

# ORGANIZATIONAL TRANSFORMATION THROUGH SERVICE DESIGN

The Journey towards Human-  
and Customer-centricity

*Krista Korpikoski*



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**ORGANIZATIONAL TRANSFORMATION  
THROUGH SERVICE DESIGN**

The Journey towards Human- and Customer-centricity

Academic dissertation  
to be publicly defended with the permission of  
the Faculty of Art and Design at the University of Lapland  
in Castrén hall on 17 November 2023 at 12 noon.



LAPIN YLIOPISTO  
UNIVERSITY OF LAPLAND

Rovaniemi 2023

University of Lapland  
Faculty of Art and Design

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Cover art: Maxim Narbrough

Layout: Minna Komppa, Taittotalo PrintOne

Acta electronica Universitatis Lapponiensis 365

ISBN 978-952-337-394-5

ISSN 1796-6310

Permanent address to the publication: <https://urn.fi/>

URN:ISBN:978-952-337-394-5

*The real meaning of revolution is not a change in management ...  
but a change in man.*

Theodore Roszak

## Abstract

Over the past decade, service design has become more common in the manufacturing industry. As a human- and customer-centric development methodology, service design brings along co-creative, outside-in development strategies, which are iterative in nature. However, such learning by doing and experimenting while innovating may collide with the existing working cultures, innovation practices, and processes of organizations, especially where strong engineering-based and technology-oriented cultures thrive. Recent research has shown that organizations that start applying and integrating service design into their development and business practices, should be prepared for an organization-wide transformation. This is due to the fact that, as a social innovation practice, service design also impacts how an organization changes internally, not just through developing new services.

In light of these observations, this dissertation claims that there is a research gap in understanding organizational transformation, from the perspective of service design. More understanding is needed of how organizations that apply service design, transform. This research aims to bridge this gap, by exploring the following primary research question, from the context of a multinational manufacturing corporation: What is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design?

This is an article-based dissertation, which follows *research into design* approach. The aim of this interdisciplinary research is to connect design research with management and organizational studies. Interpretivism serves as the philosophical perspective used to interpret and understand the experiences described by the study's informants. The research methodology was to conduct a case study, where a variety of qualitative data collection and analysis methods were employed.

Three publications, all of which are book chapters published in two books, constitute the basis of this dissertation. The publication I discovered how the participating organization evolved into being more receptive to service design as an empathic development approach. A time span of ten years (2005-2014) was studied to understand the changes and evolution, that led the organization to invest in service design. The publication II studied how in-house service design has supported the participating organization's working culture, to transform towards human- and customer-centricity. The early use phases of the first four years 2014-2018 of in-house service design were studied. The publication III sought to understand, what

the organizational challenges are that occur when in-house service design is used in service development. Along with publication II, this publication also looked into the first four years of in-house service design use in the organization under investigation.

Publications I and II present findings, which relate to individual and organizational change aspects. These are connected to changes in attitudes, mindsets, and beliefs of individuals, in addition to changes in organizational visions, strategies, values, and organizational paradigms. Publication III presents findings from the perspective of organizational challenges related to the lack of human- and customer-centric norms and practices. Overall, the research conducted within this dissertation adds new knowledge to the field of design research, management, and organization studies. The dissertation presents a new theoretical framework of individual and organizational change aspects, to transform the organizational working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design.

***Keywords:*** service design, organizational transformation, transformation design, human- and customer-centricity, manufacturing industry, working culture

## Tiivistelmä

Viimeisen vuosikymmenen aikana palvelumuotoilu ja sen hyödyntäminen on yleistynyt tuotantoteollisuudessa. Ihmis- ja asiakaslähtöisenä kehittämismetodologiana palvelumuotoilu tuo mukanaan yhteiskehittämiseen pohjautuvia luovia ja iteratiivisia toimintatapoja, joissa kehittämistä lähestytään ulkoa sisäänpäin -strategioilla. Tällaiset ketterät menetelmät, tekemällä oppiminen ja kokeilut innovoinnin yhteydessä voivat kuitenkin törmätä ristiriitoihin olemassa oleviin työpaikkakulttuurisiin, innovaatiokäytäntöihin ja organisaatioiden prosesseihin nähden. Näin voi käydä erityisesti konteksteissa, joissa vahvat insinööripohjaiset ja teknologialähtöiset toiminta- ja kehittämiskulttuurit kukoistavat. Viimeaikaiset tutkimukset ovat osoittaneet, että organisaatioiden, jotka alkavat soveltaa ja integroida palvelumuotoilua kehittämis- ja liiketoimintakäytäntöihinsä, tulee valmistautua laajamittaiseen muutokseen. Tämä johtuu siitä, että sosiaalisena innovaatiokäytäntönä palvelumuotoilu vaikuttaa myös siihen, miten organisaatio muuttuu ja kehittyy sisäisesti – ei pelkästään uusien palveluiden kehittämisen kautta.

Näiden havaintojen valossa tässä väitöskirjassa väitetään, että kokonaisvaltaisen ja laajamittaisen organisaatiomuutoksen eli organisaatiotransformaation ymmärtämisessä palvelumuotoilun näkökulmasta on tutkimusvaje. Tarvitaan enemmän ymmärrystä siitä, miten palvelumuotoilua soveltavat organisaatiot muuttuvat. Tällä tutkimuksella pyritään kuroma umpeen tätä aukkoa tutkimalla seuraavaa päätutkimuskysymystä monikansallisen tuotantoteollisuuden kontekstista: Mitä organisaatiolta vaaditaan, että työpaikkakulttuurin transformaatio voi tapahtua kohti ihmis- ja asiakaslähtöisyyttä mahdollistaakseen sisäisen palvelumuotoilun tehokkaan integroinnin?

Tämä on artikkelipohjainen väitöskirja, jossa tehdään tutkimusta muotoilusta (engl. *research into design*). Tämän tieteidenvälisen tutkimuksen tavoitteena on yhdistää muotoilun tutkimus johtamis- ja organisaatiotutkimukseen. Interpretivismi on tämän väitöskirjan filosofinen näkökulma, jonka mukaisesti tutkimuksen informanttien kuvaamia kokemuksia tulkitaan. Tutkimusmetodologiana on tapaus-tutkimus, jossa on käytetty erilaisia laadullisia tiedonkeruu- ja analyysimenetelmiä.

