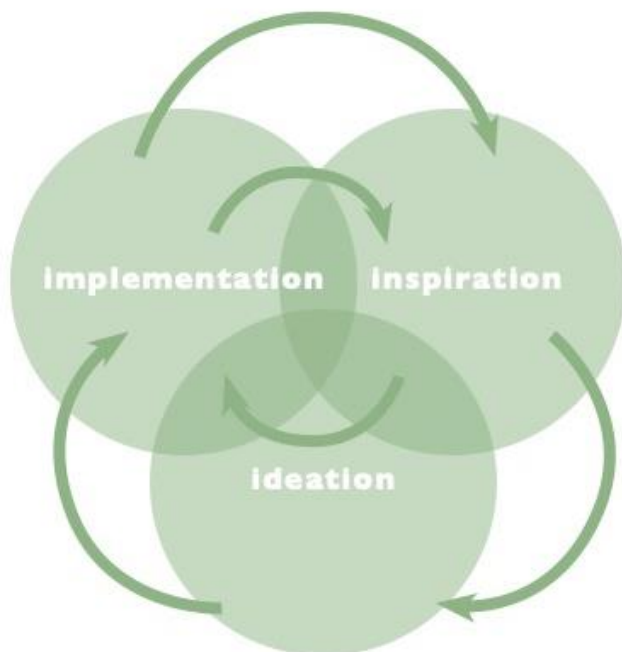


Figure 1: User driven design re-drawn (Ideo 2023)

User-driven design aims to ensure that the solutions being designed are authentic, functional, and meeting users' needs. Interaction, involvement, and openness during the design process are being encouraged, to result better and more user-driven products and services. (Mattelmäki, Svanda, Hakio 2022, 77.)

User-driven design involves gathering user input iteratively throughout the design process while using feedback to refine planned solutions. With users actively contributing to product and service creation, it emphasizes cooperative interaction with end-users, including different stakeholders, and seeks to open innovation. Designers' role is to facilitate user participation, utilizing different methods like crowdsourcing for idea sharing and feedback. (Interaction Design Foundation 2023a.)

According to Kälviäinen (2014, 29), design thinking is described a practical, human-centered, solution focused and action-oriented approach that visualizes and concretizes thinking. Design thinking fosters collaborative, creative problem-solving with a low-hierarchical structure, uncovering hidden issues. As a cognitive process, it can blend diverse ideas and actions while offering a holistic perspective and utilizing both divergent and convergent thinking. Design thinking embraces an optimistic, curious, and experimental mindset, considering various potential scenarios.

Visual development expertise is at the core of design practices. According to Kälviäinen (2014, 35-36.) visualization leads to choices, concretization, and synthesis from abstract

solution types, highlighting cross-disciplinary gaps for resolution. Concretization can help to assess alignment with stakeholder expectations, revealing specifics, and evaluating suitability, including the relationships and significance of smaller details within the whole. This is especially valuable in interdisciplinary innovation. According to Miettinen (2014, 10), design thinking enhances an organization's problem-solving capacity, adaptability to change, and ability to generate innovative content through collaborative development activities.

Design theorist Buchanan (1992, 9-10) has categorized design thinking into four main areas, with each having a significant societal impact. The first area deals with symbols and visual communication design across various channels. The second focuses on designing physical objects, considering usability from diverse perspectives. The third area revolves around designing actions and services to create more meaningful and intelligent experiences. The fourth pertains to designing complex systems or environments, aiming to integrate people into broader contexts while adapting them as needed. Buchanan (1992, 10) emphasizes that these categories aren't meant to create boundaries or prioritize one area over another. He suggests that design should rather continually expand its connections and purposes, uncovering new dimensions of understanding and practice based on research, literature, articles, and discussions.

A key element at the core in design thinking is empathy. It helps designers to understand the needs of end-users while creating human-centric solutions. The lack of empathy, however, could lead to product failures. (Friis Dam & Yu Siang 2021.) The effectiveness of design thinking as an approach is addressing customer needs and dealing with complex issues in the context of dynamic business environments (McKinsey 2023, 1). It can be concluded that design thinking through creating user-driven products and services, design thinking has a potential to drive financial success and foster brand loyalty.

Plattner (Stanford Institute of Design 2023, 1-6) describes design thinking as a five-stage process (Figure 2) that is not always sequential and can be conducted out of order and repeated iteratively. According to Plattner, these five stages are: Empathize, Define, Ideate, Prototype, and Test. These stages are integral to the overall journey of developing solutions that cater to user needs and behaviors.

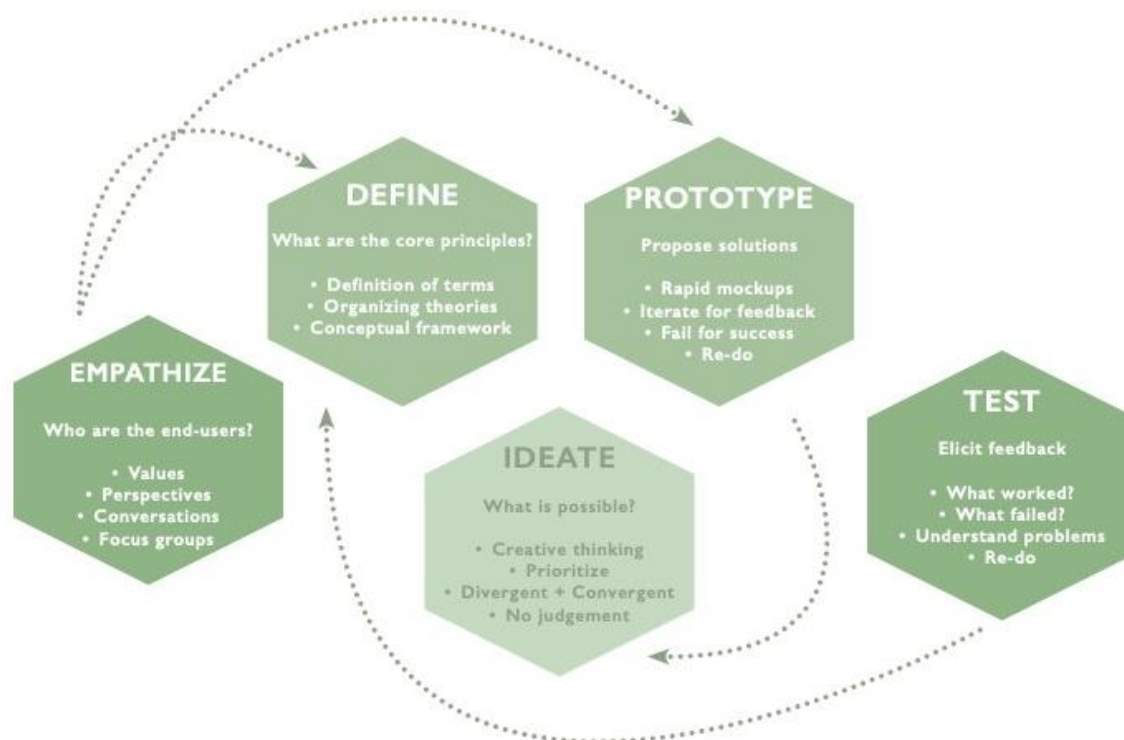


Figure 2: The five stages of design thinking re-drawn (Stanford Institute of Design 2023)

In the Empathize stage, user-driven research is used to gain a deep understanding of the problem. The Define stage organizes and analyzes the gathered information while focusing on the core issues from a users' perspective. In the Ideate stage, solutions are generated, based on comprehensive understanding of users' needs. Prototypes are created and tested in the Prototype stage. This stage aims to refine the most promising solutions. Finally, in the Test stage, the complete product undergoes thorough evaluation. This could potentially lead to further iterations and refinements based on user feedback and experiences. (Stanford Institute of Design 2023, 1-6.)

Design thinking is focused on finding solutions. It produces a description of a draft, concept, or model, created using either traditional or innovative tools. Collaborative workshop or processes are seen as a way to come to a solution. (Miettinen 2014, 10.) The creation of innovative solutions is based on user insights and needs. (Interaction Design Foundation 2023c.)

3.5 The Value of Co-Design and Co-Creation

Today's complex and rapidly changing world makes it important for different fields to work together collaboratively to overcome challenges. Many of today's issues could be solved

more effectively through collaborative work with experts from various fields. (Turunen 2022, 52.)

Co-design is a method where various stakeholders, including company executives and other tactical roles, actively participate in the design process. This approach is based on the belief that all participants are creative and capable of contributing valuable input to the design work. Because users are experts of their own experiences, they can provide unique insights and suggest effective solutions. (Van Boeijen, Daalhuizen, Van der Schoor & Zijlstra 2014, 41.) Co-design represents a democratic and open approach. It challenges traditional hierarchical power structures and promotes mutual learning among all parties involved. Co-design also questions the traditional view that places outsider expertise above all else, instead the importance of collaboration and co-creation. Co-design is different from traditional user-centered design because it treats users as active participants and creative partners in the process. (Fuad-Luke 2009, 147.)

The industrial work legacy relates for structured efficiency, but too much hierarchy can hurt flexibility, innovation, and well-being. More flexible and democratic structures encourage teamwork, creativity, and solving diverse problems. (Turunen 2022, 53.) Methods like creativity, hands-on experience, and involving everyone have been used for a long time in design research. These methods highlight working together, supporting social change, and helping to imagine different possibilities and situations. Working collaboratively can rise up to both critical and insightful perspectives, initiate discussions on sustainability challenges, and inspire innovative forms of action. Central to this process are collective effort and reflection. (Mattelmäki, Botero, Chun, Dolejšová, Hakio & Lohmann, 2022, 25.)

Smith (2022) describes value of co-creation as a collaborative process where a brand and its consumers work together to develop a product from its conception to its purchase. With co-creation, it is possible to create products that meet the specific user needs, adding value to their experience.

Co-creation involves designers gaining a holistic view of what service or product should include, when participants from different roles come together to provide diverse insights (Interaction Design Foundation 2023b). Decentralizing decision-making supports creativity by promoting employee involvement and equality, while also encouraging thinking beyond silos (Turunen 2022, 54).

In service design, the process involves working within a complex ecosystem with various factors and actors at different levels. This includes understanding the interconnected relationships and systems that operate behind the scenes in order to deliver services and create customer experiences. The application of design thinking for collaborative creation

makes it easier to carefully understand limitations, workflows, and how services process. This helps in making maps of customer journeys and creating personas. (Design Foundation 2023b.) Collaborative planning with different stakeholders from various fields can potentially create what is known as a "third space", where participants' knowledge converges to generate fresh insights and innovative approaches (Uusitalo 2022, 64).

To gather insights, co-creation with various stakeholders utilizes interactive and agile methods. This involves working with various teams to embrace their strengths and solve smaller problems before solving larger ones. Co-creation goes beyond user research, focusing on fostering a culture of service design and considering the entire organization to tap into diverse viewpoints and solutions through facilitated workshops. (Interaction Design Foundation 2023b.)

In summary, co-creation is a broader concept that encompasses collaboration with end-users in creating products, services, and value, whereas co-design specifically focuses on the design phase and developing a product or service together with users. It is important to note that co-design with end-users is not the sole form of collaboration, therefore the value of interdisciplinary expert collaboration is highlighted.

3.6 The Role of Design in Creating Competitive Advantage

Research conducted by the United Kingdom Design Council in 2005 showed, that those companies which placed a high priority on design outperformed their peers. This advantage was attributed to design's efficacy in boosting competitiveness, market share, sales, and employment. Similarly, a 10-year study by the Design Management Institute in the US market revealed that design-led companies had a 228% stock performance advantage. This success was driven by factors such as brand recognition, preference, and overall business growth metrics. (Westcott et al., 2013, 1-4.)

McKinsey conducted a study in 2018 across various industries, including medical technology, consumer goods, and retail banking, and found a strong link between design practices and business performance. Researchers identified 12 key actions that associated with improved financial performance, categorizing them into four main themes. (Sheppard, Sarrazin, Kouyoumijan & Dore 2018, 3-6.)

These four themes created the foundation for the McKinsey Design Index (MDI) (Figure 3), which evaluates a company's design capabilities and their impact on financial performance. The MDI is based on four elements: analytical leadership, cross-functional talent, continuous iteration, and user experience (Sheppard et al. 2018, 9).

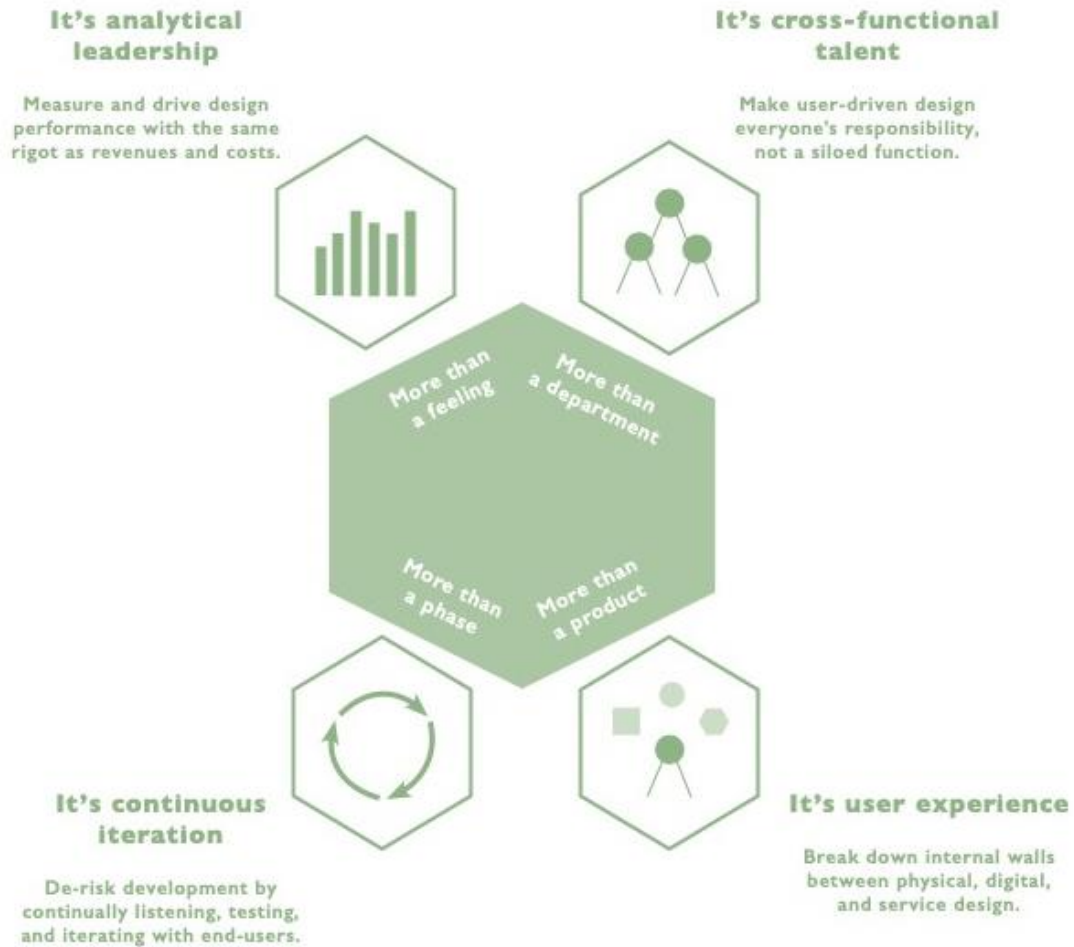


Figure 3: The four themes of good design re-drawn (Sheppard et al. 2018, 9)

According to Sheppard et al. (2018,10), Companies that performed best in the MDI study, valued design also at the management level, where it was recognized as crucial as revenue and cost management. Best performing companies embraced a collective approach to successful design, investing in research, prototyping, and concept generation to drive innovation and reduce failure risks.

The most successful companies prioritized a user-driven approach. They were actively engaging with users to understand their needs and integrating design into strategic planning. Most successful companies emphasized integration, collaboration, and investment in design throughout the organization. Design was seen as a continuous process of refinement leading to the development of innovative products and services. (Sheppard et al., 2018, 12-13.)

In today's competitive landscape, it's crucial to create unique and meaningful experiences to succeed. Fard (2023) emphasizes that customer experience covers every interaction with

the company, from start to finish, and ignoring it could mean losing customers and market share.

If design can operate optimally within a company, leveraging all its benefits, it can play an important role in shaping customer experiences, encompassing physical, digital, and service design. Understanding what customers really need and feel is essential, and using design thinking can bring out new ideas and solutions through empathy. (Eljala & Luoto, 2014, 77-83.)

Tran (2018) suggests that utilization of design thinking can also benefit brand development by focusing on what customers truly want, coming up with creative ideas, and iteratively testing them, while reducing the chances of failure.

3.7 Design's Intangible Value in Business

The intangible value of something is determined by the meaning attached to it. While worth is influenced by market prices, value is shaped by personal significance. (Ross 2021.) Factors like existing knowledge, innovative ways of combining elements, market shifts, opportunities generated by digital platforms, cultural heritage, or crowdsourced processes can create value without direct investments from the company. Behind these opportunities might be investments or capital from other entities, such as society, interest groups, platform providers, artists, etc., leading to cultural or intellectual capital, networks, or distribution platforms. These factors often intertwine and enhance with a company's intangible investments. (Tarjanne 2015, 6-7.)

According to Ross (2021), successful brands uncover and communicate intangible values, which creates emotional connections and brand loyalty. To develop and communicate their intangible value, brands can utilize emotions.

Design industry organization Ornamo suggests, that economically significant is particularly the value added to a company's product or service that is based on understanding customer needs. Factors like sustainability, ethics, aesthetics, usability, or other personal needs or values can create value for the customer. A successful company identifies customer needs and responds to them. (Ornamo 2016.)

Customer-centric thinking has become an important aspect for companies. Intangible value creation is essential for both product and service development. A growing portion of a product's value is tied to forms of intangible value creation, such as brand value, usability, related services, and other. (Ornamo 2016.)