Kolme julkaisua, jotka ovat kahdessa kirjassa julkaistuja kirjalukuja, muodostavat tämän väitöskirjan pohjan. Julkaisu I kuvaa, kuinka tutkimukseen osallistuva organisaatio kehittyi vastaanottavaisemmaksi palvelumuotoilulle empaattisena kehittämisen lähestymistapana. Kymmenen vuoden ajanjaksoa (2005-2014) tarkasteltiin organisaation muutosten ja kehityksen ymmärtämiseksi, joiden pohjalta organisaatio

tio päätti investoida palvelumuotoon. Julkaisu II tarkastelee sitä, kuinka sisäinen palvelumuotoilu (engl. *in-house service design*) on tukenut tutkimukseen osallistuneen organisaation työpaikkakulttuuria muuttamaan kohti ihmis- ja asiakaskeskeisyyttä. Tässä julkaisussa tarkasteltiin sisäisen palvelumuotoilun hyödyntämisen ensimmäistä neljän vuoden ajanjaksoa (2014-2018). Julkaisu III esittelee sitä, mitkä ovat organisaation haasteet, joita ilmenee, kun palveluiden kehittämisessä käytetään sisäistä palvelumuotoilua. Julkaisun II lisäksi myös tässä julkaisussa tarkasteltiin sisäisen palvelumuotoilun hyödyntämisen neljää ensimmäisen vuoden ajanjaksoa.

Julkaisuissa I ja II esitetään havaintoja, jotka liittyvät ihmisten yksilöllisiin ja organisaation muutosnäkökulmiin. Nämä liittyvät muutoksiin yksilöiden asenteissa, ajattelutavassa ja uskomuksissa sekä organisaation visioiden, strategioiden, arvojen ja organisaation paradigmojen muutoksiin. Julkaisu III esittelee havaintoja ihmis- ja asiakaslähtöisten normien ja käytäntöjen puutteeseen organisaatiohaasteiden näkökulmasta. Kaiken kaikkiaan tämän väitöskirjan puitteissa tehty tutkimus tuo uutta tietoa muotoilututkimuksen, johtamisen ja organisaatiotutkimuksen aloille. Väitöskirja esittelee uuden teoreettisen viitekehyksen yksilön ja organisaation muutosnäkökulmista. Nämä muutosnäkökulmat ovat edellytyksiä organisaation työpaikkakulttuurin muuttamiseksi kohti ihmis- ja asiakaslähtöisyyttä, mikä puolestaan mahdollistaa sisäisen palvelusuunnittelun tehokkaan integroinnin.

***Avainsanat:*** palvelumuotoilu, organisaatiotransformaatio, muutoksen muotoilu, ihmis- ja asiakaskeskeisyys, tuotantoteollisuus, työpaikkakulttuuri



## Acknowledgements

I have accomplished something that I as a younger version of myself never thought would be possible. Yet, here I am. I did it. The journey has been interesting for a curious ever-seeking mind. Considering the process and all the paths that have led me in different directions and vast amounts of information and knowledge, the work has required passion, determination, patience, resilience, and strong decision-making ability.

I would like to thank my supervisors Emerita Professor Kaarina Määttä and Professor Melanie Sarantou. Thank you Emerita Professor Kaarina Määttä for showing the direction clearly on how to do this and constantly checking up on me to see how I am doing. Your trust in me, positive attitude, and guidance in critical moments have supported me in decision-making and getting my work forward with confidence. Your encouragement during the process means the world to me. Melanie Sarantou, thank you for helping me when I was facing the 'wall'. Your in-depth knowledge in terms of the matters I have stumbled upon has taken me forward on this journey. You were also the one that got me to choose the direction of organizational transformation in this research.

RDI Director Kristiina Soini-Salomaa and Professor Mikko Korja, I want to thank you for pre-examining my dissertation. Thank you, Dr. Kristiina Soini-Salomaa, for your feedback, which made me feel that I have succeeded. It is a privilege to get an experienced professional to be my opponent in public defense. Thank you, Dr. Mikko Korja, for providing me with insightful and detailed remarks on my work. Your suggestions for enhancements to my work were insightful, and they provided me with guidance for the future.

Next, I want to thank the multinational manufacturing corporation, which is the organization that participated in this dissertation. I was privileged to have the opportunity to work there as an in-house service designer before my dissertation journey. I also want to thank all my previous colleagues with whom I was delighted to develop the global services. The human- and customer-centric development projects were interesting, challenging, and complex in a huge organization, yet fun as well. I want to thank the colleagues for agreeing to participate in my study. Your input during the data collection in 2018 was crucial. It is my turn now to give the input of this work back to you.

I also want to thank the Professor of Service Design and the Dean of the Faculty of Art and Design at the University of Lapland, Satu Miettinen. After finishing

my master's thesis in 2013, you suggested I continue my journey and do a doctoral dissertation. It felt like an impossible thought at the time, but my work experience as a designer in the field got me intrigued to continue my path in the direction of research. Your trust and belief in me have guided me forward during my research and supported me to grow as a researcher. In addition, I want to thank my previous colleague from the University of Lapland, Doctor Mika-Petri Laakkonen. With you, I was able to get my research forward through the funded project *Design in Smart Mobility Business Services*. Without this project – which we applied for, received funding, and executed together – I would not be here. The project work we did and the scientific discussions we had helped me to realize the meaning of science, research, and the role of theory in research.

I also want to thank all the funding partners that have supported me in getting my research forward and up to this point: the European Regional Development Fund, Business Finland, and six partner organizations that funded and were involved in the *Design in Smart Mobility Business Services* project. In addition, thank you Finnish Cultural Foundation. The latest full funding, which I was privileged to receive in 2022 for a year, has gotten me to finalize this dissertation. Without the full funding, I would still be working on my research as a side job.

In addition, I want to thank Doctor Umar Zakir Abdul Hamid and Associate Professor Mari Suoheimo for the invitation to write for the book *Service Design for Emerging Technologies Product Development*, which you edited. This invitation was crucial since it offered me an opportunity to write the missing two publications in order to finalize this dissertation.

I also want to thank the Faculty of Art and Design, the Culture-based Service Design Doctoral Programme, and the Service Design Research Group Co-Stars. Seminars and discussions in the meetings with peers and friends from these groups have supported and inspired me in this research journey. Thank you, colleagues, from the department of Industrial Design, both previous and present, who have all supported me in one way or another in this journey. Thank you, Mira Alhonsuo, for listening to me and offering help and support when needed. Thank you for being there to support me, Piia Ryttilahti, Essi Kuure, Amna Qureshi, Siiri Paananen, Emma Kirjavainen, Katri Konttinen, Ella Björn, Reetta Kupari, Juri Etto, Hong Li, Alina Korotovskaia, and Jouni Kärkkäinen.

Last, I want to thank my friends and family. Thank you, Minna Liiten. You have been there since my childhood. Thank you for the walks we have done together, also during the cold winter evenings. I want to thank you for asking how I am doing and how it is going with my dissertation. Your listening and support will always be there, as they have been by far. Thank you, Aki Tihinen, my cousin and another one of my best friends since childhood. Thank you for your support in this journey. My dear friends, Danielle Zsifkovits and Anna Kekkonen, I want to thank you for listening and supporting me on this journey.

Thank you, Mom and Dad, and my siblings, Henri and Jasmin. You have always been the supporting pillars to me during my life's variable journey. I know that you are proud of my achievements. Remember that you are always on my mind and heart. I also want to thank Grandma and Grandpa, Orvokki and Unto. Grandpa, 'pappa', sadly you passed away in 2017 when my dissertation journey started. However, I know that you are proud of me there somewhere. I also want to thank Merja and Kauko. You have been my bonus parents since the early years of my adulthood and years in Norway. You always welcome me with open hearts to your lakeside district in Ristilä, Posio. In addition, you are always there to help me with my building and construction projects.

Finally, the special thanks go to my beloved one, Maxim Narbrough. In 2021 I met you as a colleague, but soon you became my partner in life. It has been an amazing journey of getting to know you and your daughters. Our in-depth discussions and reflections have provided valuable ground for me to develop this dissertation and the new theoretical framework. In addition, your knowledge of English as your native language has provided me with a basis to develop the language in this dissertation. Thank you for being there and providing me the strong support and believing in me. Thank you for enjoying and sharing the little and big moments in life, both every day and the special occasions in our places of strength, Jäkäläniemi and Autioniemi. Let us continue the adventures of life together. You are my rock.

Krista Korpikoski  
Rovaniemi, 1<sup>st</sup> October 2023

## List of Original Publications

Three peer-reviewed publications form the basis of this dissertation. These publications are book chapters, which are published in two books. The publications are listed below with Roman numbers I, II, and III. In the text, I will make the same references to the publications.

### Publication I

Korpikoski, K. (2023). Towards a more empathic organization: An exploratory case study of a multinational manufacturing corporation. In M. Sarantou & S. Miettinen (Eds.), *Empathy and business transformation*, 181-196. Routledge.

### Publication II

Korpikoski, K., & Miettinen, S. (2023). Organizational Transformation Through In-house Service Design: A Case Study of a Multinational Manufacturing Corporation. In U. Z. A. Hamid & M. Suoheimo (Eds.), *Service Design for Emerging Technologies Product Development: Bridging the Interdisciplinary Knowledge Gap*, 163-182. Springer Series in Design and Innovation, vol 29. Springer, Cham.

### Publication III

Korpikoski, K. (2023). The Challenges of In-house Service Design in Organizational Transformation: A Case Study of a Multinational Manufacturing Corporation. In U. Z. A. Hamid & M. Suoheimo (Eds.), *Service Design for Emerging Technologies Product Development: Bridging the Interdisciplinary Knowledge Gap*, 183-206. Springer Series in Design and Innovation, vol 29. Springer, Cham.

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## **Author's Contributions**

Below, the contribution of the authors in each publication is described.

### **Publication I**

As the sole author, I was in charge of all aspects related to this publication from collecting data to handling and analysing data with the help of the research methods as well as doing the literature review, writing the publication, and reporting results.

### **Publication II**

As the first author, I was responsible for data collection and data management in addition to analysing the data with the help of qualitative data analysis methods. In addition, I conducted a literature review. The second author supported me in this regarding the topic of "Experiential learning with the help of service design." Hence, the literature review was written by me and the second author. I was solely responsible for the following sections of the publication: introduction, research design, results, discussion, and conclusions.

### **Publication III**

As the only author, I was responsible for all parts of this publication, including data collection, management, and analysis using research methodologies, as well as conducting the literature review, writing the publication, and presenting the findings.

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## Abbreviations

AI	Artificial Intelligence
CEO	Chief Executive Officer
CRM	Customer Relationship Management
CX	Customer Experience
HCD	Human-Centred Design
HR	Human Relations
IoT	Internet of Things
IT	Information Technology
KPI	Key Performance Indicators
OD	Organizational Development
OT	Organizational Transformation
PSS	Product-Service Systems
R&D	Research and Development
SD	Service Design

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# 1. INTRODUCTION

It is the customer who determines what a business is. (...) What the business thinks it produces is not of first importance— especially not to the future of the business and to its success. (...) What the customer thinks he is buying, what he considers value, is decisive—it determines what a business is, what it produces, and whether it will prosper. (...) The customer is the foundation of a business and keeps it in existence.  
(Drucker, 1986, p. 47)

During the last decade, the implementation of in-house service design has increased within organizations (Blomkvist, 2015). Service design is being increasingly applied and integrated into the everyday practices of manufacturing industry in the development of services and product-service systems (PSS) (Costa et al., 2018). This is due to fast development in technology and globalization in addition to digitalization that create the need to develop services around product portfolios to improve organizations' competitive advantage through servitization and service differentiation (Baines et al., 2017; Bustinza et al., 2017; Gebauer et al., 2011; Reason et al., 2016). These global and societal changes in digital and technological development have pushed also manufacturing industry to a transition from a goods-dominant logic to a service-dominant logic, which in turn, transforms businesses from delivering items to co-creating value with and for customers (Vargo & Lusch, 2006; Sangiorgi et al., 2016).

Due to these reasons, in-house service designers have started to hold strategic roles within organizations (Blomkvist, 2015), especially in manufacturing industry. They can support organizations in understanding customer needs in the marketplace and translate those needs into the favour of the organizations to create comprehensive solutions (Baines et al., 2017; Gebauer et al., 2011). Therefore, they influence what an organization designs while concentrating also on the operative-level development of service concepts (Blomkvist, 2015). However, implementing in-house service design requires a service mindset of an organization in addition to developing service design competence, involving internal stakeholders, facilitating internal design processes, and organizational development (Overkamp and Holmlid, 2017), and this is not always straightforward.