Wevolve and Tekes, published the report "The New Wave of Value Creation" in 2014. It shares the principles and methods for building the most valuable companies of this century. The report was based on interviews with over twenty, at the time leading experts in Europe and the United States, as well as case studies of companies proficient in new wave innovation and value creation. (Gävert & Tikka 2015, 13-14.) According to the study, the new requirements for success can be summarized into four principles that help companies transform holistically and create abundant value:

First principle: The capability to understand the changing world.

Successful companies utilize user-driven, future-oriented, systemic development and design thinking methods to discover opportunities for holistic innovation and value creation. This aids them to anticipate disruptive changes in their industry, find significant and valuable problems to be solved, and create solutions that genuinely generate valuable experiences. (Gävert & Tikka 2015, 14.)

Second principle: Innovation from a business model perspective

According to Gävert & Tikka (2015, 14), innovative companies strive to update their entire business approach. They're more willing to create innovative value systems, service platforms, business domains, or ecosystems, instead of just serving to existing customer needs. As an example, digital sharing economy platforms are viewed as transformative agents of change, especially when utilized for societal impact. These new business models can assist companies in generating shared and collective value, effectively challenging traditional players, and revolutionizing industries.

Third principle: Guided by a grand purpose.

Leading companies believe in the power of purpose to create change at the whole company level. Purpose clarifies why a company exists and provides a foundation for bold experiments, as well as a meaningful reason for stakeholders to enthusiastically participate in the company's activities. (Gävert & Tikka 2015, 14.)

Fourth principle: Design is seen as an enabler of value experiences.

Design gains importance when businesses aim to develop captivating customer experiences. Value arises from integrated elements in products, services, and brand narratives. Customer centric design is important in shaping meaningful touchpoints and environments. It impacts how offerings are experienced and engaged with. (Gävert & Tikka 2015, 14.)

3.8 Design as a Strategic Tool

Design has traditionally been seen as primarily visual, but it is now recognized also as a strategic approach, with a user-centered focus that extends its role in decision-making and leadership. (Solsona Caba, Mazé & Park-Lee 2022, 34-35.)

According to Miettinen (2014,16) design's essence lies in visual development expertise. It involves simulations, narrative storytelling, and scenarios to bring future scenarios to life. Visualization can enable decision-making, concretization, and the synthesis of abstract solutions, while also revealing cross-disciplinary structural gaps. Concretization evaluates whether the developed solution aligns with stakeholders' expectations. It can also evaluate the suitability of those solutions.

According to Solsona Caba et al. (2022, 34-35), in the field of administrative sciences, decision-making is often illustrated as a two-step process (Figure 4). It consists of decision-making and implementation phases. From a design perspective, decision-making is a continuum that integrates purpose, goals, and actions. Designers engage in dialogue with people, concretize decision-making, and observe its impacts on people's everyday lives. This helps designers to propose more effective and better-functioning solutions.

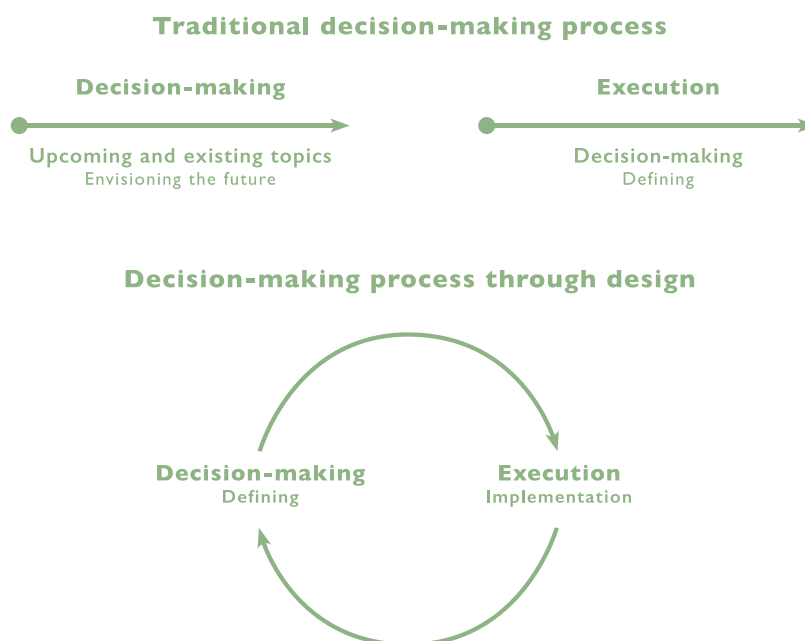


Figure 4: Traditional decision-making process and decision-making process through design re-drawn (Solsona Caba et al. 2022)

Design is closely connected with a company's strategy, goals, and outcomes. It has the potential to help visualizing distant future. This applies to strategic sustainability work as

well, creating long-term goals for sustainability. A sustainable future requires extensive interdisciplinary collaboration and open dialogue across industries, companies, and political decision-makers. (Niinikoski 2022, 25.)

3.8.1 Design Utilization: Service, Change, Strategy

Following three-part framework (Figure 5) presents how organizations use design in three different ways: as a service, as a catalyst for organizational change, and as a strategic driver to reshape business models and markets.

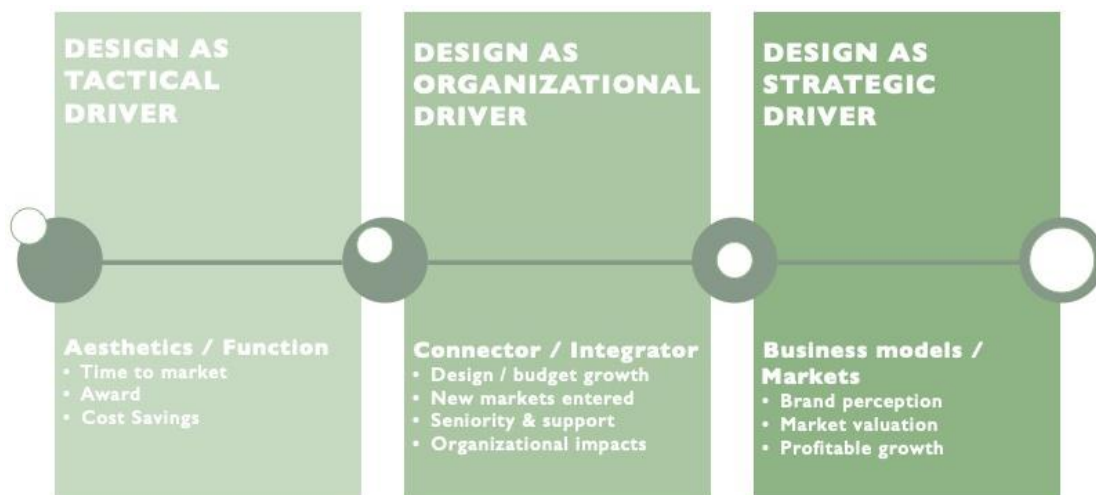


Figure 5: Three key patterns in organizational use of design, re-drawn (Westcott et al. 2013, 6)

Zone one describes design as tactical value creator. Redesigning a product package can lead to increased sales, and the cost-benefits can be evaluated. In this zone, design is involved in the aesthetic and practical development, including the delivery of products, services, and communications. (Westcott et al. 2013, 6.)

Zone two describes design as an organizational value. At this level design aims to deliver more integrated customer experiences, connecting previously disconnected parts. Design may create cohesive, user-driven journeys across different aspects of the organization. Metrics such as conversion rates, customer lifetime value, brand loyalty, and market share are important in evaluating design value in this context. (Westcott et al. 2013, 6.)

Zone three highlights design's strategic value for companies that prioritize design and design thinking. Uncovering best practices related to structure and operations, and analyzing long-term returns and their correlation to metrics is significant for organizations like Nike and Apple, who have strategically invested in customer experience design over time. (Westcott et al. 2013, 6.)

4 Evaluating and Enhancing Design

4.1 Valuing Design in Business

According to Westcott et al. (2013, 1-2), the value of design is challenging to define as it doesn't fit neatly into a single category. This complexity makes it difficult to use standardized measurement metrics.

Design Management Institute's research program focused on understanding the value of design while developing best practices and metrics for measuring and managing design investments. It was found out, that effective design-led organizations often have a broad range of design-related metrics, both quantitative and qualitative, deeply integrated into their operations. Design is not a standalone department but can be seen as a service for organizational change, and a strategic "design thinking" resource to reshape business models and markets. (Westcott et al. 2013, 1-2.) When used innovatively together with other factors such as marketing and technology, design can create significant value. (Lehtonen & Lehto 2014, 20.)

Björklund, Hannukainen & Manninen (2018, 3) state that there is still a need to justify the utility of design in large organizations. "Selling" design in business organizations and teaching leaders to think like designers may pose challenges. Organizations also have different needs depending on their adoption level considering design. Clearer ways to demonstrate the value of design once the initial excitement is over, are possibly required.

Measuring the impact or value of design is challenging because it's difficult to separate the effects of design from other internal factors. Merely demonstrating the quality of the end results is insufficient to prove the usefulness of design in organizations. This challenge becomes particularly noticeable at higher maturity levels of design utilization, where the role of design shifts from form-giving to an overall process and strategy. (Björklund et al. 2018, 11.)

4.2 Design Maturity

According to Davis (2022), design maturity reflects the level at which design functions within a business. It influences various aspects, including revenue, product development, and the overall valuation of a company. It's also important to understand design culture and principles.

4.2.1 Design Ladder

One of the first design maturity models developed is a four-step Design Ladder by The Danish Design Centre (Figure 6). This model describes the maturity of design use in companies (Koivisto et al. 2019, 163). Doherty, Wrigley, Matthews, and Bucolo (2015, 6) point out that the limitation of this model lies in its generality, as it is not tailored to any specific industry. It measures outcomes at an operational level rather than providing a framework for companies to incorporate design into their processes.

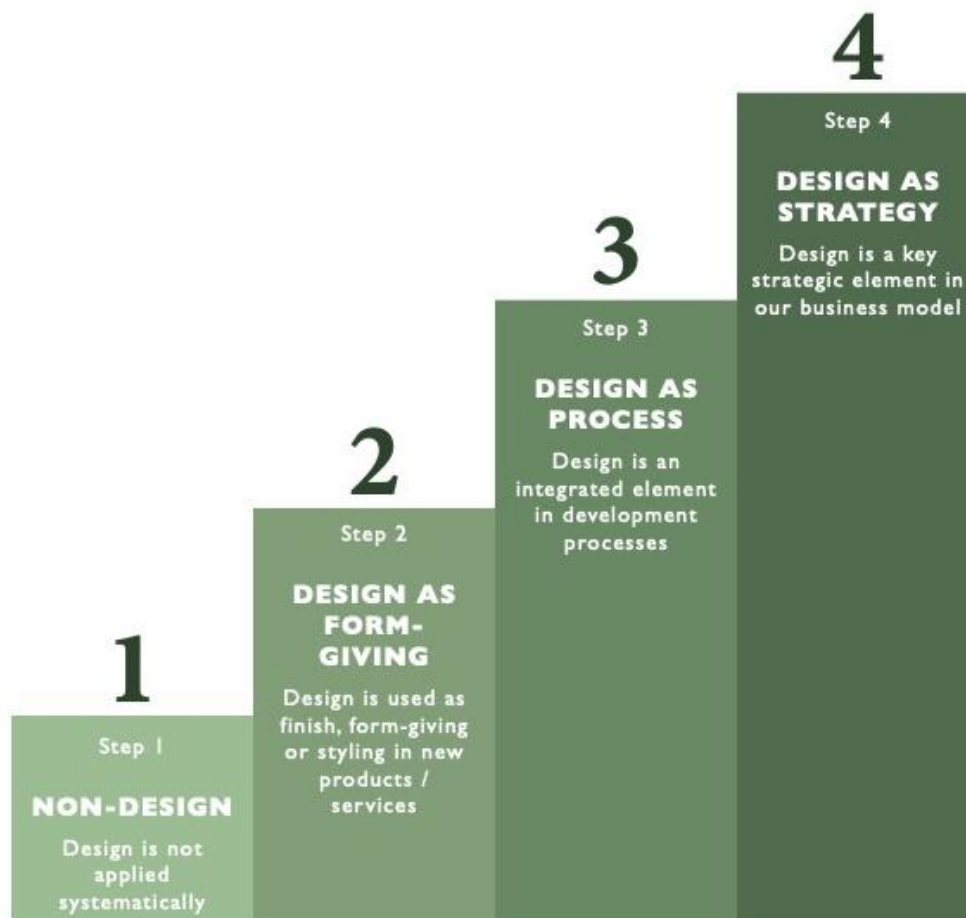


Figure 6: Design Ladder re-drawn (Koivisto et al. 2019, 164)

In companies operating at the first level of the model, design is not utilized systematically. Those that have ascended to the second level use design for enhancing the appearance of products or services. Companies that reach the third level have integrated design into their service and product development processes. At the fourth level, design becomes part of the company's strategy, influencing decision-making more broadly. (Koivisto et al. 2019, 165.)

The higher a company is on the ladder, the more strategically design is utilized within the organization. Design, in general, is an activity that can be widely employed across a

company – from tactical purposes to strategic ones. What is noteworthy is that the full potential of design in a company is reached when it is utilized also at a strategic level. (Koivisto et al. 2019, 165.)

4.2.2 The New Design Frontier

To explore the connection between strategic design and business performance, Invision conducted an extensive study detailed in "The New Design Frontier" report. This research surveyed practices across 2,200 organizations globally to uncover how design maturity relates to business success. The study introduced a five-level design maturity model: Producers, Connectors, Architects, Scientists, and Visionaries, each representing different stages of design practices. (Invision 2019, 5-7.)

The research results revealed that only 5% of the organizations reached the Visionaries level. On this level, design is integral to strategy, profoundly impacting business benefits like design intellectual property and valuation. Visionaries embraced research, prototyping, trendsetting, foresight, cross-platform design systems and strategies. They were found across various industries but typically in smaller companies. (Invision 2019, 15, 24-25.)

An important insight from this study was the significant role of the Scientists level where designers not only produced research information but also shared and utilized the research produced by other professionals within the organization. This approach emphasizes the importance of not only generating but also applying comprehensive research insights throughout the organization, leading to evidence-based design. (Invision 2019, 22-23.)

The study reveals that larger organizations faced challenges in adopting rapid changes and transforming their culture due to their complexity and size. They required more resources and time to develop their design maturity and remain competitive by thoughtfully incorporating design into their business strategies. More time was also needed emphasizing collaboration, experimentation, and high-quality standards on a large scale. (Invision 2019, 33.)

Embracing design as a central business element directly influences tangible business outcomes and company valuations, highlighting the disparity in challenges and opportunities across different levels of design maturity. Level 1 (Producers) companies, for instance, often face challenges with team silos that can be relieved through enhanced user research and collaboration (Invision 2019, 16-17). This highlights the importance for widespread utilization of research findings and interdisciplinary collaboration to achieve significant business success.

4.2.3 Enhancing Design Maturity

Emphasizing the role of customer-centricity when trying to increase the design maturity level within organizations is important. A deep understanding and implementation of solutions based on customer needs was seen necessary. This requires that a culture, values, attitudes, structures, and operating models genuinely revolve around customer needs. This highlights the connect between customer-centricity and design maturity. (Koivisto et al. 2019, 165.)

When focusing on in-house design management practices, nurturing a culture of empathy, collaboration, and inclusivity among design leaders and their teams can significantly help to achieve higher maturity level. Starting with teams open to design thinking and using design sprints for conceptual development can help to achieve higher maturity level. Simplifying design terminology to make design more approachable within organizations and fostering a better understanding of its benefits across different units is advisable. (Hänninen 2023, 35-41.)

4.3 Design Metrics

According to Björklund, Hannukainen, and Manninen (2018, 8) the organization's design maturity level affects which metrics are suitable to use. In their 2018 article, metrics were categorized into internal and external metrics. This categorization was based on whether the metrics examined internal or external evaluations or operations. External evaluations, such as market and customer reactions, were classified as external metrics. Internal evaluations, such as employee evaluations and internal operations like staff composition, were classified as internal metrics.

Additionally, both internal and external metrics were grouped based on thematic similarity. Two groups that observed external metrics were united as financial performance and customer evaluations. Four internal groups were divided to metrics measuring the extent of design usage within the organization, internal evaluations of project outcomes, development process metrics, and employee outcomes. (Björklund et al. 2018, 8.) Table 1 (below) presents the organizational maturity and metrics classification. In this table, the metrics are positioned on the four-stage scale of the Danish Design Centre's design maturity model.

Performance and operations		LEVEL 1 Non-design	LEVEL 2 Design as form-giving	LEVEL 3 Design as process	LEVEL 4 Design as strategy
External	Financial performance and valuation of the company	Benchmarking other, more design-centric, companies: <i>Share prices</i> <i>Turnover growth</i> <i>Performance</i> <i>Acquisitions of design agencies</i> <i>Amount of innovations</i>	Sales Revenue Return-of-investment (ROI)	Market valuation and market share Growth profitability	
	Customer related metrics		Customer satisfaction and feedback	Lifetime customer value Net promoter scores (NPS) Brand loyalty Brand perception Brand equity Conversion	
	Other		Product/service awards		Entering new markets
Internal	Design extent and emphasis indicators		Ratio of designers to developers Growth in the design budget	No. of projects No. of concepts finished No. of people trained in design	Seniority/rank of design positions within the organization
	Project outcomes		Cost savings Reductions in time to market	ROI per project Value and novelty of resulting service or product (averaging anonymous internal ratings) Usability metrics of resulting service or product	
	Development process			Internal feedback Amount and frequency of contact with users (running total of days without interaction with user, amount of users interacted with, amount of user categories interacted with) Amount and concurrency of prototype iterations (list with open/closed status)	Team collaboration (e.g. Interaction Dynamics Notation) Team effectiveness
	Employee outcomes			Customer centricity Responsiveness Empathy	Employee satisfaction Employee motivation Employee engagement

Table 1: Metrics for the impact of design on each level of the Design Ladder re-drawn (Björklund et al. 2018, 8)

When organization's design maturity grows, so does the need for measurement. At the first level of design maturity, where design is not leveraged, external financial metrics such as stock price, company performance, and the number of innovations can serve as benchmarks against more design-mature companies. These metrics can be used to communicate the benefits of design in comparison to peer companies. They can also justify the need to increase design maturity within the organization. (Björklund, et al. 2018, 5.)

According to Björklund et al. (2018, 5-6), at the second level of the maturity ladder arises a need to measure the impact of design on sales. At this level, the focus is on visual aspects and user interface design. The need to measure customer experience becomes apparent, especially after changes in the user interface. Possible success in competitions may also serve as a motivation.

At the third level, the number of customer-related metrics increases. Examples of such metrics include customer lifetime value, conversion metrics, and various brand-related indicators. At the third level, design becomes integrated into the development process, and internal metrics within the company. The number of projects utilizing design and the count of employees with design training also become relevant metrics in describing the extensive utilization of design. (Björklund et al. 2018, 6-7.)

At the fourth level, design is fully integrated into all aspects of the company's operations, from a strategic level to operational activities. The potential expansion into new markets or industries is a new external metric is added. Regarding internal metrics, the commitment of company leadership to design, interpersonal interactions, and metrics related to employee experience are considered significant. At this point, project-level design metrics are no longer necessary, as design is integrated into all aspects of the company's operations. (Björklund et al. 2018, 7.)

4.3.1 Previous Studies: Design ROI

In 2011 a research project was initiated with the aim of developing a tool for measuring the return on investment (ROI) of design investments. This project was conducted in collaboration with the Finnish Design Business Association (FDBA), Aalto University, and Tekes, and it involved the participation of fifteen design agencies representing various design domains. The primary objective of the research was to deepen the understanding of how design impacts business and to create a tool that could be used to concretely demonstrate the economic benefits of design. (Pitkänen & Veinola, 2014, 62.)

Design return on investment (ROI) is the ratio of profit to investment. Its effects can take two forms: direct, involving cash flow improvement, and indirect, as it enhances intangible assets such as expertise and brand value, potentially leading to increased returns from other investments. (Pitkänen & Veinola, 2014, 66.)

In the context of Design ROI, there are three levels of design application: operational, tactical, and strategic, each with four areas of focus – product, brand, service, and space. Additionally, financial impacts are considered: whether the initiative generates cash flow more quickly or accumulates more, builds capital, or reduces costs (Figure 7). (Pitkänen & Veinola, 2014, 66-68.)

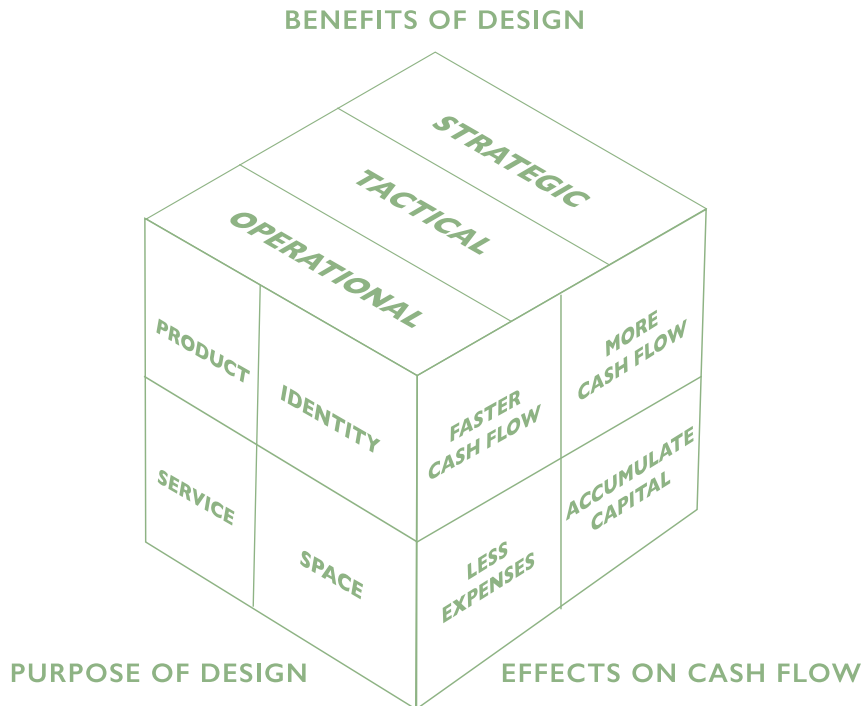


Figure 7: Design ROI framework re-drawn (Pitkänen & Veinola 2014, 66)

According to Pitkänen & Veinola (2014, 68-70), The Design ROI tool operates in five stages (Figure 8). In the first stage, the tool collects case-specific information about the company and the project. These include goals, investments, and timelines. In the second stage, it utilizes results from previous projects in the database and creates a list of potential influencing factors. The third stage involves forecasting the project's outcomes within a specified timeframe. In the fourth stage, the project's success is evaluated using financial metrics and compared to the original objectives. In the fifth stage, the results are stored in a database, for the use of future forecasts.

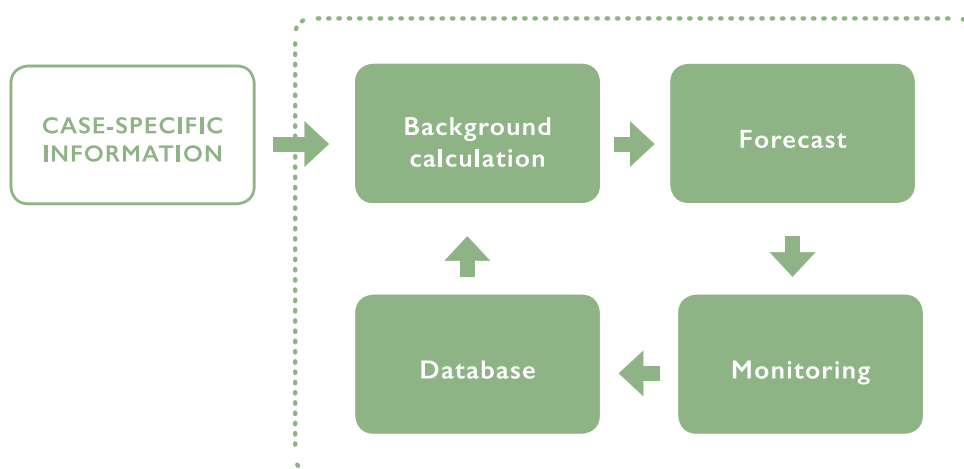


Figure 8: Design ROI tool 1.0 re-drawn (Pitkänen & Veinola 2014, 69)

According to Pitkänen & Veinola (2014, 70), development of the Design ROI tool is ongoing. As of now (2024), no new version of Design ROI tool has been released and the former study is no longer available for public.

4.3.2 Previous Studies: Case OP

Osuuspankki Financial Group (OP) has been one of the domestic pioneers in leveraging design. The book "Mature in Design?" gathers learned observations from OP's design journey, started in 2011, which have attracted interest both domestically and internationally.

According to OP's experience, as design maturity increases, so do the business benefits. Based on OP's experience, higher organizational maturity level equals greater business benefits (Hannukainen, Kiirikki, Manninen & Säkkinen 2020, 9). According to Hannukainen et al. (2020, 9.) the business benefits of design can manifest directly by improving customer experience, increasing service usage, and sales, or indirectly, by reducing the number of complaints and customer service contacts. In addition, design can open entirely new business opportunities, thus bringing new business benefits. This underlines the strategic significance of design and its connection to business success.

Another observation is that increasing design maturity does not mean increasing the number of designers. In more mature organizations, design is not solely the responsibility of designers but is integrated at all levels, including business leaders. This brings out the role of design in the organizational culture and the need for it to be part of all employees' activities. (Hannukainen et al. 2020, 32.)

The last key observation made by OP, emphasizes that as design maturity increases, so should the maturity in producing customer understanding. The research indicates that design maturity and the production of customer understanding are greatly interconnected. As design maturity levels increase, the need for the development of customer understanding increases as well. This indicates that improving customer-centricity is an essential part of the design process within the organization. In OP's case, at the beginning designers had to acquire the necessary customer understanding on a project-by-project basis from various sources, which slowed down projects and hindered the accumulation of understanding. Measuring customer experience was fragmented, and the inconsistent content and implementation of various NPS surveys created a patchwork picture, making it difficult to form an overall understanding. (Hannukainen et al. 2020, 25-27.)

4.4 Strategies for Measuring and Enhancing Value

Westcott et al. (2013, 6-7) believe, that using a combination of soft measures (design influence, respect, culture change) and hard metrics (budgets, team size, value generated by each project) can be informing when measuring the value of design.

There remains a disconnect between senior designers and CEOs, with CEOs lacking a comprehensive understanding of the role of senior designers (Dalrymple, Pickover & Sheppard 2020, 13). Faljic (2020), underlines that designers should actively bridge this gap by articulating the value of their work in a language that resonates with business stakeholders, primarily through quantitative thinking. To achieve this, a three-step method for quantifying design work is presented:

1. **Define a business driver:** To ensure that design activities contribute to overall business goals, it's advisable to identify specific business drivers they can influence. These drivers can consist of both revenue generation (e.g. attracting more customers) and cost reduction, such as decreasing fixed or variable costs like marketing material etc.
2. **Estimate the financial impact:** Calculating the business impact requires two key elements. First is to understand the current state, and what is the goal? Second is estimating the potential impact of the design project against this goal. When searching for critical metrics and establishing realistic expectations, collaboration with relevant stakeholders is essential.
3. **Communicate with hypotheses:** While the numbers involved may be estimations, they should be rather framed as informed assumptions than mere guesses. These assumptions should be based on historical data, peer examples, and expert opinions. Presenting these assumptions alongside with relevant case studies can improve communication.

According to Dalrymple et al. (2020, 14-15), establishing the right system of metrics to measure performance is important. Following steps were hoped to help organizations build an effective metrics system:

1. **Define Business Goals and Design's Contribution:** Begin with clearly defining the organization's business goals and how design is expected to contribute to achieving those goals.

2. **Identify "North Star" Metrics:** "North Star" metrics are key performance indicators that capture the organization's primary objective. These metrics often fall into one of three categories:
 - **User Test Scores** measuring user satisfaction or other user-centric indicators.
 - **Operational Metrics** can be single measures like churn or adoption rate, or composite metrics derived from various operational indicators.
 - **Financial Metrics** which measure the financial benefits achieved by the organization, such as sales volumes.
3. **Develop a Holistic Metrics System:** A comprehensive metrics system created around the chosen North Star metric was seen beneficial. It should be ensured that metrics are interconnected and that every aspect of the product or service experience, has a clear linkage to the North Star metric.
5. **Select Operational Metrics:** Design leaders should define the operational metrics that support priority products and journeys. Operational metrics should provide insights into how well the organization is progressing towards achieving its goals.
6. **Align with the Leadership Team:** Chosen metrics should resonate with the entire leadership team. These metrics should clearly be linked to financial value, but they should not be a barrier for designers to work creatively.

4.5 Conditions for Successful Design

Based on the chapters above, it can be concluded that the use of design can be most beneficial to a company under the following key conditions:

Referring to the literature review above, it is reasonable to state that the effective utilization of design significantly influences a company's competitiveness. Especially when design is strategically incorporated into the company's operations. However, only a portion of companies that utilizes design do so strategically. At low maturity levels, design is primarily perceived as a final touch for the aesthetics of products or services, or for marketing purposes, resulting in limited and less discernible impacts. However, as many studies addressed above reveal, design is most effective when it's user-driven and when it is an integral part of a company's culture.

The benefits of design vary in different situations, and its effectiveness depends on how it is applied and how well it is adopted within an organization. Measures are needed to

integrate design throughout an organization, making it as an aspect of the company's strategy, approach, and culture. Design should be perceived not as a separate resource but as a competence or capability within the company that needs to be nurtured and developed alongside other competencies.

Multidisciplinary collaboration, where designers work alongside engineers, business professionals, and other experts, is highlighted. This diverse perspective can bring forth innovative ideas and improvements that would not be found if working in siloes. To make this collaboration successful, the design process also requires time, financial resources, and a team of skilled professionals. The support and commitment of the organization's top management is crucial: a work environment where the design process can flourish can only be achieved through leadership support. McKinsey study from 2018 reveals that the most successful companies collaborate across the entire organization, listen to users, invest in design, and gain a competitive advantage through design.

Through design, companies can increase the value embedded in their products and services while reducing the need to compete solely on production costs. Since design significantly involves considering user needs during the innovation process of products and services, it also has the potential to speed up the commercialization of new products.

By creating a comprehensive user experience, a company can differentiate itself from competitors. Design can shape meaningful user experiences during all interactions with the company if it is given the opportunity to function to its full potential.

The core values upheld by the case company of this thesis, including customer-centricity, ongoing innovation, responsible operations, and efficiency, support for the incorporation of design. Design can play a role in making these values visible by enhancing the customer-friendliness of services and aligning them with customer needs. Moreover, it can enable the company to differentiate itself from competitors, fostering significant customer experiences and long-lasting customer relationships.

5 Empirical Research

5.1 Research-Based Development Work

This thesis is a research-based development work that combines both research and practical elements. Research based development work aims to produce new knowledge or understanding and apply it to solving practical problems. This thesis has been conducted as qualitative research, with the intention of increasing understanding of the subject of study. According to Fossey, Harvey, McDermott, and Davidson (2002, 717), qualitative research seeks a deep understanding of people's experiences. A key part of qualitative research is to understand participants' subjective meanings, actions, and social connections from their own perspectives. Fossey et al. (2022, 717) emphasize that qualitative research helps to understand the subjective experiences related to the chosen theme and providing an opportunity to explore the underlying reasons for these experiences. Development work is often described as a process (Figure 9) because the nature of development is time-consuming and often consists of clear stages (Ojasalo, Moilanen, and Ritalahti 2015, 22).

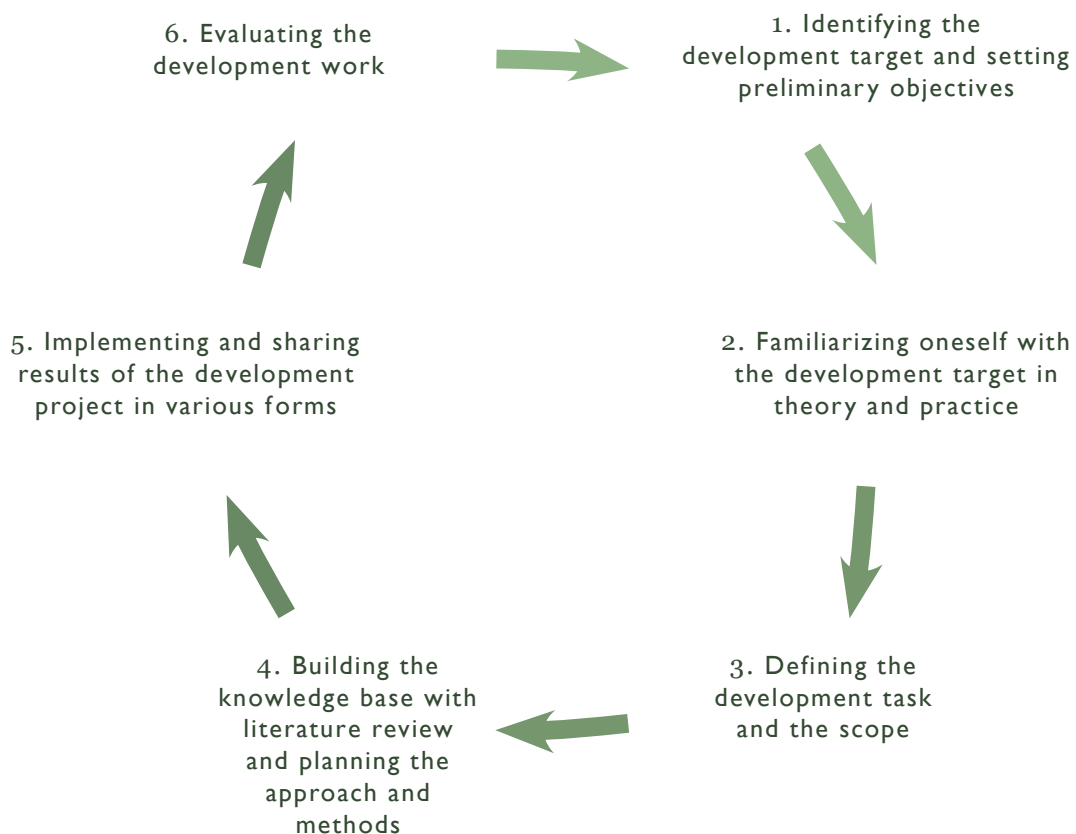


Figure 9: The process of research-based development work re-drawn (Ojasalo et al. 2015, 24)

5.2 Defining a Meaningful Objective and Preliminary Goals

The development work begins with the identification of a preliminary development subject and preliminary goals (Ojasalo et al. 2015, 26). This development work started at the end of March 2023, when the first discussions were held with the design leadership of the case company. The aim was to explore whether there could be a more systematic approach, for measuring the value that design could potentially bring to the business. One of the starting points was to support the company's design team in their daily work. The discussion raised the following questions: What components would be needed for such measurement, what would be the correct way to measure it, and is it even worthwhile to measure the value of design?

After this discussion, the reflection of the topic continued independently and with the thesis advisor. The following observations emerged:

- What is the hypothetical value produced by design?
- What is the value of design in processes, and how could it be highlighted?
- What type of value is it that the organization's management sees design producing?
- Views on value: value can also be generated within the organization, for example, as employee satisfaction.
- Is design ROI (Return on Investment) even measurable, at least with the types of metrics that already exist?