Despite the benefits of service design for organizations, integrating human- and customer-centric ways of working might also be challenging. This is the case, especially in the context of manufacturing industry, which holds strong existing

routines, rites, and heroes (Borja de Mozota, 1998) of the engineering-based and technology-oriented working cultures. Therefore, as a human- and customer-centric methodology and development practice, service design can catalyse organizational transformation (Yu & Sangiorgi, 2018). It affects service systems and organizations (Yu & Sangiorgi, 2018) by bringing in and changing existing organizational practices, behaviour, and decision-making due to its iterative and co-creative outside-in development strategies to support multidisciplinary innovation (Andreassen et al. 2016, Junginger 2008). Hence, human- and customer-centric ways of working, which are central to service design, may collide with the existing organizational values, norms, and practices. Consequently, organizations that start implementing and integrating service design – especially in-house service design (Bello, 2015; Blomkvist, 2015) – into their development and business practices, should be prepared for organization-wide transformation (Kurtmollaiev et al., 2018).

Since in-house service design is increasingly being implemented and integrated as a social process within organizations, it inevitably has an impact on how an organization changes and develops (Kimbell, 2009). Hence, as a social innovation practice, service design fits with the fields of social change and organizational studies (Sangiorgi, 2011). However, the author of this dissertation argues that more understanding is needed from the perspectives of change management and organization studies in terms of in-house service design. There is especially a need to understand what is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design. This is what this dissertation investigates from the perspective of organizational transformation through the research phenomenon of in-house service design.

In connection with the notions above, transformation design has been brought forward by Burns et al. (2006). They bring forward design's transformational force from the perspective of services, organizations, and societies. Burns et al. (2006) conceptualize transformation design as service design that shapes behaviour and places pressure on organizational processes and structures. Transformation design aims to strengthen organizational capabilities to support sustainable innovation and human- and customer-centred development cultures in addition to developing and shaping solutions through new service and business models (Bailey, 2012; Miettinen, 2017; Terrey, 2013).

Despite the input of transformation design, more understanding is needed from the perspectives of change management and organization studies of in-house service design. This is due to the fact that human- and customer-driven development approaches can necessitate unplanned internal organizational changes, and thus, service design can reform organizations and larger systemic changes (Andreassen et al., 2016; Morelli et al., 2021). In connection to this, organizational transformation

research focuses on looking for patterns of unplanned changes, or stages and transitions of an organization during its lifecycle that affect the organization as a whole (Bartunek & Louis, 1988). Due to the larger scale of unplanned changes that in-house service design can trigger within an organization, this dissertation concentrates on the perspective of organizational transformation, which originates from change management. In addition to change management, this dissertation gives input also to organization studies and design research.

## 1.1. Research Questions and Aims

This dissertation is an interdisciplinary research, which connects design research with management and organization studies. The main objective of this dissertation is to understand organizational transformation through the research phenomenon of in-house service design. The research seeks answers to what should change in an organization to transform its working culture towards human- and customer-centricity to enable efficient in-house service design integration.

The main research question is defined as follows:

*What is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design?*

The main research question has been studied through three publications, which have been published in two books during 2022 and 2023: 1) Empathy and Business Transformation, and 2) Service Design for Emerging Technologies Product Development. All of the academic book chapters published as a part of this article-based dissertation are results of the conducted qualitative case study of a multinational manufacturing corporation. Below, the sub-questions and aims of each book chapter are presented more closely.

Publication I:

*How can an organization evolve into being more receptive to service design as an empathic development approach?*

The goal of this book chapter was to understand what an empathic organization means and how an organization evolves so that it can start employing service design as an empathic development approach. The historical period of ten years 2005-2014 was studied to create an understanding of what changes occurred from the perspective of human- and customer-centricity and service design in the organization during the time span. The mapped happenings and changes supported forming an understanding of how the changes led the corporation to invest in service design – which then led to the initiation of an in-house service design team in September

2014. This publication was published in *Empathy and Business Transformation* book, which was edited by Sarantou and Miettinen (2023). The publisher of the book was Routledge. The publication was written during the university summer holidays in 2021 and it was critical in the sense of setting further direction and focus of the whole dissertation in terms of organizational transformation.

#### Publication II:

*How has in-house service design supported an organization's working culture to transform towards human- and customer-centricity?*

The aim of the second publication of this dissertation was to understand how in-house service design supports an organization's working culture to transform towards human- and customer-centricity while it has been in use in the organization for some time. The data collection was done during the summer of 2018, which means that by that time the implementation of in-house service design had been in place approximately for four years – which can be seen as the early use/implementation phases of in-house service design in the organization. The topic's examination began with a search for the values, which service design delivers to the organization. Then the values were examined through the lenses of organizational transformation in relation to working culture. This book chapter was published in *Service Design for Emerging Technologies Product Development* book, which was edited by Umar Zakir and Mari Suoheimo (2023). The publisher of the book was Springer. The publication was written together with the professor of service design and the dean of the faculty of Art and Design at the University of Lapland, Satu Miettinen.

#### Publication III:

*What are the challenges from the perspectives of different organizational stakeholders, that occur when in-house service design is used in service development?*

The objective of this book chapter was to provide answers to the organizational challenges, which appear when in-house service design has been implemented in the development of services for four years. The meaning was to consider the topic based on the experiences of organizational stakeholders in terms of management at four levels and in-house service design specialists at the lowest level in the organizational hierarchy. Hence, comparing how stakeholders at five different organizational levels experience the organizational challenges associated with service design and its management was of interest. The third publication of this dissertation was published in the same book *Service Design for Emerging Technologies Product Development* as the second publication.

## 1.2. Research Journey

When I applied to the Culture-based Service Design Doctoral Programme at the University of Lapland in 2017, the beginning of my career as a researcher began. During the time of application, in the spring and summer of 2017, I was still employed as an in-house service designer in the multinational manufacturing corporation as a part of the R&D (research and development) department. In the industry, I got interested in the value of service design after experiencing first-hand how it impacted the corporation. A new, customer-centric strategy was introduced after in-house service design had been applied in a pilot project for a year. Additionally, the buy-in of service design increased rapidly. Business stakeholders and project managers demanded service design be incorporated into their development projects even without fully understanding its purpose or meaning.