Once the development target is clear, preliminary goals that the development work aims to achieve can be defined. However, since at this stage of the process there is usually not yet enough information collected from practice and theories, so the definition of goals can still be indicative. (Ojasalo et al. 2015, 26.)

The discussions with the design leadership team from the case-company, as well as several literature sources that were examined, showed that the value produced by design still requires discussion. This justified the relevance and necessity of the topic.

Following, the process involved conducting first background research into the history and current state of the case company. Ojasalo et al. (2015, 26) note that it is important to thoroughly familiarize oneself with the development target. Successful development work considers the assumptions and starting points that emerge from previous studies and the practical world. I reviewed previous studies which had been conducted to the same company and its design team.

5.3 Delving into Research Literature and Key Considerations

Next step was to start with literature review. It was important to conduct a comprehensive review to understand the different aspects of value generated by design, as the topic is broad. A thorough review provided a foundation for more detailed research and helped to gain understanding of the value of design within the different teams. Research literature aids to understand the subject area being developed and there go allowing for a more precise definition of development goals (Ojasalo et al. 2015, 26).

At this stage, my reflections led to the following observations:

- How to communicate about hypothetical value produced by design?
- What is the goal of utilizing design?
- Examples of metrics for measuring the impact of design: customer satisfaction measurement, sales growth, brand image, market share growth etc.

After Midsummer 2023, the process continued with a new meeting with design leadership representatives. During this meeting, the topic was discussed more thoroughly, aiming to identify the real "pain points". The discussion covered the following themes:

- What is the significance of customer orientation, and how can it be convincingly demonstrated as profitable?
- Is it possible to determine the value of design through a systematic model? What theoretical models exist?
- Why and how should design be integrated into business operations to generate significant value?
- What is the value of design within an organization?
- How does design maturity affect a team's success, especially the impacts of high and low design maturity? How can InVision's design maturity assessment help understand this?
- How much resources and attention are given to the design process and design in decision-making?

Based on these notes, I continued with the literature review with focus on available information on the topic of measuring the value of design within an organizational context. At this point, also the final research questions were shaped:

1. How could the significance and value of design be clarified to those who may not yet have recognized its importance?
2. Do stakeholders see measuring or validating design value as necessary in the case company?
3. In what ways could the value produced by design be measured or highlighted so that its significance becomes apparent to those who are not design professionals or familiar with design principles?

The research focuses on measuring the value of design in an organization through two key perspectives: measurement methods and organizational culture. The aim of creating a theoretical foundation was to start increasing understanding of various practical actions through which the value of design could be measured and brought out.

Also, the relation between organizational culture and measuring design value was seen important to this thesis. Specifically, aiming to determine if the stakeholders involved in the research believe it's important to measure or validate the value of design within the company. The goal was also to gain understanding of the potential impact of such measurement or validation from the stakeholders' point of view.

5.4 Approach and Research Methods

The chosen approach for this thesis was a combination of case study methodology and design thinking. The development work may incorporate features from multiple methodologies, given the overlapping characteristics of these approaches (Ojasalo et al. 2015, 36-38). The case study approach is particularly suitable when the goal is to deeply understand the situation within an organization, with the aim to either solve a problem that has emerged there or to produce developmental suggestions through research (Ojasalo et al. 2015, 37).

Similarly, design thinking offers a valuable framework for user-centered design. It's important to clarify that in this thesis, 'users' refer to both design experts and non-designers within the organization. In this thesis, the focus is on the user research phase of the process. Focusing on this stage enables a deeper understanding of the internal 'users' needs and experiences. This builds the groundwork for more informed design and development efforts, that is based on these insights.

5.4.1 Semi-Structured Interviews as a Research Method

The user research phase has been a crucial part of this work, involving semi-structured interviews in its implementation. According to Tuomi & Sarajärvi (2018, 65), semi-structured interviews allow open and conversational atmosphere while maintaining a certain structure in the background of the discussion. Semi-structured interviews offer flexibility and openness, creating the opportunity to gain a deeper understanding of the research subject without excessive pre-guidance (Ojasalo et al. 2015, 40). The choice of this approach was based on the desire to aim for an objective view of the research subject.

In semi-structured interviews, the interviewer needs to have a certain level of understanding of the topic being discussed (Tuomi & Sarajärvi 2018, 65), so creating a strong theoretical foundation in the literature section of the thesis helped in the processing of information gathered from these interviews.

This work has strongly emphasized the principles of user-centered design, particularly identifying users' needs, understanding expectations, and solving challenges. This required creating a deep understanding of the users' context and goals.

Interviews allow for a deep exploration of participants' experiences, views, and emotions. Interviews also gave direct access to the voices and perceptions of those involved in the research regarding the significance and value of design. This is especially useful when investigating subjective experiences and evaluations, that are not always quantifiable. (Fossey et al. 2002, 717.)

5.4.2 Selection of Interviewees

A total of 34 individuals participated in the interviews, which resulted in 17 interviews that were conducted as both individual and team sessions. The interviewees were selected in collaboration with the design representatives from the organization. The goal was to include a diverse range of perspectives from different cross-functional teams by including stakeholders from three maturity levels of the organization.

This selection included both design professionals and people who do not work in the design field, including managers at tactical positions. It was particularly important to include individuals also in tactical roles considering the implementation of design. This refers to observations by Björklund et al. (2020, 109), highlighting the influence of those in tactical positions, such as product managers or development directors.

The diverse roles of the stakeholders assured, that a wide range of perspectives on the significance and value of design were taken into account. For example, questions for the

stakeholders in the management positions emphasized different strategies and the influence of design on services, whereas including designers and developers in the interview process brought forth a comprehensive perspective on design processes from concept to implementation.

In this context, terms like "individuals," "participants," "stakeholders," "respondents," and "interviewees" are used synonymously to indicate the company employees who took part in the interviews.

5.4.3 Structure of The Interviews

Sixteen interviews were conducted digitally via the Microsoft Teams platform, and one interview was conducted face-to-face. Interviews were recorded with the participant's permission and after that transcribed into a Word document. After transcription the recordings were deleted.

The interviews began with an introduction to the theme of the research-based development work, as well as a review of interview practices. As warm-up questions, participants were asked about their work history, i.e., how long and in what positions they have worked at the company. In addition, their general views on the company's culture and values were asked.

After the introduction and warm-up sections, the interviews were divided into themes based on the participants' roles. The general topics and questions within each theme related to design and its significance within the organization. Themes included more detailed questions about topics such as the definition of design, the role of the design team, challenges, the impact of design on product development, and strategic orientation. The questions aimed to build an understanding of the role and significance of design, measuring its value, and how different stakeholders relate to these aspects.

The questions were intended to explore different stakeholders' perspectives on topics such as the role of design in business, its impacts across various business areas, potential challenges and benefits, and the necessity of measuring or verifying design value.

Interviews with design professionals focused specifically on designers' views on their own work, their impact on the company's value chain, and collaboration with other departments.

The interviews with non-designers had a purpose to understand the impact of design on various areas of the organization, such as work culture and the development of products and services.

Each interview emphasized the respondents' freedom to express their own views and experiences, highlighting that there were no right or wrong answers. The confidentiality of the interview was confirmed during the warm-up phase, along with information about the recording and the anonymous processing of the recordings. Interview structures can be found in Appendices 1, 2, 3, 4, 5, 6, and 7.

5.5 Analysis Methods

The main purpose of the research was to delve into the significance of design and the need to measure its value in the case-company. The research also had emphasis on finding ways to communicate about design's potential value.

Qualitative content analysis provides a suitable approach for exploring these themes, enabling diverse interpretations of the material and an open perspective on the phenomenon. It aims to identify themes and understand the meanings of the material, revealing possible underlying structures, themes, and meanings. (Tuomi & Sarajärvi 2018, 78-79.) In this thesis' context, the method focuses on how the significance and value of design can be clarified for those who do not yet recognize its importance. Similarly, it allows for the identification of various ways to measure the value created by design and examines organizations' experiences regarding the need for measuring design value and the role of designers in this process. Qualitative content analysis was seen to offer an open interpretation and deep understanding of these perspectives.

In addition to qualitative content analysis, a comparative analysis was utilized to analyze data. Comparative analysis was selected to gain understanding of the differences among stakeholders' opinions in the context of measuring the value of design. This enabled an understanding of how high or low design maturity may affect stakeholders' perceptions of design. The purpose was to determine the different attributes and explain what is common and what is different in these cases. (Melin 2005, 58-59.) Comparative analysis was involved from the outset in building the Miro board, where interviewees were grouped and color-coded based on altitude and design maturity.

Combining analysis methods aimed for deeper understanding of how the significance and value of design are perceived in the organization from different perspectives.

5.6 Analysis

Qualitative content analysis was used to create a deeper understanding of the emerging themes from the interviews. At first, an open coding process was conducted to identify key themes in the data. Following, the data went through classification and organization,

enabling interpretation of how the significance and value of design are manifested across different parts of the organization. In analyzing the results, it was important to connect the identified themes with the original research questions.

The content of the interviews was transferred to the research wall in Miro platform (Figure 10). At this stage they maintained the format in which they were conducted, group interviews and individual interviews. The themes in the research wall were organized based on the questions from the interviews (appendices 1-7). Color coding was used to dividing the information on the research wall as "pains, gains, and other". This structured approach on the research wall was critical for visually organizing the research data. It also created an efficient overview of the main themes and facilitated a deeper and more nuanced content analysis. This thematic categorization helped in managing the extensive volume of data and in gaining a comprehensive understanding of the key themes related to the research questions.

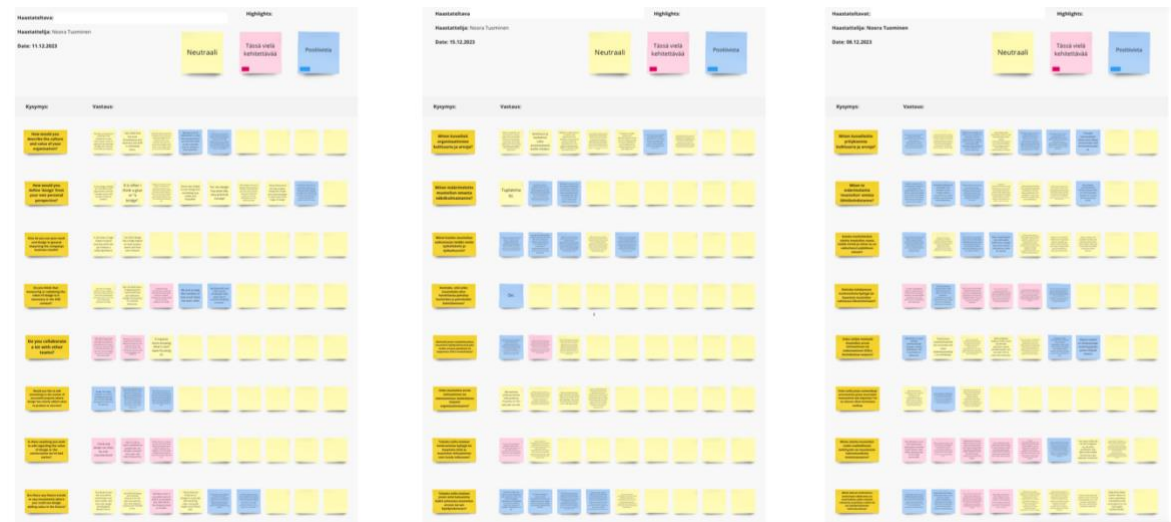


Figure 10: Research wall

This thematic categorization also served as the foundation for a more detailed content analysis. Using the research wall at this first stage was important to managing the large amount of data and getting a clear view of the main themes and patterns.

After the thematic categorization in the research wall, the content was transferred to an affinity diagram also created on the Miro platform (Figure 11). Here, the data was categorized not only by the interviewees' roles within the organization, such as leadership, design professionals, and non-designers, but also by combining themes for a more comprehensive analysis. The themes were organized as follows: 1. Definition and Understanding of Design, 2. Design Unit and Designers: Goals and Expectations as well as Cultural Changes and Collaboration, 3. Benefits, Challenges, and Impacts of Design, 4.

Measuring the Value of Design, and 5. Future Perspectives. The use of affinity diagram aimed to further organize and understand the extensive research data. This phase made it easier to analyze the data systematically. It also helped to note important findings and themes in the research material. This offered a detailed view of how different stakeholders see design, and how these views change with their roles.



Figure 11: Affinity diagram, first version

The initial phase of analysis in the affinity diagram was conducted quickly. However, it was seen important to move forward in a careful and ethical way to ensure the information was reliable. It was crucial not to oversimplify the data too quickly. While maintaining the diversity in the material, there was also a need for clear organization. This laid the groundwork for discovering meaningful connections.

After the completion of the initial affinity diagram, the results were reviewed with the key contacts from the design team. Following this meeting, the interviewees were further categorized into managers, designers, and non-designers, as well as based on different levels of each team's design maturity (Figure 12). Sorting the respondents based on their team's design maturity was a start of comparative analysis between different maturity levels.

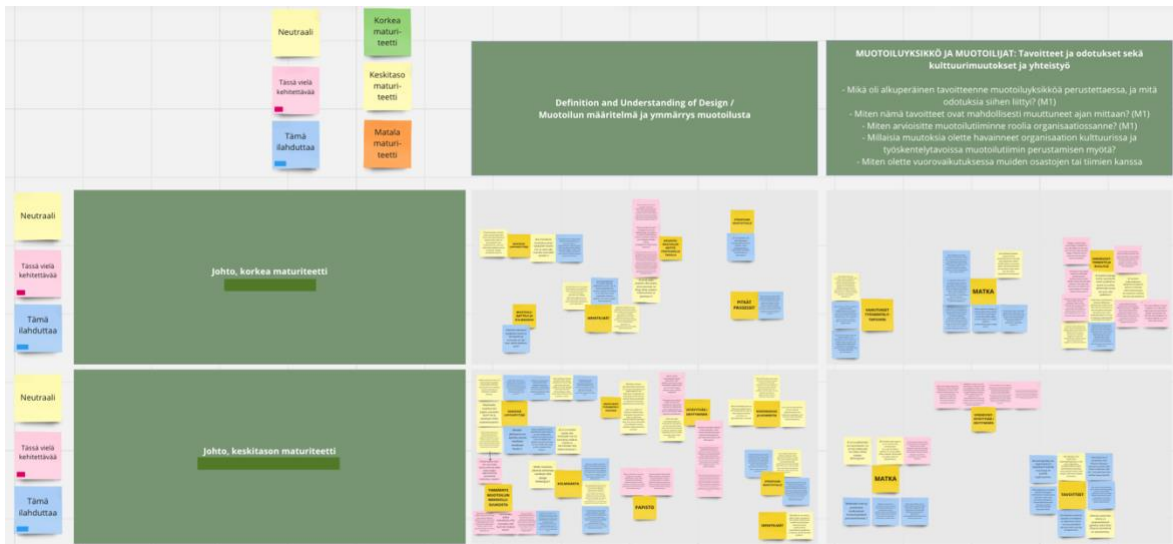


Figure 12: Affinity diagram, second version

After the interviewees were re-categorized, it was considered important to further simplify and explain the thematic categories, aiming for easier readability of the affinity diagram. This led to the creation of a third version of the affinity diagram (Figure 13).

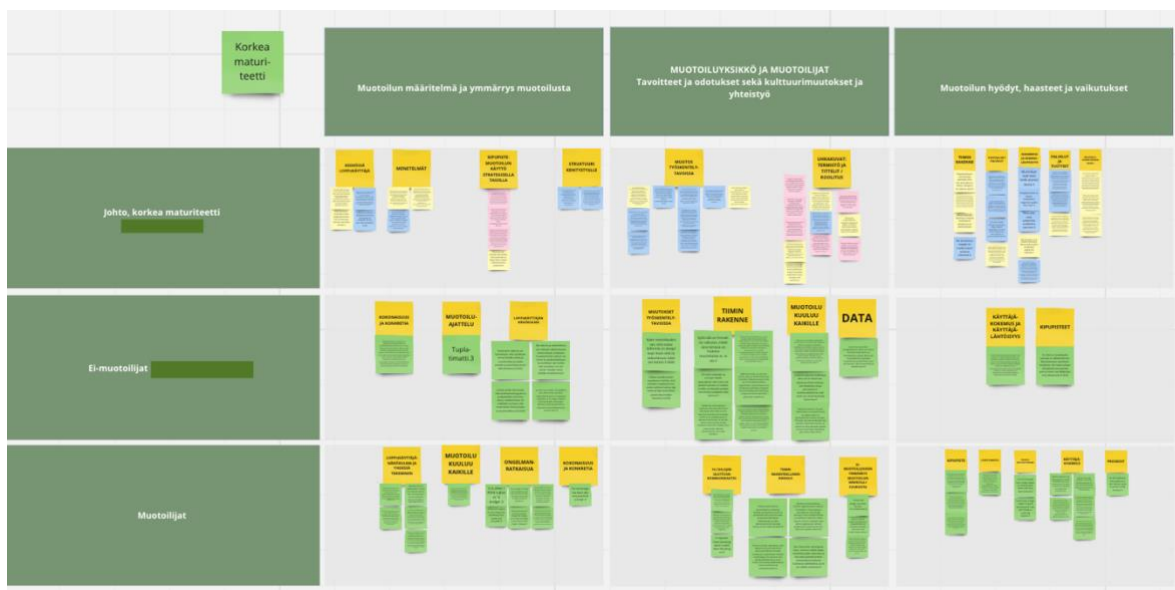


Figure 13: Affinity diagram, third version

The perspectives of the management were purposely separated from other non-designers. This was considered a means to gain a deeper understanding of how the leadership perceives the role of design in providing strategic vision and direction to the organization. The theoretical framework of this thesis underscores the essential role of management support in reaching the full potential of design within an organization (Sheppard et al. 2018, 10).

Designers and non-designers were intentionally separated to observe potentially different perspectives. Non-designers, individuals who do not primarily work in design roles, were expected to bring forth diverse perspectives and experiences regarding design. This was believed to gain understanding on how design is perceived across various areas of the organization. Designers were seen to provide deeper expertise through their roles and bring new understanding of the value of design within the company.

By analyzing these groups separately allowed a more comprehensive view of design's role within the organization. It created an understanding of how different stakeholders interact with and value design, providing a clearer picture of the organizational culture surrounding design. Understanding the different views of designers and non-designers helps making strategic choices about resources, training, and how to use design for a competitive advantage. This distinction could show where better communication and teamwork between designers and non-designers could enhance innovation and problem-solving.

6 Research Findings

6.1 Presentation and Interpretation of Results

In interpreting the results, various perspectives and interpretations were considered. Using peer analysis, increased understanding on how different roles and stakeholders within the organization perceived the significance of design differently.

The interviews revealed abundant rich user data. The most relevant themes that emerged for this study were categorized into four main categories: *Understanding of Design Among Different Stakeholders*, *Communicating About the Value of Design*, *Metrics*, and *Opportunities and Challenges in Design Utilization*. Within these main themes, there were multi-level and overlapping meanings, illustrated in the variation of a Venn diagram below (Figure 14).

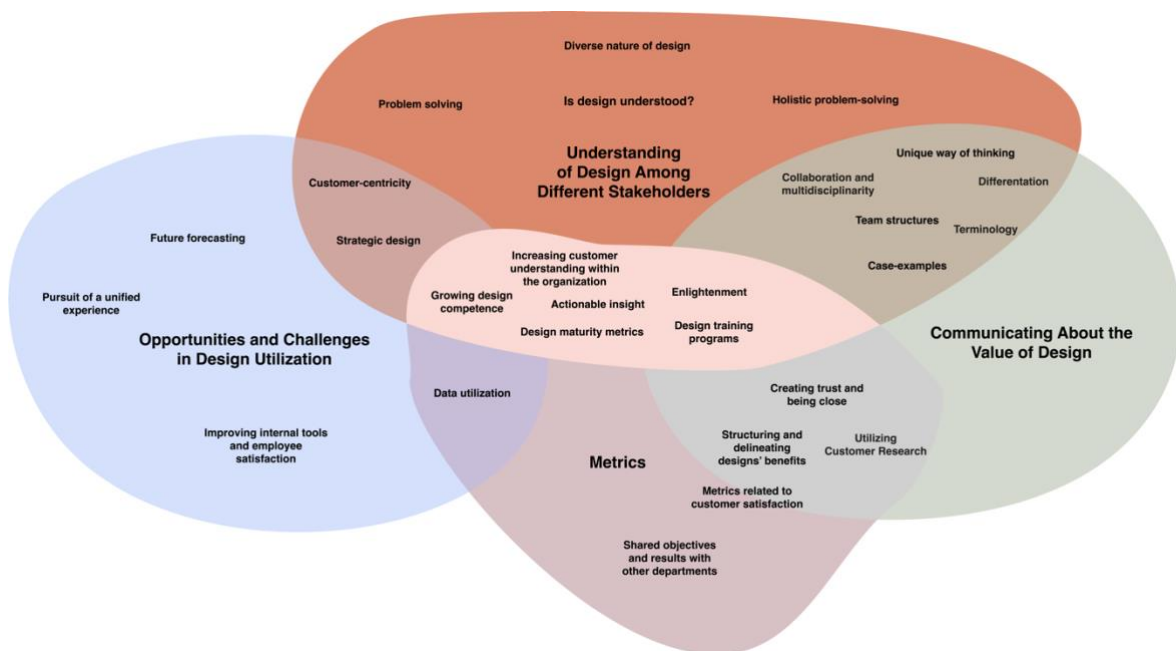


Figure 14: Modified Venn Diagram

6.2 Understanding of Design Among Different Stakeholders

The first research question focused on how the significance and value of design could be clarified to stakeholders who might not realize its importance. It was important to gain understanding about the interviewees' views on design. This aimed to find out how well the interviewed stakeholders understand the importance of design, but also, where do they see the value in it.

After the warm-up questions, interviews continued with a common question about definition of design in one's own perspective. This first question was deliberately left open-ended to encourage respondents to provide different interpretations of "design," recognizing that people might define it in diverse ways. The objective of this question was to deepen the understanding of how the interviewees themselves perceive design. In many cases, this question also started conversations, which led to deeper discussions and more detailed thoughts. This helped showing how participants personally connect to design.

It was notable that in discussions with higher design maturity teams, there was generally a more comprehensive understanding of the significance of design regardless of the respondents' roles. In lower maturity level responses, the understanding of design tended to focus more on enhancing user experience or developing visual features.

It is also important to bring out, that there were significant differences in individuals' understanding of design, regardless of the team's overall design maturity level. This variation comes from different factors such as educational background, previous experience, interest, and attitude towards design. Some individuals may naturally be more prepared to adopt and apply design processes, while others may need more support and training.

The structure of functional teams, a mix of business, design, and development expertise, was seen beneficial in gaining understanding about design. This came up with several responses from non-designers, including management. Especially in functional teams in higher maturity level, design professionals were seen as active partners, allowing them to be constantly present and collaborate in daily operations.

Among non-designers and management level, design was seen to play a significant role in customer knowledge and customer-related problem-solving. However, it was seen be beneficial if everyone would share interest towards customer knowledge, referring to the company's strategy to become more customer centric.

From this perspective, team structure can help stakeholders understand that design is not limited to creating visual elements but encompasses a broader perspective that considers user needs, business objectives, and technical development requirements.

Following chapters divide the answers through maturity level and stakeholder roles. Emphasis here is to focus on analyzing management level and non-designers' perspectives, because value of design is presumably already recognized among designers. Two of the management level interviewed participants are not included to these categorizations, so their answers were ruled out from these comparisons, because the

categorizations are strongly related to each team's maturity level. However, the viewpoints of these two individuals are included in the analysis at a general level.

6.2.1 Management Level

Responses at different maturity levels were diverse. There were also differences in individuals' understanding of design, regardless of the team's overall design maturity level. As mentioned before, this could be because stakeholders come from different backgrounds affecting the results. What is also mentionable, is that the management level categorization had different roles within it. Some roles engage more frequently with designers and design principles than others.

In a team with a high level of design maturity, design was viewed as a dynamic, continuous process of learning and adaptation focused on understanding and meeting customer needs through iterative development and testing. Customer needs and experiences were seen central to every decision. Customer-first approach was seen not just as a design principle but as a larger business strategy ensuring products and services are deeply aligned with the customer expectations.

Results from a medium level of design maturity show that design is not just as creating visually appealing products but as deeply understanding and solving customer problems. There is a desire to embed design thinking across the organization, with an emphasis to encourage employees to adopt a design mindset.

Observations coming from low level of design maturity indicate that design is believed to play a key role in bridging customer and business value. By understanding how to solve problems in ways that primarily benefit the customer were seen often leading to increased business advantages. There were questions about whether customer needs are well understood within the organization. Below, Figure 15 shows more detailed answers.

MANAGEMENT		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Customer-Centricity: Design was seen as a dynamic, continuous process of learning and adaptation, focused on understanding and meeting customer needs through iterative development and testing. The respondents also highlighted the positive impact of design and agile methods, emphasizing design competence and the need for broad-spectrum experts to overcome specialization challenges. Customer needs and experiences were seen at the center of every decision. According to respondents, customer-first approach is not just a design principle but a business strategy, ensuring that products and services are deeply aligned with user expectations.</p> <p>Diversity in Design Approaches: A wide range of design disciplines were recognized to address complex challenges from various angles.</p> <p>Strategic Design: While valuing design, there was also a critical perspective concerning strategic design. One respondent saw design as a relatively young field, suggesting that developing strategic thinking and approach in design may require more time and experience.</p> <p>Scope and Application: One interviewee wished for designers to have a broader range of skills. In the changing work environment, which demands flexibility, it would be more advantageous if designers had a more broad skill set, enabling them to operate effectively. The threat perceived was that if designers define themselves too narrowly that when discussing design-related issues, many designers will need to participate in the discussion because no one has a broad understanding of the subject.</p>	<p>Emphasize Customer Centricity: The respondents saw design not just about creating visually appealing products but deeply understanding and solving customer problems.</p> <p>Design Culture: There's a wish to embed design thinking across the organization, encouraging employees to adopt a design mindset. Respondents recognized the positive impact of establishing a design unit and the value of design thinking.</p> <p>Maturity Level: One respondent acknowledged challenges in getting design's full potential due to maturity level and team's alignment.</p> <p>Potential Risks of Isolation and Separation: One respondent brought out a potential risk if design becomes isolated or a siloed function. At this point, this is not the case, but the respondent pointed this out as a potential threat. According to the respondent, this could lead to design teams becoming detached from other parts of the organization, potentially limiting their ability to influence broader strategic decisions and to collaborate effectively across functions.</p>	<p>Utilizing Design: One respondent highlighted that the top management is gaining a better understanding of the importance of design.</p> <p>Design Benefits: One respondent believed that design plays a key role in blending customer and business value. This involves understanding how to solve problems in ways that primarily benefit the customer, often resulting in increased business advantages as well.</p> <p>Customer understanding: It was questioned of whether the customer's needs are understood well enough.</p> <p>Design is not always involved in the early stages of development work: One respondent pointed out difficulties in making full use of the design. The respondent noted that there was perhaps a tendency to involve design too late in the development process.</p> <p>Difficulty in Categorization: Some felt it difficult to define the exact role and scope of design.</p> <p>Lack of Systematic Processes: Design actions may at times be random or project-specific, without a unified strategy aligned with broader business objectives.</p>

Figure 15: Comparison of management's answers in different maturity levels

6.2.2 Non-Designers

Responses among non-designers included team leads from agile units as well as development team members. Like in the management level results, there was also differences in individuals' understanding of design among non-designer, regardless of the unit's overall design maturity level. That is why it's challenging to conduct a straightforward comparison between each maturity levels.

Across all maturity levels, there was a strong emphasis on customer experience. Different levels recognize the critical role of design in meeting customer needs and enhancing user experience. There's a shared acknowledgment that design should be seen as an integral part of daily decision-making, teamwork, and organizational operations.

High maturity level has a holistic perspective, viewing design as a collaborative process integrating employees, customers, and business. In high maturity level design is embed into everyday life and planning.

At medium maturity level, design was seen to have significant role in background research, interviews, and considering diverse perspectives. It was seen as essential for preventing duplicated efforts and reducing costs, with a specific focus on enhancing customer experience through technology, thereby defining what is truly relevant for customers.

Stakeholders from low maturity level, saw design as crucial in customer channels to stand out from competitors through superior user experience. Moving from solely looking at business metrics to valuing customer insights in decision-making is emphasized, though challenges like design integration and limited resources persist. Figure 16 below shows more detailed results.

NON-DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Collaborative Approach: Responses highlight design as a collaborative process with customers or business entities, aiming to create solutions together.</p> <p>Holistic Perspective: Design is viewed comprehensively, emphasizing collaboration among employees, customers, and business, with the goal of integrating design into everyday life and planning.</p> <p>Customer-Centricity: Several responses emphasize the importance of considering the customer in the design process. Design was viewed as equally essential as other departments within the team. The aim is to build a service for the customer, and the recognition is that if the customer doesn't like the service, they won't use it, and revenue won't follow.</p> <p>Team Structure and Multidisciplinary Collaboration: The presence of a design lead within functional teams was seen as important. According to respondents, design brings considerable value to teamwork and decision-making. Design was not seen as a separate entity but as a natural part of daily decision-making.</p>	<p>Multifaceted Design: Design was seen as encompassing various dimensions including service design, interface and user experience design, software architecture, and others.</p> <p>Decision-Making: Design was perceived to influence decision-making from the early stages when considering what to focus on or how to develop certain activities. The importance of design work in background research, including interviews and considering all perspectives, is highlighted.</p> <p>Savings and Efficiency: According to responses, design is mentioned as essential for avoiding duplicated efforts and reducing costs. It was mentioned that without design system, development teams would have to do the same things separately, resulting in higher costs.</p> <p>Customer Experience: The role of design in enhancing customer experience is emphasized, with a focus on technology.</p> <p>Design was also seen as defining what is relevant for customers.</p>	<p>Design in Concrete Terms: The responses highlight that design is particularly visible in customer channels, where user experience is crafted. The responses emphasized the importance of user experience and how it enables differentiation from competitors. Several responses highlight that design brings a different perspective to the work, especially from a customer-centric point of view.</p> <p>Design Team: The establishment of an internal design team and the integration of design throughout the organization were seen as important steps towards more customer centric operations.</p> <p>Customer Experience: There is a will on enhancing user interaction and feedback to improve application user-friendliness. Based on the responses, decision-making previously focused more on business metrics. Now respondents wish to incorporate customer perspective into decision-making more. Respondents highlighted the challenge of limited resources, which may at times restrict the ability to monitor and test different alternatives.</p> <p>Challenges: Respondents saw challenges when integrating design into decision-making. Also resource limitations were mentioned.</p>

Figure 16: Comparison of non-designers' answers in different maturity levels

6.2.3 Designers

When comparing designers' responses (Figure 17), designers' personal views on design were not emphasized as much. The assumption is, that as design professionals, their design competence does not match the team's design maturity. The intention in this comparison was to highlight their perspectives on how design is seen within the teams.

DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>In the team with high design maturity, respondents emphasize the customer-centricity, multidisciplinary, and strategic impact of design.</p> <p>According to the responses, design is seen to operate in a triad along with business and technology, and it was perceived to have the potential to participate in strategic decision-making.</p> <p>Some respondents highlight the need for enough number of senior-level designers who are capable of utilizing data to validate decisions.</p>	<p>The responses highlight that design is holistic approach, involving multidisciplinary collaboration to achieve future goals.</p> <p>The significance of leadership culture as an enabler of design was emphasized. One respondent saw, that in this team it as been an enabler, but that may not be the case in the other teams.</p> <p>Some respondents pointed out challenges in understanding design within the team among non-designers. They saw challenges in integrating different perspectives in decision-making. According to respondent, the desired outcome may vary depending on who is asked. Additionally, some responses brought up the slowness of processes and inadequate testing practices.</p>	<p>Based on the responses of designers, this team focuses on the practical application of design.</p> <p>Responses note, that some designers operate relatively independently compared to other departments. The designers face challenges at times in collaboration and communication.</p> <p>Emphasis was placed on the need for open communication at different levels within the team. Respondents suggest that involving "lower-level designers" early in discussions could help clarify goals and reduce potential issues during the development process of products or services.</p> <p>Challenges were also experienced in justifying the value of design to decision-makers and in the company culture's slowness to respond to the needs of digital development.</p> <p>One respondent notes out, that the team is still in a low design maturity level, effecting the potential use of design.</p>

Figure 17: Comparison of designers' answers in different maturity levels

At high maturity level design was seen as a holistic approach that works in equally with business and technology and participating in strategic decision-making. In the medium level responses design was seen as a holistic approach with a possibility to participate in strategic decision-making. Some respondents however had faced challenges in collaboration and communication with non-designers. Referring here that some non-designers lack of understanding of design. At the low maturity level, the use of design is still evolving, and its potential is yet to be realized.

6.3 Communicating About the Value of Design

The second research question aimed to gain knowledge on how the value of design could be highlighted so that its significance would be seen even among those, who are not design professionals. One management level participant underlined that one obstacle to the growth of design significance, was the difficulty in understanding it among individuals who are not familiar with design. This was seen to obstruct the full realization of design's breadth and potential within the organization. Few management level responses also highlighted that design uses its own language and terminology, which might be unclear to individuals who are not familiar with it. These observations were not only related to unfamiliar terms but also to the very different mindset of design: iterative, divergent thinking, zooming in and out, and ultimately aiming for concrete results.

It is important to make design thinking clear and understandable throughout the organization. Especially at lower levels of design maturity, some respondents felt that this requires effort to convince the organization of the importance of design thinking.

A few management level respondents highlighted the challenge of differentiating design roles. Concerns were raised that excessive role differentiation could diminish design's ability to deliver value. To some respondents, creating different titles for each design area was seen as unnecessary if it does not bring significant added value. Rather it was seen to cause confusion to non-designers. According to one respondent, having too many specific design titles can hinder effective discussion. It was further continued that, multiple individuals are needed for discussion in design related matters, so that each role has a representative, which can slow decision-making and understanding formation.

Other management level respondent emphasized the challenges of fragmentation of design into different areas, which may lead to alienation. The risk, according to the respondent, is that the design becomes so fragmented that it becomes detached from real work. Although the role of design in improving competitiveness was acknowledged, not all respondents saw it directly influencing high-level strategic decisions.

Respondents familiar with design emphasized the need to help increase individuals' design competence throughout the organization. One management-level respondent underlined the organizational need for both designers and non-designers to understand the value of design. According to the respondent, the gap between these two groups was seen as indicative of the organization's maturity.

In lower design maturity level teams, the challenge was seen in non-designers' understanding of design, especially in situations where the role of design was perceived to

be limited to colors and fonts. There was a perceived need to create awareness that design encompasses more than creating visually pleasing elements and that it has the potential to have a greater impact on various industries.

According to some respondents from lower design maturity levels, design was seen too often brought into the development process too late. Respondents emphasized that the reason is not that the team does not want to use design properly, but rather that the team does not fully understand where the value of design is. According to the responses, it was seen important to provide teams with positive experiences and insights into the value of design. At the same time, it would be useful for designers to explain how they could participate in the development process at earlier stages.

One management level respondent pointed out that good designers create a concrete connection and are actively present in decision-making. Another respondent wanted to highlight the building of long-term trust as one of factor that increases value:

"One of the most important business-related factors I consider high in value is creating a sense of closeness. Closeness arises from actively engaging with the people working at the customer service end and actively engaging with our own team. In our team, this value is strongly based on trust. Building trust leads to the birth of ideas and their utilization, which over the years defines value. Closeness and close interaction with the customer, which ultimately defines value, are cumulative effects of these points of contact. Through these, value materializes. It is important to understand that there is no quick fix to proving value. Demonstrating value requires long-term commitment, discussions, and trust-building. The more proactive you are in creating trust, the faster it happens. The business significance of design ultimately builds through the growth of trust between people."