I was initially drawn to the internal and external advantages of service design for the manufacturing corporation when I started my investigation. Therefore, I began my investigation with the intention of calculating the service design's return on investment. In terms of internal advantages through enhanced quality of development work between stakeholders resulting in organizational savings, both the qualitative and quantitative values were of interest. Additionally, I was interested in the external organizational benefits that would result in higher customer satisfaction and loyalty levels in addition to higher financial profitability. Due to the sensitivity of the data, it became evident after negotiations with the corporation's stakeholders that I would not be able to obtain any financial reporting for this research. In addition, I considered how difficult it would be to quantify the value of service design given that it is more indirect than direct and that a variety of stakeholders have an influence on how services are developed. These all influenced my decision to conduct qualitative research. Hence, I did it by conducting semi-structured interviews and holding a workshop on the values of service design in addition to creating innovation process maps of service design projects. The chosen stakeholders to be interviewed were of such projects where in-house service design had been applied.

With a study leave, the journey began. In order to be able to finance my research, I applied for funding in 2017. At the same time, I conducted studies and a literature review on the value of service design, which helped me in planning data collection. I was successful in securing funding from the European Regional Development Fund and six partner organizations, along with my university colleague. Hence, with the help of the funding, we ran a Business Finland project. As a result, I had two years of financial security in 2018–2019. I gathered sizable, in-depth qualitative data sets from three organizations during this time. However, for the sake of the dataset for this dissertation, only one of the organizations was selected. This was due to the fact that the selected organization was the most advanced in terms of design

maturity (Danish Design Ladder) when applying and implementing service design in comparison to the other two organizations.

The 2020 COVID-19 outbreak had an impact on funding decisions. Therefore, I began working in the industrial design department as a project manager and university teacher in the field of service design. The research process was naturally disrupted. The working positions created the challenge to conduct the research consistently. Despite the challenges, I managed to write my first book chapter to be included in *Empathy and Business Transformation* book, over the summer of 2021. This publication was essential since it helped to shape the course of the research. I made the decision to focus on organizational transformation from the perspective of service design. Naturally, this viewpoint assisted me in limiting the application of my data sets. Hence, the innovation process maps were excluded, thus leading me to use interview and workshop data.

After receiving an invitation to write for a book *Service Design for Emerging Technologies Product Development* in the autumn of 2021, I began working on two publications. At the same time, I applied for funding from The Finnish Cultural Foundation. Thus, the spring of 2022 was taken up by teaching, project managing, and writing two book chapters. In May 2022 I was lucky to receive full personal funding for a year. Starting in September 2022, I made the decision to undertake my dissertation work with the help of funding from The Finnish Cultural Foundation along with part-time work from the University of Lapland in order to finalize my dissertation. Funding indeed supported me in concluding this thesis. Overall, the research process has taken six years. Figure 1 below shows the research's trajectory.



**Figure 1.** *The journey of this research.*

### 1.3. Research Limitations

This dissertation is limited to the perspectives of *service design* and *organizational transformation*. Since *transformation design* is an area of study that bridges these two areas, also this topic is handled. This research also relates to *human- and customer-centricity*. This is due to the following facts: a) service design is a co-creative and social development methodology, and b) the role of service design is to consider the perspectives of multiple stakeholders from business customers to frontline personnel and other internal stakeholders and possible network partners in the context of manufacturing industry in this research. The keyword, *manufacturing industry* is also strongly present in this research due to the context of a manufacturing corporation in this dissertation research. These keywords are discussed more closely in chapter two.

In terms of design maturity, it is noteworthy that this study relates to that. The research is related to The Design Ladder, a tool/model created by a Danish Design Center in 2001, as well as Hoedemaeckers' (2016) further implications for the tool. Hoedemaeckers (2016) has added two stages to the existing four stages of the Design Ladder: Systemic Change and Culture. When considering the additions, this dissertation can be seen as giving input to the area of culture since the perspective regarding this research also touches upon *working culture*, thus supporting the views of Hoedemaeckers.

In this dissertation, the keyword *working culture* is closely related to Hoedemaeckers' (2016) thoughts on culture and leading through design. *Working culture* – which as a term in English is also referred to as organizational culture and corporate culture in addition to workplace culture and work culture – in this dissertation refers to the setting of an organizational context experienced and delivered by employees. Hence, the *working culture* in this dissertation consists of the shared organizational environment, its values, and strategies, as well as mindsets, attitudes, and beliefs held by people. In addition, the term includes the formal and informal rules of behaviour and management that guide everyday processes, work practices, and norms of employees in organizational contexts.

In terms of the Design Ladder (Danish Design Center, 2001), the Hoedemaeckers' (2016) addition regarding the sixth stage of culture means the application of design in business as a way to create and employ a wonderful culture. He argues that with design “You’re shifting the mindsets of people within your organisation to align to the design mindset, people are starting to innovate, act like entrepreneurs, embrace ambiguity, listen to the voice of the customer, and **lead through design**” (Hoedemaeckers, 2016, para. 24). Hence, the standpoint and perspective of this dissertation are in close connection to Hoedemaeckers' perspectives on culture and leading through design. In addition, the latest development in the Design Culture Model by Palmares et al. (2022) is also interesting and can be seen relating to this



dissertation work. However, since these tools and models are not the focus of this dissertation, it is seen that the mention of these topics related to design maturity should be enough.

The terms *servitization* and *product-service systems* are also mentioned in this dissertation due to their connection to service design and design of services, but the definition of these terms has been excluded. Additionally, the topic of this dissertation is naturally related to *design management*, but since the main focus is on organizational transformation through the phenomenon of in-house service design, the term design management is not defined. This does not, however, imply that the dissertation has nothing to contribute to the subjects of *design management* in addition to *servitization* and *product-service systems*. In addition, *organizations as open systems* and *strategy as practice* could have been applicable to this dissertation research, but since the focus of this study has been limited to organizational transformation that stems from the field of change management, the mentioned areas of study have been excluded in this research.

#### **1.4. Research Context**

The participating organization under study is a matrix organization, a multinational manufacturing corporation with over a hundred years long history in engineering and manufacturing. Hence, the context of this dissertation is industrial. Before starting the journey of this research, I used to work as an in-house service designer in the organization during 2014-2017 under the R&D department. I was hired to work in the corporation by another organization. Hence, I worked in the role of a sub-contractor.