6.3.1 Management Level

Each maturity level emphasizes the communication and measurement of design value but approaches and priorities vary. According to responses, regardless of a team's design maturity level, multidisciplinary work methods were seen useful. Figure 18 (below) brings together responses that are tangent on how the value of design could be highlighted.

MANAGEMENT		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Design was seen as an important tool for understanding customer needs and designing user-friendly services. There is an emphasis on a multi-disciplinary approach and continuous improvement.</p> <p>It was underlined, that designers are in the teams for the reason that others would learn to think in a customer-centric way too. It's not a monopoly situation where only design can think of the customer's best interest. It was hoped that everyone would want to think of the customer's best interest.</p> <p>Design was seen to play a significant role in functional teams, encouraging a holistic 360-degree approach to problem-solving.</p> <p>One respondent notes that design has also brought new terminology and language to the company culture.</p> <p>It was mentioned that the expansion of design into various areas and titles can cause confusion and diminish its perceived value within an organization.</p>	<p>Design was seen to began to create a culture within the organization where every employee seeks to understand customer needs. This was seen to promote customer-centricity and improving business outcomes.</p> <p>The importance of interdisciplinary teams is emphasized. This diversity was seen important for developing creative solutions and implementing customer-centricity</p> <p>Building a long term trust and creating common goals are emphasized as metrics for design's success.</p> <p>Respondents note positive changes resulting from the establishment of a design unit. These changes include increased customer-centricity and the broader adoption of design methods and principles throughout the organization, including at higher hierarchical levels.</p> <p>Responses note, that despite the positive impact, there are challenges in fully leveraging the benefits of design. These challenges are attributed to the maturity level of the team in understanding and integrating design, as well as the need for alignment with top-level management and business strategies.</p> <p>What should be avoided, especially in an organization with its own design expertise, is the scenario where design becomes overly segmented, leading to a division. While fine distinctions in terminology can be useful among professionals for clarity on tasks, there's a risk of this leading to an unhealthy cycle of elevation and separation.</p>	<p>Design is viewed as a means to introduce new ideas and improve processes.</p> <p>One respondent mentions the need to integrate customer value and business value.</p> <p>The design unit has not been utilized, and some respondents may not be aware of the potential value it could bring. Some projects have been done with external design companies, but overall, design work is mostly conducted with few designers.</p> <p>According the responses, there is need for better processes and goals in design work, and the need to better utilize existing information, such as customer feedback.</p>

Figure 18: Comparison of management level answers in different maturity levels

6.3.2 Non-Designers

Here, a comparative chart (Figure 19) brings together responses that are tangent on how the value of design could be highlighted from non-designers' perspective. The results reflect the varied experiences and challenges in communicating the value of design. In teams with high design maturity design is closely integrated with business strategy and operations. At lower maturity level teams recognizing the value of design was still very practical.

NON-DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Responses show that design is seen as a process that involves customers or business entities. This suggests that design aims to create solutions collaboratively with stakeholders.</p> <p>The participation of designers in the team, in general, was seen to bring considerable value.</p> <p>At this level, design was seen to influence all decisions, work, and work culture. Additionally, design seems to play a crucial role as an engine for service development, particularly concerning the customer perspective.</p>	<p>Responses show, that design's role in improving user experience and operational efficiency is acknowledged.</p> <p>Efforts to balance between technical and customer-centric design perspectives were brought out.</p> <p>The challenge of developing reliable metrics to demonstrate design's impact.</p>	<p>Respondents highlighted design's significance in customer channels and user experience, emphasizing its role in differentiating from competitors.</p> <p>It was pointed out, that there is difficulties in integrating design into organizational decision-making.</p> <p>It was underlined that there is a need for more systematic integration of design processes.</p>

Figure 19: Comparison of non-designers' answers in different maturity levels

6.3.3 Designers

Figure 20 (below) compares of designers' answers in different maturity levels. In a team with high maturity, the value of design is widely recognized according to respondents. It is also integrated strategic decision-making, whereas in lower maturity teams, communication of design's value encounters more practical challenges.

DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Within the team, design is seen as part of strategic decision-making, with designers actively contributing to setting objectives and shaping development plans. This emphasizes the recognition of design's value at high level.</p> <p>The ability designers to use data to validate design decisions is presented as an example of communicating design's value.</p> <p>The understanding and recognition of design's value are seen as already established internally, which reduces the need for continuous justification of design's value.</p>	<p>Design training for the entire organization is emphasized, which helps to spread understanding of design's broad value and benefits.</p> <p>According to the responses, explaining the advantages of design alone is not enough to achieve deep understanding. True understanding comes from practical successes.</p> <p>One respondent highlights that the team has various design experts with different titles, which may cause some confusion within teams.</p>	<p>One response points out that design may appear complex to those unfamiliar with it, making it challenging to justify to decision-makers without a concrete price tag.</p> <p>Based on some responses, designers operate relatively independently, separate from other departments in the chain organization.</p> <p>Justifying the use of design to decision-makers and the slowness of the company culture were seen as challenges.</p>

Figure 20: Comparison of designers' answers in different maturity levels

6.4 Metrics

The third research question focused on understanding how stakeholders perceive the need for measuring the value of design and its verification. Based on the responses, it can be concluded that stakeholders' attitudes towards the need for measuring the value of design are diverse. The key findings can be categorized into three main classes: 1. the significance of design maturity, 2. the need for measurement, and 3. challenges in measuring the value of design.

Respondents brought up positive experiences with design maturity assessments and their benefits. They were especially seen to improve the team's ability to understand the value of design within the lower maturity levels. Additionally, the observation that higher maturity teams also have higher customer satisfaction further confirmed this view. Some responses viewed design as a qualitative process that requires practical experimentation and learning. It was pointed out that interactive methods, such as workshops, were seen as effective in helping individuals to understand the significance of design experientially. Furthermore, design maturity assessment was seen as a directional metric when evaluating the efficiency of design.

The research results regarding the need for measuring the value of design were diverse. Some saw it related to project-specific measurements, while others viewed it as broader justification of value. Responses depended on the respondent's role and their relationship with design. In interviews with designers and management, discussions revolved more around justifying the value of design or the need for verification, whereas developers, for example, commented more on the topic in a project-specific context.

Most management level participants in higher design maturity teams did not consider justifying the value of design necessary. Instead, they saw measuring the results of individual projects as positive, using metrics such as customer satisfaction.

"This is not about success at one point, but about success throughout the journey, especially in our concepts. I hope we would work more towards common customer satisfaction goals and results together. Instead of finding some separate metric for design."

Questions about measuring the financial value of design were central. Views on evaluating the economic effects of design varied. Some participants suggested that the value generated by design could be measured using the same metrics applied to other business perspectives, such as customer experience, feedback, and overall business metrics. The idea that design would have to prove its worth was seen as challenging, given the difficulty of isolating its impact from other business functions.

Building on this, the difficulties in measuring the value of design are evident. The challenge lies not only in linking design value to concrete business outcomes and efficiency but also in the direct measurement. The selection of right, reliable metrics, measuring positive effects that come from using design, and the differentiation of design's influence from other contributing factors face significant challenges.

Related to metrics, respondents brought out also a deeper organizational understanding of design, and a long-term commitment to appreciating the interplay between design maturity and customer satisfaction.

One respondent brought out a different perspective to the measurement related discussion:

"Presumably, measurement would be necessary to the extent that we dare ask ourselves where design is involved: whether resources are sufficient or insufficient, and how actions done in a certain way specifically appear in the development of customer satisfaction."

One management level respondent suggested that it could be useful to develop ways to structure the value of design, even if perfect measurement is not possible. According to the respondent, structuring could help to evaluate whether certain benefits have been achieved and what kind of value design should bring. The comment emphasizes that design may be a difficult concept to understand for outsiders and structuring might help describing its value more clearly. The respondent also mentions that structuring could help understand the value of design, especially from the product value perspective. The respondent compared such an approach somewhat to ROI measurements, with a focus on evaluating whether certain goals have been set regarding customer-centricity and whether this dialogue has been considered. When considering design organization management, the respondent felt this could be a useful way to consider how value is generated.

Following chapters divides metric-related answers with respondents' role and team's design maturity level.

6.4.1 Management Level

In the comparison of management level respondents, it was seen important to utilize design maturity analyses and customer satisfaction metrics as methods to reinforce belief in the value of design. All maturity levels see that it's important to do some measuring for design, even though the approaches and perspectives on measurement vary. Maturity assessments were seen to increase belief in the value of design and its impact on aspects like customer satisfaction and employee well-being. Customer satisfaction and experience are emphasized across all levels.

Teams with higher maturity levels see the need for continuous enhancement of understanding design principles across the team and integrating design more broadly into the business. In contrast, low design maturity team focuses on post-project debriefing and question whether customer needs are truly understood.

Figure 21 presents more specific observations regarding the topic around metrics for valuing design.

MANAGEMENT		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Utilizing design maturity analyses and customer satisfaction metrics were seen as methods to reinforce belief in the value of design.</p> <p>The measurement was considered important in the sense that it prompts reflection on whether the resources allocated to design are sufficient or insufficient. Additionally, it is viewed from the perspective of how certain actions taken may impact aspects such as the development of customer satisfaction. Customer satisfaction and employee well-being are seen as central factors in achieving design goals.</p> <p>It is emphasized that the value of design should be measured using the same metrics as other business-related aspects, such as customer experience, feedback, and business metrics. It is understood that the impact of design is a complex entity, and straightforward measurement can be challenging.</p> <p>It was felt that having a truly objective metric based on numbers for design would be beneficial. Everything else was considered speculative.</p> <p>According to responses, a shift towards a more data-driven decision-making process in design is desired. It was seen to enhance effectiveness and validate the value of design through tangible outcomes.</p>	<p>According to one respondent, design's value is seen in its ability to bring the team closer to the customer, foster trust, and contribute to continuous improvement. The cumulative effect of these interactions over time defines the value of design.</p> <p>Building trust through ongoing engagement and focusing on shared objectives were seen as key to demonstrating the value of design and ensuring its recognition across different roles within the organization.</p> <p>Rather than finding specific metrics for design, there is a call for shared objectives and results. Collaborating on common goals and customer satisfaction targets is seen as more beneficial than isolating design metrics.</p> <p>Success was seen as a holistic journey, not a single point achievement.</p> <p>Respondents express challenges in defining concrete metrics for design. It's acknowledged that isolating the impact of design from other factors can be complex, and specific metrics might be elusive.</p> <p>One respondent believes, that in order to maximize the impact of design, there's a need to continually enhance the understanding of design principles across the organization. This involves educating and involving non-designers of the organization in the design process and thinking.</p>	<p>One respondent emphasizes the importance of measuring anything done to assess its effectiveness.</p> <p>Design maturity measurements were brought up, examining the activities within the chain in relation to what could be done.</p> <p>One respondent highlights the importance of debriefing after a project, indicating a retrospective assessment.</p> <p>It was questioned whether the team really understands customer needs.</p> <p>One response suggests that the ultimate success or failure of a project can often be indicated by its outcome. This may imply a reliance on post-project assessment rather than systematic measurement throughout the process.</p> <p>The possibility of enhancing the insight aspect and data aspect within the internal team was mentioned. It emphasized that design is not limited to visual design but also encompasses data, insights, and a holistic understanding.</p> <p>One respondent hopes for a stronger connection between design and data, seeking ways in which these two elements could better support each other in decision-making.</p>

Figure 21: Comparison of management level answers in different maturity levels

6.4.2 Non-Designers

There is a collective opinion, that design should be considered as part of teamwork and evaluated alongside other factors. All maturity levels have a strong emphasis on customer satisfaction and experience as crucial metrics for evaluating design's value. The importance of aligning design with customer needs and feedback was also noted. There's an acknowledgment that design should be evaluated as part of a collaborative effort with other business functions.

In high maturity level, where design is seamlessly integrated into the team's structure, reducing the need to justify design's importance. Medium maturity level sees design measurement as a way to validate decisions and learn from outcomes. Both high and medium maturity levels highlight the collection and use of customer feedback in decision-making. Low maturity level underscores the importance of validating design value for budgeting and decision-making reasons. Focus on measuring design's effects on customer behavior and experience was also emphasized.

More specific observations are visible within each category (Figure 22).

NON-DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Several responses emphasize that the right metrics are specifically related to customer satisfaction. Customer experience is seen as a crucial metric, especially in the context of larger services. Additionally, one response mentions valuing customer and user feedback and achieving goals through these metrics.</p> <p>Design is seen as a part of teamwork, and its value should be evaluated in conjunction with other factors.</p> <p>Many responses emphasize that the value of design is often tied to business metrics, making the sole measurement of design value challenging.</p> <p>One respondent notes that it is worthwhile to measure all activities.</p> <p>Using agile methods within the team makes it easier to check if the work is valuable. With the functional team's triad structure of technology, design, and business, there is no such need to explain why design is important.</p> <p>The value of design is emphasized, especially when it incorporates both qualitative and quantitative data. This points to the need to base design decisions on comprehensive and in-depth information.</p> <p>The responses highlight the collection and use of customer feedback in decision-making.</p>	<p>Respondents emphasize the need for reliable metrics that can be trusted. It is recognized that metrics must be reliable to ensure decisions are based on sensible results.</p> <p>Respondents also ponder how to measure positive design. While poor design is easily noticeable, recognizing excellent design can be challenging.</p> <p>One respondent mentions that the impact of decisions may become apparent only over the long term. Before launching new products, a pilot phase is implemented, and results are assessed at the end of the year. This underscores the difficulty of direct measurement but suggests that success in service design can be inferred from results.</p> <p>Some respondents see measurement as necessary to validate whether decisions were made sensibly and to demonstrate the impact of design. Measurement is also seen as providing learning opportunities.</p> <p>One respondent highlights the complexity of various factors influencing the final product outcome, making it challenging to understand how much of the success is attributed to design.</p>	<p>The measurement and validation of design value are considered important both as a justification for budgeting and in expediting decision-making and ensuring efficiency in practical implementation.</p> <p>Some responses emphasize the need to measure the effects of design on customer behavior and experience. Measuring value would help better understand the impacts of changes and make informed decisions.</p> <p>A challenge lies in the lack of concrete historical data and understanding of Return on Investment (ROI), emphasizing the need to develop metrics and tracking methods for evaluating the impact of design effectively.</p> <p>One respondent mentions a personal shift when they started thinking more through the lens of customer experience rather than a technical perspective.</p>

Figure 22: Comparison of non-designers' answers in different maturity levels

6.4.3 Designers

Across all maturity levels, there's a strong emphasis on customer satisfaction and experience as crucial metrics for evaluating design's impact. Insights in the Figure 23 (below) reveal that despite shared goals of enhancing customer satisfaction and aligning

with business objectives, there are nuanced differences with need and reasons to measure design value.

DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Based on the responses, there is a perception, that within the team that the value of design is well understood, and there may not necessarily be a need to explicitly validate it. However, there is an emphasis on understanding the impact of decisions in relation to business and customer behavior.</p> <p>One respondent pointed out that a greater need for validation of design might arise in uncertain situations or in the face of significant changes, particularly when uncertainty is high regarding features or product development.</p> <p>It was mentioned that the use of quantitative metrics such as Net Promoter Score (NPS) and Customer Satisfaction Score (CSAT) to assess the performance of design within the team. Additionally, written customer feedback is considered a significant source for evaluating the impact of design.</p> <p>The respondents noted that higher design maturity within the team is associated with higher customer satisfaction. Teams with lower design maturity, focusing solely on interface design, are seen as needing substantial improvement in both employee and customer satisfaction. The need for designers to learn and leverage data more effectively was highlighted.</p>	<p>One respondent emphasizes that as everything in business is measured, measuring also design is important in a data-driven environment.</p> <p>Results from customer research can be an effective way to demonstrate the value of design, especially when presented with concrete examples and proposed solutions. This can strengthen stakeholder trust when they understand that design is based on customer research findings.</p> <p>By producing, for example, Power Point presentations and justifying solutions to stakeholders, a designer can earn trust and clarify why specific solutions were chosen.</p> <p>One respondent emphasizes that measurement should be based on the right metrics, as using incorrect metrics can have detrimental effects on decision-making.</p> <p>Measurement should directly relate to business goals. It was highlighted that the challenge is to ensure that measurement is not done solely for the sake of measurement but that its impacts align with strategic objectives.</p>	<p>Several responses indicate the need for some form of metric for design within the team. This was seen as helpful in demonstrating the impact of design on the business and possibly its economic value.</p> <p>Utilizing the Design Maturity model and the initiation of design maturity measurements last year were viewed as positive steps. One respondent highlights that measuring design maturity can guide business forward.</p> <p>One response points out that design may appear intricate to those unfamiliar with it, making it challenging to justify to decision-makers without a concrete price tag.</p> <p>Another response highlights that distinguishing design from other functions is difficult, especially in an agile environment where everyone collaborates. This may pose challenges in identifying the distinct value of design.</p>

Figure 23: Comparison of designers' answers in different maturity levels

6.5 Opportunities and Challenges in Design Utilization

As mentioned earlier, the interview results revealed abundant rich user data. There are overlapping's within the chapters addressing the results of the interviews. This chapter addresses opportunities and challenges in design utilization, but it's thematically deeply connected to chapters above.

According to one respondent, decision-making related to customer experience has emphasized the need for a multidisciplinary approach. This was seen to brought up a need for the use of diverse data. Design was seen to provide valuable insights into customers' needs and desires. According to the responses, decisions should not be made from a single perspective, but teams should consider various viewpoints in decision-making processes by leveraging design.

On the other hand, several responses from different roles expressed a desire to move towards more data-driven decision-making in design. One management level respondent wished for the next generation of designers to be more data-driven and actively involving in analyzing data in design processes. The lack of understanding data was seen challenging, and a shift towards a more data-centric approach to improve design efficiency was desired.

One designer noted that experimenting and hypothesis validation, such as A/B testing, were seen to create value. It was considered important for designers to actively participate in hypothesis creation and validation. However, it was mentioned that there is difficulty in accessing data for some team members. There was also a recognized need to train designers more in data usage.

Design was seen as a tool to ensure that planned features are meaningful to product or service users. In this context, users included both customers and employees. In teams with lower design maturity, the role of data in the design process was seen as significant. There was a hope among non-designers for the adoption of metrics and automated feedback collection to monitor customer behavior and assess the impact of changes without guesswork.

Responses from individuals at medium and low maturity levels, ranging from management and non-designers to designers, indicated that user tests are not conducted often enough. According to few designers from these maturity levels, outgoing products are not tested sufficiently. In many cases projects were seen to be in a rush to complete, leaving little time for testing.

While some responses expressed skepticism towards strategic design, it was also seen that integrating design more strongly into strategy could be profitable and fruitful. This perspective was raised by individuals at the management level, but also both non-designers and design professionals. The possibility of incorporating design into strategic planning was seen as a way for proactive and explorative future planning.

The use of practical experiments and human-centered approaches instead of mere, traditional trend-based strategic planning, was seen to potentially create fruitful outcomes. Several respondents including management level, recognized the opportunity to expand the role of design in future planning and in creating user-centric scenarios. Examples of these were environmental challenges and accessibility.

Looking towards the future, the importance of agile methods and strengthening design expertise throughout the organization to support user-centric development was discussed. According to the responses, the roles of design are expected to increasingly integrate with other organizational roles, such as business. One management level respondent highlighted that to become more customer-centric company, more people within the organization would need to start thinking like a designer. The hope was to broaden the knowledge of design principles across the entire organization and helping non-design professionals to utilize the design 'toolbox'. In this context, the role of leaders and organizational culture were seen as key enablers for the design to reach its full potential.

Regarding customer experience, respondents stated that multidisciplinary collaboration and cross-organizational cooperation would help to achieve a consistent customer-experience. Both designers and non-designers mentioned that leveraging design to improve internal tools used by employees and strengthening systems design would create a stronger company.

Following chapters present results in categorization by respondents' role and team's design maturity.

6.5.1 Management Level

Figure 24 (below) shows results related to design utilization categorized by respondents' role and team's design maturity level. There's an expressed hope for design to become more data driven. There was also a wish for a broader organizational understanding of design principles, making design tools accessible to more individuals, and integrating design expertise across various business areas for better outcomes when trying to gain customer-centricity.

MANAGEMENT		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>Some respondents hope that design would evolve towards a more data-driven direction, utilizing service usage data in decision-making. It is hoped that the new generation of designers would be more data-oriented and actively involved in analyzing data in the design processes.</p> <p>The respondent perceives the current lack of data in design as a weakness and wishes for a shift towards a more data-centric approach to enhance the effectiveness of design.</p> <p>There is a desire for designers to enhance their data capabilities and embrace a more data-driven mindset. The respondent wishes for more discussions on how data could be more effectively utilized to improve design.</p> <p>Design is seen as continuous experimentation, involving building prototypes and enhancing customer understanding. Emphasizing practices like AB testing and continuous improvement underscores the significance of agile development principles.</p> <p>In digital services, design is acknowledged for its crucial role in creating a flexible and impactful user experience. The use of design and testing before widespread implementation is noted to positively impact customer satisfaction and engagement, as observed through metrics such as customer satisfaction.</p>	<p>Design was seen as a tool for staying up-to-date with trends in customer service development globally. It's important aspect what design could do.</p> <p>Respondents express a desire for a broader understanding of design principles across the organization. The "tool box" of design should be accessible to more individuals, enabling them to incorporate design thinking into their work, such as considering customer personas or utilizing design-oriented methods.</p> <p>The responses emphasize the need to integrate design expertise across various areas of business development. This involves extending the impact of design beyond digital services to encompass other areas such as system development and physical customer experience. There is a wish is to leverage design methodologies across diverse projects for better outcomes.</p> <p>According to one respondent, successful integration of design requires a shared understanding across the organization of where and how design could contribute to strategy and development work in general.</p>	<p>One respondent hopes for a stronger connection between design and data, seeking ways in which these two elements could better support each other in decision-making.</p> <p>One respondent highlights the need for diverse data and an interdisciplinary approach in decision-making. It is noted, that decisions cannot be made solely from one perspective, and different viewpoints should be considered within functional teams.</p> <p>The possibility of enhancing the insight aspect and data aspect within the internal organization were mentioned. It was emphasized that design is not limited to visual design but also encompasses data, insights, and a holistic understanding.</p>

Figure 24: Comparison of management level answers in different maturity levels

6.5.2 Non-Designers

Responses from non-designers (Figure 25) underline the growing significance of design in the digital era. The potential for leveraging design in multichannel customer engagement, and the desire for multidisciplinary collaboration are brought out. All levels highlight the importance of utilizing data within design work.

NON-DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>The value of design is emphasized, especially when it utilizes both qualitative and quantitative data. This points to the need to base design decisions on comprehensive and in-depth information.</p> <p>Several responses emphasize considering the customer in the design process.</p> <p>Responses suggest that customer-centricity is continuously growing, especially in the digital era. The significance of design becomes more important as elements like customer feedback can quickly spread widely on social media and the internet.</p> <p>There is seen an opportunity to leverage design more extensively in multichannel customer engagement, particularly by integrating it with brick-and-mortar businesses and online stores.</p> <p>In future perspectives, it is observed that design roles will increasingly integrate with other organizational roles, such as business. Customer-centricity, design thinking, and design methods are seen as relevant in various roles.</p>	<p>Challenges are mentioned regarding limited resources, even with abundant data and tools. In the ideal scenario, there is a desire to do more, but the implementation is slow and gradual due to resource constraints. This observation concerned both design and development work.</p> <p>Making decisions based on data can influence the direction of design, focusing on what has been used and addressing past issues. Design is seen as a tool to ensure that planned features are meaningful to users.</p> <p>Respondents emphasize the role of design in influencing user experience. Achieving a smoother customer experience is considered crucial, and reducing the complexity of technology through design thinking.</p> <p>There was an interest in multidisciplinary collaboration aiming to achieve a unified experience across organization. The wish was to work together with designers from the beginning and throughout the development cycle, ensuring continuous interaction between development, business, design, and emerging technologies.</p> <p>The desire to strengthen system design was also mentioned.</p> <p>A shared perspective is that design has a significant impact, for example, on accessibility guidelines, which has repercussions across various domains.</p>	<p>The significance of data in the design process is highlighted. Metrics and automated feedback collection are desired to monitor user behavior and evaluate the impact of changes without guesswork.</p> <p>The respondents saw an opportunity to approach development perspectives through the lens of design.</p> <p>Previously, decision-making focused more on business metrics, but there is now an effort to incorporate more of a design perspective. The challenge lies in better integrating design into decision-making and using it as metrics to grow the business.</p> <p>While design plays a strong role, resource limitations restrict the ability to track and experiment with various alternatives. There is a desire for increased capacity and resources to deepen the design process.</p> <p>One of the team lead members recognized design as an integral part of the entire organization. Hoping that the message of design could be spread more widely.</p> <p>The same respondent also wanted to express their hope that it would be understood that design is not limited to the external appearance of digital channels alone. Instead, it encompasses customer experience and multichannel aspects as well.</p>

Figure 25: Comparison of non-designers' answers in different maturity levels

6.5.3 Designers

Designers' responses (Figure 26) highlighted the importance of broad industry trends, data utilization, and the integration of strategic thinking and systems design. Collaboration across disciplines and organizational silos was emphasized for creating value and comprehensive customer journeys.

DESIGNERS		
HIGH DESIGN MATURITY	MEDIUM DESIGN MATURITY	LOW DESIGN MATURITY
<p>One respondent emphasized on the importance of looking at broader industry trends, such as e-commerce and data utilization.</p> <p>It was suggested to enhance strategic thinking, especially adopting a new approach like system design that integrates physical space, digital solutions, and processes. The emphasis is on aligning design expertise with the evolution of business, including considerations like accessibility directives.</p> <p>Integrating experimentation and validating hypotheses, such as A/B testing, into the design process is viewed as beneficial. There's a wish on designers actively participating in the creation and validation of hypotheses.</p> <p>The need for designers to learn and leverage data more effectively is highlighted, reinforcing the principles of data-driven design. Challenges include the difficulty of data access for team members and the necessity to train designers in utilizing data more proficiently.</p>	<p>Changes in service landscapes over the last five years present new perspectives and needs that design can address. The impacts of climate change may also create new opportunities for design to adapt to evolving needs.</p> <p>Some respondents see the potential to enhance the role of design, especially in envisioning, strategy, and digital design.</p> <p>As complexity increases, multidisciplinary collaboration and the integration of design skills with other experts are seen as key factors in creating greater value. Responses highlighted the importance of collaboration across all projects and the need to transcend organizational silos. Organizational silos pose challenges, especially in developing comprehensive customer journeys, and design can help integrate different stages more seamlessly.</p> <p>One respondent mentions that user testing is done too infrequently. While future concept ideas and thoughts are developed well, outgoing products may not be tested enough. Iteration might be lighter than recommended in traditional Agile and Lean practices.</p>	<p>One respondent notes that management should take into account the constraints of technology, especially in terms of time, in visionary planning.</p> <p>Several responses emphasize creating a better experience and considering customer journeys through design. Weaknesses in customer experience on the physical side can impact business, and design should be utilized more in this context.</p> <p>One respondent brings up a challenge related to employee engagement and a more detailed consideration of customer segments. It is noted that some customer segments, may not have been thoroughly considered in the business operations.</p> <p>Another response emphasizes the opportunity to design various business services as a unified experience. This is seen as having the potential to enhance customer experience and harmonize the brand identity.</p> <p>One response highlights the need to consider digitalization as a whole, transcending traditional organizational boundaries.</p>

Figure 26: Comparison of designers' answers in different maturity levels

7 Proposed Follow-Up Actions

7.1 Utilizing Benchmark in Follow-Up Actions

To justify the recommended follow-up actions, I will partly use the case of Osuuspankki, introduced earlier in the chapter 4.3.2., for benchmarking. OP's experiences in the growth of design maturity and integration of design across various levels of the organization can provide valuable insights, as the challenges they've had partially resonate to this case study. Once the needs, expectations, and challenges faced by the interviewed stakeholders had been identified, it was seen useful to compare these observations with how others have responded to similar challenges.

According to Ojasalo et al. (2015, 43), benchmarking enables learning by comparing one's own development goals to another. When seeking best practices from peer organizations, it is important to creatively adapt them to fit one's own organization, which can possibly lead in creating new practices. The aim is to help identify weak points in one's own activities and to develop goals and ideas to strengthen these areas.

7.2 Enhancing Understanding of Design

Figure 27 (below) visually presents development proposals for enhancing the understanding of design, offering a comprehensive view of how different stakeholders within an organization can participate in this process. This diagram summarizes the development recommendations derived from both the literature research and interviews. In the Figure 27, stakeholders were categorized by the team's maturity level and their roles. This diagram illustrates how different stakeholders, ranging from leadership to designers and non-designers, have brought forward these topics based on their experiences.

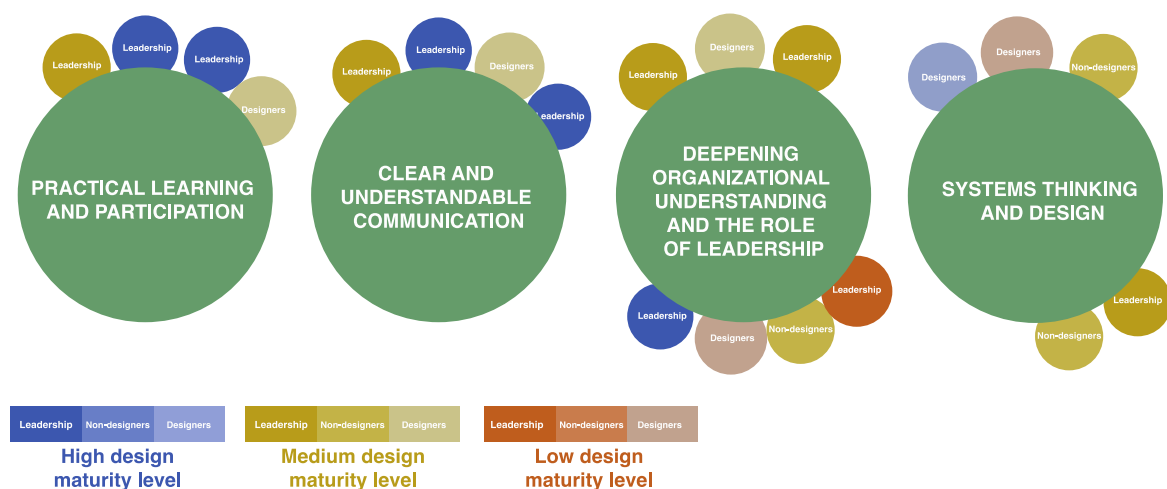


Figure 27: Visualizing Pathways to Enhance Design Understanding within Organizations

Interviews brought up concerns related to understanding and leveraging design within the organization. The organization has started to utilize design training programs in the last years. Comments from different stakeholders have emphasized the importance of practical experience and examples in understanding design methods but also to recognizing the value of design. Using concrete examples and clear communication and when possible, avoiding difficult-to-understand professional terms, were seen to promote the understanding of design.

By combining methods like design sprints and co-design workshops stakeholders' understanding of design can be strengthened. Utilizing workshops that work in co-design principles can offer a unique opportunity for various stakeholders to participate in the design process and deepen the understanding of design.

The interviews also raised discussions about whether the company broadly understands at what stage in the design process it is beneficial to incorporate design and how to best leverage its potential. This suggests a need for a better understanding of how and when to integrate design into projects to maximize its benefits. Some sort of guidance or a framework, with concrete examples that advise when and how design should be incorporated into projects can yield fruitful results in increasing understanding in this matter.

There was also a speculation about whether the organization has enough opportunities and expertise to identify links between design and different functions and how different designers can or are allowed to participate in processes. Here, increasing management's understanding about design processes is in a crucial position.

Below, one respondent's comment on recognizing the value of design aligns well with the topic of increasing understanding of design:

“I would say that there is no quick fix for proving that value. So, in essence, those battles, discussions, and building that trust just have to be done very persistently. And the more proactive one is in regard to that and building that trust, the faster it happens.”

It's good to explain the different stages of the design process in a simple and concrete manner, emphasizing how design is closely connected to other areas of the organization. This can help to increase understanding of the significance of design within a broader business context. Encouraging interaction between different teams is essential, as it gains experience of when to involve design.

Highlighting the importance of early involvement in the design process and emphasizing the breadth of design, which extends beyond mere visual design, examples can enhance understanding and encourage members of the organization to participate more actively in design work.

Based on these observations, it can also be concluded that deepening the understanding of design requires a holistic approach, considering systemic effects, interdisciplinary cooperation, and flexible development methods.

Reflecting on the previously mentioned development recommendations, it's important to note that both systems thinking and system design can enhance understanding. These approaches focus on understanding how complex wholes are interconnected. Understanding how changes in one part can affect the entire system could increase a broader understanding of the benefits of design. The observations raised in the interviews, emphasizing the need to look beyond individual changes to services, justify this recommendation. According to respondents, it is important to understand that individual changes in the development work can trigger broader systemic movements.

7.3 Increasing Customer Understanding and Collaboration

Figure 28 (below) presents development suggestions for deepening and sharing customer understanding. This diagram summarizes the development recommendations derived from both the literature research and interviews. Like the diagram in the previous chapter, this one also demonstrates how different experiences of stakeholders, from leadership to designers and non-designers, are included to suggested solutions.

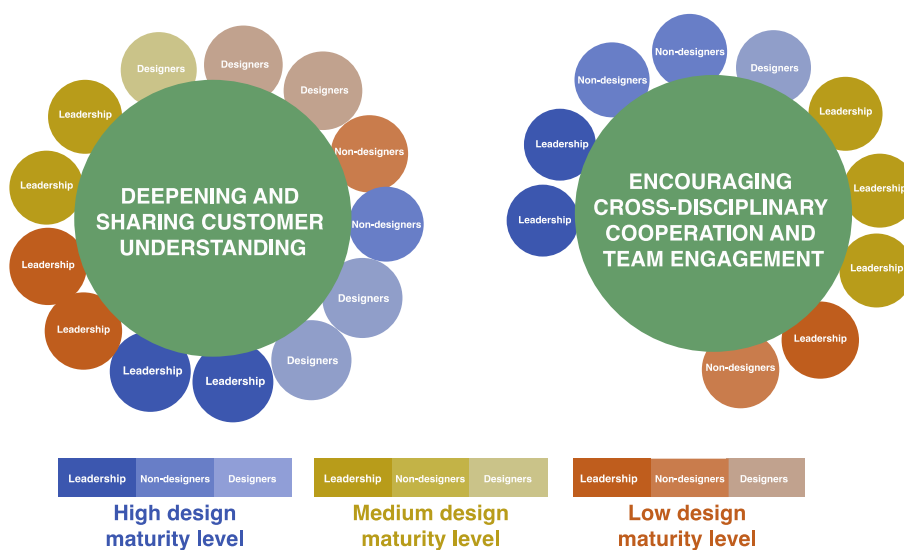


Figure 28: Strategies for Deepening Customer Understanding and Fostering Cross-Disciplinary Collaboration

The strategic maturity of an organization requires designers to consider and utilize research data from outside sources, such as interdisciplinary collaboration (Powell 2023). Systematically sharing customer understanding through platforms suited to the organization ensures that everyone in need of customer insights can access and use them in their work. Enhancing customer understanding within the team is crucial because no entity can automatically transfer this knowledge to another. The acquisition requires active participation and effort.