The organizational structure of the research context is similar to that of other manufacturing businesses. The organization employs approximately 60,000 employees globally and it produces equipment, maintenance, and consultation services. The role of services has become more crucial for the organization due to the transition from manufacturing economies to service economies, a revolution of Information Technology (IT) and digitalization in the latter part of the 20<sup>th</sup> century (Shah et al., 2006; Reason et al., 2016), Internet of Things (IoT), and increased customer demands. Hence, the organization is required to understand customer value in-depth, to understand customers' processes and contexts that affect their experiences (Andreassen et al., 2016). Therefore, service design as a practice has become a useful and valuable approach for the organization regarding service development.

Prior service design, product development activities followed more or less Cooper's (2001) Stage-Gate process model within the organization under investigation. End-users had been the main source of information for product and user interface

designers. Business-to-business customers had not been regularly involved in the development projects of R&D. In addition, the development of services had mostly been in the hands of business stakeholders. As a follow-up of in-house service design, human- and customer-centric work practices have become increasingly central. Hence, the role of service design has become strategic in the organization. The service design team is located in the company headquarters to work together with other business stakeholders and different departments. In addition, service designers have been hired elsewhere to support area and country-level development. They perform an active role, especially in the early phases of service development. Co-creation activities such as customer research, ideating, prototyping, testing, and piloting together with customers and internal stakeholders are a part of service designers' work. They hold a strong communicative and facilitative role within the development projects. Service designers handle projects holistically when examining detailed processes, and solving complex issues and challenges. Thus, they provide strong support for management regarding decision-making.

Regarding the confidentiality of the participating organization, it was agreed that the name of the corporation will not be revealed in this dissertation. This gave me an opportunity to be open about the results of the research in terms of the organization. Despite this, the industrial context and my background in the corporation have provided a great opportunity to learn about the real-world setting related to in-house service design. In addition, my background has offered me the opportunity to interpret the research topic in-depth. Though, at the same time my background causes challenges and constraints from the perspective of carrying out a doctoral thesis. It must be noted that my background as an in-house service designer may affect biased interpretations of the data. Therefore, the possible research bias inherent in qualitative research must be considered (Mehra, 2002). In addition, the findings that originate from the participating organization are specific and limited to the context.

## **1.5. Contribution of the Dissertation**

Considering Kurtmollaiev et al. (2018) notion on the fact that organizations should be prepared for organization-wide transformation when integrating in-house service design, this can be a tough call for many organizations. Knowing in advance how an organization should prepare for service design can be a hard task for organizations that do not know what service design is and how one should prepare for it. Therefore, more understanding is needed from the contexts of such organizations, which already have implemented and integrated service design into their business processes and learned about service design practices and interactions of internal and external stakeholders. This is why research from the perspective of organizational

transformation is needed relating to in-house service design from the contexts where in-house service design has been in use. Knowledge of what changes an organization has gone through in terms of unplanned changes and how an organization has evolved when integrating in-house service design, can increase knowledge of how to prepare for in-house service design. Such knowledge can provide information on what to develop to enable better integration of in-house service design into the organizational working cultures, processes, norms, and practices.

Thus, this dissertation provides knowledge in the fields of design research, change management, and organizational studies. In terms of design research, the aim of this study is to increase researchers' and design practitioners' knowledge of the organizational benefits and challenges related to in-house service design. Such knowledge increases awareness of in-house service design in organizational settings. In addition, such knowledge can support service designers to lead their work in better ways within organizations. In terms of change management and organizational studies, the information provided by this dissertation can support both business practitioners and researchers in applying the knowledge in their settings. The knowledge provided from the perspective of the mapped unplanned changes of an organization related to in-house service design is closely related to organizational transformation. Practitioners and researchers can apply this knowledge in the future proactively e.g. in terms of organizational development (OD) studies regarding planned changes in an organization. Since the empirical context of this study is a manufacturing corporation where in-house service design has been studied related to social innovation processes and experiential learning of individuals, this dissertation also relates and gives input to the area of organizational studies.

## **1.6. Structure of the Dissertation**

This dissertation consists of six sections. In the introduction chapter, the research topic, questions, and aims are formulated as well as the research gap. In addition, the research journey and the industrial context of a multinational manufacturing corporation are introduced. Here I also describe the limitations of the study and the contribution of the dissertation.

The theoretical underpinnings of the dissertation from the perspectives of service design, transformation design, and organizational transformation are presented in chapter two. Along with service design, human-centred design, and customer-centric design in addition to service design in the context of the manufacturing industry are introduced. Then the relationship of transformation design to organizations is examined. Under transformation design's subsections, the transformational effects of service design are looked into as well as the transformational challenges of service design. Organizational transformation brings in the perspective of social sciences

related to change management. The types of organizational change as well as the models and theories of organizational transformation and change are examined within its subsections. Additionally, experiential learning and service design are examined in relation to organizational transformation.

Chapter three presents the core methodological choices of this dissertation. Starting from introducing the placement of the research between the scientific fields of design research, management, and organizational studies, the research design continues describing the research philosophy along with the methodology of qualitative research. In addition, the research strategy of the case study is presented as well as the data collection and analysis methods of this dissertation. Also, ethical considerations and limitations are viewed here.

Chapter four presents the results from each publication, establishing the foundation for chapter five's debate. The discussion reflects the results in connection to the theoretical underpinnings. The main empirical findings are presented first in the discussion. Then, the change aspects of individuals and an organization are looked into followed by the inspection of human- and customer-centric norms and practices of an organization. The dissertation's new theoretical framework is provided last. Chapter six, "Conclusions," brings the dissertation's research to its end by summarizing the findings, arguing for their significance, and making recommendations for further study.

## 2. THEORETICAL BACKGROUND

This chapter examines three theoretical foundations of this dissertation – service design, transformation design, and organizational transformation – in the following subsections. First, the history and term of service design are presented followed by the key aspects related to the term from the perspective of this dissertation. Therefore, a) human-centred design and customer-centric design, and b) service design implications in the context of a manufacturing industry are discussed under the topic of service design. Second, transformation design is introduced since it connects the fields of service design and organizational transformation. In addition, a) the transformational impacts of service design are considered as well as b) the transformational challenges of service design related to the topic. Third, the area of organizational transformation is introduced followed by a) the types of organizational change in addition to b) the models and theories of organizational transformation and change as well as c) experiential learning and service design in connection to organizational transformation.