According to Duncan, Fanderi, Maecler and Neher (2016, 5-11), incorporating customers or specific customer groups into the future planning process provides valuable information about their lifestyles, conversations, and concerns. This approach can reveal new and interesting topics significant for strategic planning. Unique needs can be identified by paying attention to what customers are currently discussing, compared to relying solely on historical data. This approach can lead to the initiation of new business models or product development projects, emphasizing the importance of merging current discussions with historical data in strategy.

The empirical research results reveal that leveraging the full value of design necessitates interdisciplinary cooperation. Designers can facilitate this by bringing people together for information sharing, collective contemplation, and to increase understanding of customer needs. The biggest challenge here is the lack of time. Within the context of a large company, fragmented calendars limit the opportunities for in-depth brainstorming and concept development.

7.4 Strategies for Measuring Design Maturity and Customer Experience

Figure 29 (below) serves as a visual aid in clarifying methods that can indirectly validate the value of design. This figure highlights the methods like implementing design maturity assessments, enhancing customer experience measurement, and focusing on actionable insight within teams. Like in the previous diagrams, this one also demonstrates how an experience of different stakeholders are linked to suggested solutions. It also summarizes the development recommendations derived from both the literature research and interviews.

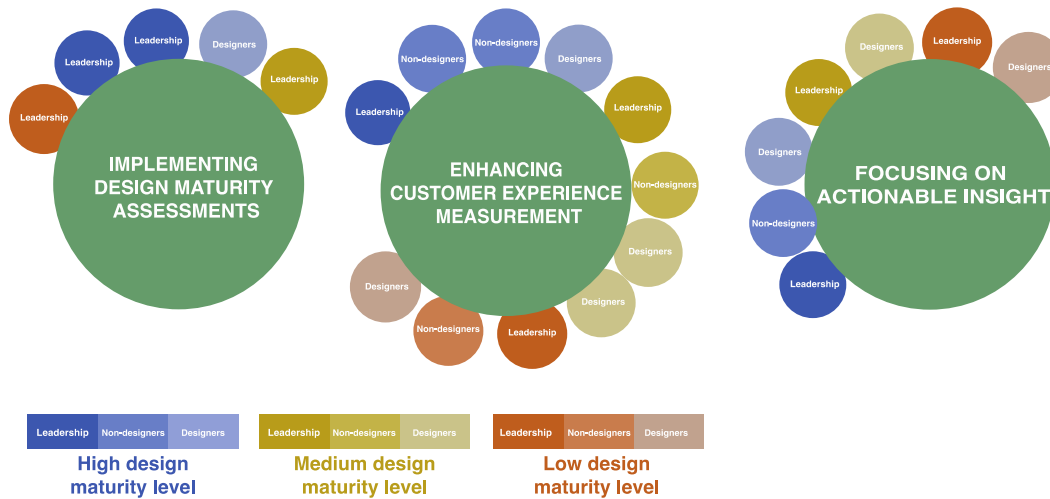


Figure 29: Verifying Design Value Through Design Maturity and Customer Experience Metrics

Many stakeholders highlighted that design maturity assessments in teams were seen useful. Maturity assessments were seen to play an important role in monitoring development and as a possible enabler for the sharing of best practices across teams. This could make it easier to scale successful models across the company and possibly increase management's support for design. Measuring design maturity can help to discover areas that need improvement and monitor progress. Furthermore, maturity assessments can serve as a communication tool, raising awareness of design's value. Another viewpoint is, that there's also an opportunity for teams with higher maturity to evolve by sharing their learning and development with others.

Measuring customer experience is equally critical as it supports product development and design by systematically providing refined customer insights. Referring here to a comparison by Osuuspankki. Measuring customer experience systematically can foster innovations and speed up processes. Unified measurement capability has a potential to improve the customer experience by reducing inconsistencies and enhancing the overall customer experience.

Benchmarking Osuuspankki, if designers must acquire necessary customer insights from random sources project-by-project, it can slow down projects and complicate the overall understanding. In the OP-case, customer experience measurement was at first scattered across different channels and services, preventing a cohesive overview. Consequently, customers received conflicting feedback from various channels, diminishing the overall customer experience. Similar observation was made during the interviews in the empirical research in this thesis.

OP (Hannukainen et al. 2020, 25-27) made following observations to conclude that developing customer experience measurement is vital because it:

1. **Supports product development and design:** Systematic acquisition and refinement of customer understanding can provide valuable input for the early stages of product development, promoting innovations and speeding up project progression.
2. **Improves the customer experience:** A unified measurement capability allows for a comprehensive view of the customer experience. It reduces inconsistencies and enhances the overall customer experience.
3. **Streamlines organizational operations:** Clear procedures, unified measurement capability, and systematic production of customer understanding improve organizational efficiency and create basis for more informed decision-making.

Current research on customer experience focuses on the concept of "actionable insight". This refers to conclusions or understandings that can be directly applied to operational activities, especially in improving customer experience. This term is not limited to data produced by digital solutions. It also emphasizes the importance of qualitative research and development methods. Qualitative research in this context might include persona profiles or other analysis methods that deepen acquired customer information. This can make it easier to apply gathered knowledge to specific development actions and decisions. These methods are commonly used in efforts to understand customers' needs, expectations, and experiences more deeply. Actionable insight focuses on information that can be immediately applied to practical operations, particularly in developing customer experience. (Patel & Gahletia 2020, 1-5.)

In practice, this could mean creating customer profiles that examine customers' demographic information, behavioral patterns, and preferences. These personas can also help the organization to understand the needs of different customer groups and create targeted development strategies. On the low maturity level responses, it was brought out that some user groups are maybe not included when designing services. Thus, using "actionable insight" might be useful for the team. The goal is to produce functionally useful information that guides the decisions and actions to improve the customer experience.

In conclusion, rather than focusing solely on finding metrics to measure the value of design, it is recommended to invest in both measuring design maturity and developing customer experience measurement. Improving these areas simultaneously can help to achieve strategic goals more effectively. Based on qualitative research findings, this involves

elevating the value of design in ways that non-design experts are willing to accept and integrating design into aspects of operations where it fits best.

7.5 Further Recommendations

The diagram below (Figure 30), elucidates which actions can enhance the understanding and validation of design value based on the results of this thesis. The first line emphasizes how the comprehension of design can be increased. First box suggests practical learning and participation. The second one recommends clear and understandable communication. The third box emphasizes organizational understanding and the role of leadership. The last box suggests using systems thinking and system design.

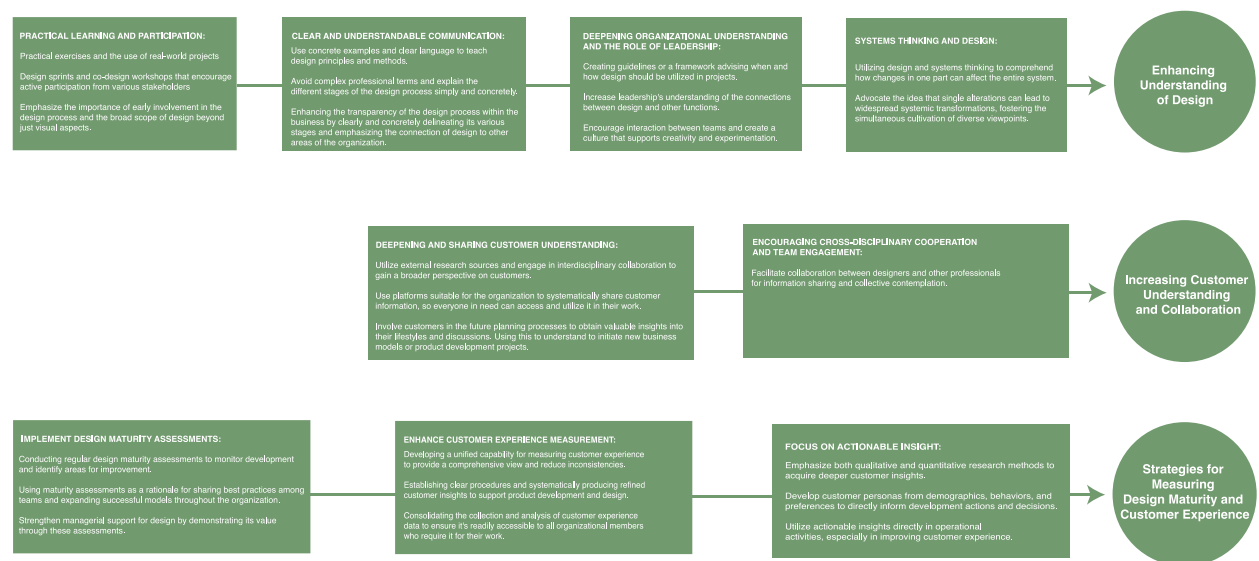


Figure 30: Strategies for Enhancing Design Understanding and Value in Businesses

The second line focuses on increasing customer understanding and collaboration through deepening and sharing customer understanding and encouraging cross-disciplinary cooperation and team engagement.

Line below presents strategies for measuring design maturity and customer experience starting with implementing design maturity assessments. Next boxes suggest to enhancing customer experience and focusing on actionable insight.

8 Final Thoughts

This journey into exploring perspectives on design value has been both enlightening and challenging. Throughout the project, I have gained a deeper appreciation for the significance of design in creating value for businesses. It has been very educational to get to do this research work for a large organization. The challenge lied in understanding the complex structure of the company. At the same time, it provided a huge opportunity to learn about inhouse design team's operation and challenges at the early stage of its establishment.

Looking back, a better understanding of the case company's structure and operations on my part might have deepened the research findings, for example through shaping the interview questions. This raises the question of whether acting as an internal employee would have enabled to create "better" interview questions and thus resulting richer data. On the other hand, the role of an external researcher may also have opened new channels of dialogue and honesty among respondents.

The work has demanded reframing the problem iteratively. Handling the large amount of data coming from the interviews was both rewarding challenging. Rewarding, because it confirmed that we are dealing with the right problems. The challenge lied in handling a great amount of data that needed to be categorized in a way, that the right aspects for this research would raise up. It required an iterative searching of the similarity in smaller themes and stakeholder groups. This process was educational and I'm glad not to rush in too fast conclusions. Conducting 17 interviews, including 34 participants, brought forth diverse views on the value of design across different maturity levels, significantly enriching our understanding of the subject.

While analyzing the interview responses, I wondered whether the structure and the framing of the questions could have been further developed. Then again there was a desire to gain deep understanding the respondents' views on design's value and how they perceive the value in business operations. Leaving questions open allowed stakeholders to bring out their views freely and gave me the opportunity to delve into interesting details that emerged during the discussions.

The interview phase also highlighted stakeholders' willingness to help and participate, which I was delighted of. This underlined the importance of community for the success of design processes. I feel that this willingness to help and participate not only supports the design work, but also strengthens the company's internal culture and promotes collaboration.

This level deep dive on the thematic of design value was relatively new territory for me. Nonetheless, I was thankful and saw this challenge as an opportunity. I recognized its broad significance for many businesses and, therefore, as an essential part of my professional skill development.

Utilizing a wide range of source materials, from podcasts and books to thesis, design industry reports and scholarly articles, was essential for establishing a ground for my understanding. Although not all collected information made it into this thesis, the diverse sources used in constructing the theoretical part were incredibly valuable for my learning.

Regarding future research emerged from this project, two potential topics particularly felt resonating: 1. Interdisciplinary collaboration in strategic design. Focusing on how different stakeholders could collaborate to create more fruitful future strategies. What would be the best practices and how to utilize actionable insights. 2. Exploring the benefits of design maturity measurements and design training courses. I see the benefits of design maturity measurements and the advantages of conducting "Design Training" courses within the company alongside design maturity measurements. Especially from the perspective of how these could strengthen both teams and individuals' belief in the benefits of using design.

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The fluency of some parts in this text has been refined using ChatGPT. Available at:

<https://openai.com/chatgpt>.

Appendices

Appendix 1. Management interview 1

Warm-up:

- Is it okay if the interview is recorded? The data will be processed anonymously, and the recordings will be deleted after transcription.
- How long have you worked at the company, and what kind of roles have you had here?
- How would you describe your company's culture and values?

Questions on Design:

1. How do you define 'design' from your own perspective?
2. What were the original goals when establishing the design unit, and what expectations were associated with it?
 - How have these objectives possibly changed over time?
3. How do you see design impacting the company's strategic direction and competitiveness?
4. Can you provide examples of how design has influenced the development of products or services in your company?
5. How has the significance of design been emphasized or valued in your company in relation to other strategic factors or areas?
6. What changes have you observed in organizational culture and working practices following the establishment of the design team?
7. Is measuring or validating the value of design necessary in your opinion?
8. Have there been discussions about design and its importance in the executive board?
9. In what other business areas or processes could you imagine utilizing design more?
 - What would be the possible steps to achieve this?

Other:

- Is there anything you would like to add in relation to the discussion we've had?

Appendix 2. Management interview 2

Design Leadership

Warm-up:

- Is it okay if the interview is recorded? The data will be handled anonymously, and the recordings will be deleted after transcription.
- How long have you worked at the company?
- How would you describe your company's culture and values?

Questions on Design:

1. How do you define 'design' from your own perspective?
2. How would you assess the role of design team within the organization?
3. What challenges do you face in design leadership?
4. How does the design team function as part of the company's strategy and decision-making processes?
5. In what ways has the design team influenced product development and user experiences?
 - Do you have any concrete examples of this?
6. How do you see the role of design growing or changing in the future within the organization?
7. Is measuring or validating the value of design necessary in your opinion?

Other:

Is there anything you would like to add in relation to the discussion we've had?

Appendix 3. Management interview 3

Warm-up:

- Is it alright if we record the interview? The data will be treated anonymously, and the recordings will be deleted after transcription.
- How long have you been working at the organization, and what kinds of tasks have you handled here?
- How would you describe the culture and values of your company?

Questions on Design:

1. How do you define 'design' from your perspective?
2. How is design integrated into digital strategies, and how does it impact the success of digital initiatives?
3. Can you share examples of how design has influenced the development of products or services in your organization?
4. How has design been utilized in the development and improvement of user experience in digital services?
5. How does design support the continuous development and enhancement of user experience in digital services?
6. How have you measured the impact of design on the success of digital initiatives?
7. What changes have you noticed in organizational culture and work practices following the establishment of a design team?
8. Is measuring or validating the value of design necessary in your opinion?
9. In what other business areas or processes could you imagine utilizing design more?

Other:

- Is there anything you would like to add in relation to the discussion we've had?

Appendix 4. Management interview 4

Warm-up:

- Is it alright if we record the interview? The data will be treated anonymously, and the recordings will be deleted after transcription.
- How long have you been working at the organization, and what kinds of tasks have you handled here?
- How would you describe the culture and values of your company?

Questions on Design:

1. How do you define 'design' from your perspective?
2. In what ways do you see the role of design in the development of day-to-day business?
3. How can design be utilized to improve customer experience and the attractiveness of services across different business models?
4. What changes have you observed in customer satisfaction and customer experience with the use of design across your business models?
5. How does design support product or service development in your business?
6. What changes have you noticed in organizational culture and work practices following the establishment of a design team?
7. Is measuring or validating the value of design necessary in your opinion?
8. In what other business areas or processes could you imagine utilizing design more?

Other:

- Is there anything you would like to add in relation to the discussion we've had?

Appendix 5. Management interview 5

Agile / Team lead

Warm-up:

- Is it alright if we record the interview? The data will be treated anonymously, and the recordings will be deleted after transcription.
- How long have you been working at the organization, and what kinds of tasks have you handled here?
- How would you describe the culture and values of your company?

Questions on Design:

1. How do you define 'design' from your own perspective?
 - Do the different perspectives within your team/chain define the importance of design differently, does one view it in a different way than another?
2. How significant do you see the role of design as part of your team, and how has it influenced decision-making and product development?
 - Can you share any concrete examples of this?
3. Have you encountered any benefits and challenges in relation to design in your business?
4. What changes have you noticed in organizational culture and working practices following the establishment of a design team?
 - Have you noticed changes in other departments or teams?
5. Is measuring or validating the value of design necessary in your opinion?
 - Do you already have any metrics in use?
6. Can you provide an example of a project where design processes and methods were utilized?
7. Do you see the role of design evolving or changing in the future in the online grocery business?
8. What are the key aspects or trends that could influence the role of design in business in the future?

Other:

Is there anything you would like to add in relation to the discussion we've had?

Appendix 6. Stakeholder interview 1

Non-designers

Warm-up:

- Is it alright if we record the interview? The data will be treated anonymously, and the recordings will be deleted after transcription.
- How long have you been working at the organization, and what kinds of tasks have you handled here?
- How would you describe the culture and values of your company?

Questions on Design:

1. How do you define 'design' from your own perspective?
2. How do you feel design impacts your own tasks and work culture?
3. Has design had a noticeable effect on customer interactions and the development of products/services?
4. What do you know about the goals and vision of design within the company?
5. What opportunities do you see for utilizing design in your organization?
6. What expectations do you have for the role of the design or design team in the future?

Other:

Is there anything you would like to add in relation to the discussion we've had?

Appendix 7. Stakeholder interview 2

Designers

Warm-up:

- Is it alright if we record the interview? The data will be treated anonymously, and the recordings will be deleted after transcription.
- How long have you been working at the organization, and what kinds of tasks have you handled here?
- How would you describe the culture and values of your company?

Questions on Design:

1. How do you define 'design' from your own perspective?
2. In your view, how does your work and design, in general, impact the company's value chain and overall business outcomes?
3. Do you believe it's important to measure or validate the value of design within your organization?
4. How do you convey the value that your design efforts contribute, or do you see such communication as necessary?
5. How do you engage in collaboration with other departments or teams on design projects?
6. Have there been discussions with other departments or teams about the role and value of design?
7. Can you recall any instances where design has notably influenced the quality and user experience of new products or services?
8. Do you think design plays a significant role in enhancing the quality of customer interactions and overall customer satisfaction?
9. Are you able to provide examples of successful projects where design has demonstrably added value to the product or service?

Other:

- Is there anything you would like to add in relation to the discussion we've had?