### 2.1. Service Design

Service design addresses the functionality and form of services from the perspective of the user. It aims to ensure that service interfaces are useful, usable, and desirable from the client's point of view and effective, efficient, and distinctive from the supplier's point of view. (Mager, 2009, p. 34)

Service design is closely connected with design thinking, which can be seen as having origins in the psychological studies on creativity such as Kurt Lewin. Though, Warren Weaver (1948) presented the idea of “organized complexity” 1948, which is central to design thinking. In the 1960s the first books on design thinking can be seen emerging from John E. Arnold (1959) – Creative Engineering – and L. Bruce Archer (1965) – Systematic Method for Designers. Design thinking and design are also connected to Herbert Simon and Donald Schön. In 1969, Herbert Simon (1996) presented the science of design in his book “The Sciences of the Artificial” to fill the void between natural sciences and design practice. He (Simon, 1996) considers design as a central activity in engineering. Schön (1983) presented constructivist views on design as a reflective problem-solving practice. Thus, when thinking of service design as a systematic problem-solving practice

and human activity connected with design thinking, its roots are in the mid-20<sup>th</sup> century. However, the term's – service design – emergence can be located in the 1980s (Shostack, 1982, 1984) from where it has evolved into a strong practice and an object of research in the 1990s and during the last two decades in the 21<sup>st</sup> century (Moritz, 2005; Sangiorgi & Prendiville, 2017).

The term “service design” was discovered by Lynn Shostack (1982), a consultant and bank and marketing manager, who proposed the concept of service blueprinting. She showed how intangible elements and different states of service can systematically and explicitly be processed and documented as a process and hence, how these immaterial components can be designed (Shostack, 1982, 1984). In the 1990s service design started to be treated as a discipline within the field of design (Erlhoff et al., 1997). Design consultancy company IDEO was formed in 1991 and Birgit Mager started as the first professor in Köln in the area of service design in 1995 (Tether & Stigliani, 2010). From there on service design education, research and practice-based work started to grow e.g. through the works of Buchanan (2001), Cross (2006), Morelli (2003), Moritz (2005), Sangiorgi (2009), and Segelström (2013) in addition to the initiation of Service Design Network in 2004 to support the community (Wetter-Edman, 2011).

Today, service design is an academic discipline (e.g. Meroni & Sangiorgi, 2011; Miettinen & Valtonen, 2013) and a strong practice (e.g. Stickdorn & Schneider, 2011; Polaine et al., 2013). From a practice-based view, “service design is a new approach for developing services that are immaterial and abstract” Miettinen (2017, p. 4). The aim of it is to create customer and human-centred solutions that add value to customers and users and boost engagement and innovation in companies and institutions through practice-based doing, making, experiential learning, and knowledge-building in the development and delivery of services (Buhring & Liedtka, 2018; Kolb, 1984; Miettinen, 2017; Stock et al., 2018).

Service design builds on the philosophy of design thinking, co-creation, and empathy in addition to customer and user-centric methods, tools, and processes in the development of products and services (Sangiorgi & Prendiville, 2017; Stickdorn & Schneider, 2011). Service design thinking is user-centered, co-creative, sequencing, evidencing, and holistic (Stickdorn, 2013). Service design relies on many other disciplines (Stickdorn & Schneider 2011), but its origins are in arts and design where “its specific vocabulary, praise of empathy, holistic thinking, customer centricity, and ethnography as well as its focus on both the material and the symbolic” have evolved (Kurtmollaiev et al. 2018, p. 59). Service design adopts methodologies e.g. from service marketing and management, design management, design research, and participatory design (Wetter-Edman, 2011). As a holistic, multidisciplinary, and empathic approach and practice (Prestes Joly et al., 2019; Yu & Sangiorgi, 2018) service design supports the execution of customer-centric outside-in development strategies in problem-solving activities (Andreassen et al., 2016, Junginger, 2008)

since it “allows the firm to see through the eyes of the customer” (Andreassen et al. 2016, p. 23).

Service design covers the process of service development (Goldstein et al. 2002, Holopainen 2010). Service design understands, maps, and communicates customer, user, and employee experiences (Stigliani and Fayard, 2010). Hence, as a networked bottom-up activity (Meurer, 2001) it can contribute to front and back-end business processes (Yu & Sangiorgi, 2018) with the help of human-centred methods and skills (Junginger, 2008). Service designers have an active role in the ideation and creation of solutions and in making changes happen within organizations through iterative development processes, which are done in cooperation with customers and users in addition to the organization’s partners, internal stakeholders, units, and departments (Junginger 2008, Miettinen 2009).

Initially, the focus of service has been on the design of user and service experiences in terms of designing and solving user problems and connecting users and service providers through service interfaces and touchpoints (Miettinen & Koivisto, 2009; Polaine et al., 2013; Stickdorn, 2014). Though, since service design has a force to initiate organizational and transformational changes (Junginger & Sangiorgi, 2009; Lin, et al., 2011; Meroni & Sangiorgi, 2011; Sangiorgi, 2011). It has extended its focus also to the areas of service systems and organizations instead of merely developing services (Polaine et al. 2013, Yu & Sangiorgi 2014). As a creative, holistic, and customer-centric bottom-up activity service design differs from the conventional views of practicing business (Kurtmollaiev et al. 2018, Meurer 2001). As a social activity, it affects behavioural changes and the decision-making of an organization (Armstrong et al., 2014). Therefore, service designers are also challenged to facilitate cultural and behavioural transformations in organizations that are going through a change towards customer- and human-centricity (Miettinen, 2017). For these reasons, service design affects and attracts the area of change management (Bate & Robert, 2007).

In this study, service design is seen as a human- and customer-centric development methodology and practice, which holds a strategic (outside-in) development process – a process where analytical and creative reflections intellectually take turns. People (customers and employees), front- and back-end of services, products, digital systems, and tools, processes, and practices are naturally the subjects of service design. Service design is not seen as applicable only to designing services, but also to designing organizations internally to develop and produce better functioning organizations to increase the risk management and quality of an organization.

### **2.1.1. Human-Centred Design and Customer-Centric Design**

Since human- and customer-centricity are connected closely to this dissertation and service design as opposed to product-centricity (Galbraith, 2005; Shah et al., 2006), it is important to go through the theoretical implications regarding the

terms, human-centred design and customer-centric design. Giacomini (2014) argues that human-centred design (HCD) has its roots in ergonomics, computer science, and artificial intelligence. The goal of human-centred design is to create goods and services that are useful, useable, enjoyable, and meaningful for people (Jordan 1999). For organizations, human-centred design method offers a significant opportunity to target unexplored markets or better current products through insights gathered from observation and engagement with potential users or customers (Silva and Marques, 2020). This indicates that both incremental and disruptive innovation may result from the outcome of such an approach (Silva and Marques, 2020).

Methodologies, e.g. design thinking and service design, rely on human-centred principles to engage and immerse oneself with users in their contexts (Liedtka, 2018). This is also why user-centred design and human-centred design are very closely connected (e.g. Lowdermilk, 2013; Norman, 1990). The difference between these two is that user-centred design is interested in a specific target group of users in-depth whereas human-centred design is interested in traits of humans on a more general level.

In addition, human-centred design and development is a collaborative and iterative process, which is done with multidisciplinary teams of numerous stakeholders in organizations, each of whom has knowledge and experience to contribute (Maguire, 2001). E.g. managers, usability experts, end users, software engineers, graphic designers, interface designers, training and support staff, and task experts could all be on the team (Maguire, 2001) in addition to service designers. When talking about human-centricity in the context of organizations and referring to customers and internal stakeholders as humans, “companies that take a human-centered approach to their missions see the benefits of committed and engaged employees and customers” (Bittner and Lau, 2021, para. 1).

Customer-centric design, or customer-centred design, is not as well covered area in the area of design literature as human-centred design and user-centred design. Rather, customer-centric design is handled more as empathic design in the area of design from the perspective of customers and/or users (e.g. Koskinen et al., 2003; Kouprie & Sleeswijk Visser, 2009; Mattelmäki et al., 2014). In the areas of business and marketing research in addition to organization studies, customer-centred design is often mixed together with customer-centricity and customer-centric innovation (e.g. Al-Shammari, 2021; Liedtka et al., 2007; Shah et al., 2006; Vargo & Lusch, 2006; Wechsler & Schweitzer, 2019).

In accordance with Holtzblatt (1999, p. 4), “customer-centred design is how to see human practice, understand its structure and apply that understanding to a design problem.” The single most crucial rule businesses must follow when it comes to customer-centric design is to create designs that will fulfill both the objectives of the company and those of its customers (Krypel, 2014). People and organizations must develop their ability to recognize, understand, and use knowledge about human



practice to design successful goods, services, and systems (Holtzblatt, 1999). This is where the dialectic front end of design processes helps in terms of e.g. ethnographic methods, participatory design, and user-centred processes, which are necessary (Holtzblatt, 1999) when one wants to see and understand something through the eyes of the customer(s). Indeed, this is where ‘outside-in thinking’ supports when shaping the organization through customer value perceptions (van den Hemel & Rademakers, 2016) and needs.

Thus, customer-centric design and customer-centricity both could be seen as having the same goal: “The value perception of the customer is placed at the heart of key business and organizational processes” (van den Hemel & Rademakers, 2016, p. 213). Therefore, the organizational strategy, structure, systems, and procedures are specifically adjusted to further improve value generation in the eyes of the customer (van den Hemel & Rademakers, 2016). This means that customer-centricity should be a thread, which is woven into the fabric in a way, which becomes a continuous source of competitive advantage involving a wide range of hard-to-measure variables (Hart, 1999). Customer-centricity, however, appears to be simple to commit but challenging to create and sustain, especially in large organizations (Hart, 1999).

In accordance with Shah et al. (2006), firms have typically been product-centric, and the revolution of information technology (IT) in the latter part of the 20<sup>th</sup> century and the rise of customer relationship management (CRM) software motivated organizations to continuous dialogue with customer across all touchpoints to personalised treatments. Despite this, the majority of organizations have had insufficient customer-centricity to realise the mentioned advantages (Shah et al., 2006). This is due to the fact that many of the manufacturers are internally focused concentrating on producing excellent products instead of aiming towards the buyers and users of the products to fulfil the tasks that customers and users are trying to achieve with the products (Levitt, 1980). In order to succeed, the path to customer-centricity requires an organization to pay special attention to the organizational culture, structure, processes, and revised financial metrics of the company (Shah et al., 2006). In addition, strong leadership commitment, organizational realignment, and system and process support are necessary for customer-centricity (Shah et al., 2006).

Regarding human-centred design and customer-centric design, this dissertation mentions often the terms human- and customer-centricity. Human-centricity and human-centred design in this dissertation refer to the inclusion of internal organizational stakeholders in the processes of service design when designing services. The terms customer-centricity and customer-centric design refer to the inclusion of business customers in this dissertation. This is due to the fact that in the participating organization of this study, the multinational manufacturing corporation, the clients consist of business customers. Hence, the specific target group of end-users of the manufactured products are excluded when referring to the terms, customer-centricity and customer-centric design. Hence, the terms human-

and customer-centricity contain both the inclusion of internal business stakeholders on a more general level in addition to the business customers in the process of designing services with the help of service design.

### **2.1.2. Service Design in Manufacturing Industry**

During the last two decades in the 21<sup>st</sup> century, design has increasingly been applied within manufacturing industry and service organizations in terms of strategic renewal (Kolko, 2015; Kurtmollaiev et al., 2018; Ravasi & Lojacono, 2015; Yoo & Kim, 2015). Correspondingly, in-house service design is becoming a more applied practice in manufacturing industry (Costa et al., 2018). This is due to the transformational shift in organizations from a Goods-Dominant Logic to a Service-Dominant Logic, which changes organizations and their practices from delivering goods to co-creation of value with and by customers in the contexts of use (Vargo & Lusch, 2006; Sangiorgi et al., 2016). In addition, there has been an increase in customer expectations, and the digital revolution has driven radical changes and disruption in the service sector (Reason et al., 2016). These are the reasons that make service design relevant for organizations today (Reason et al., 2016).

These reasons have increasingly led organizations towards customer-centric approaches, which must naturally be applied and implemented regarding innovation and business development (Sangiorgi et al., 2016) if companies in the area of manufacturing are to keep up their competitive advantage. Though, the adoption of a service-dominant perspective depends “on an evolution of how organisations perceive and engage with design as well as with their users and other stakeholders” (Sangiorgi et al., 2016, p. 106). To make such a quantum leap requires the entire business logic to be managed “from a service perspective as an integrated business” (Grönroos & Helle, 2010, p. 565). Such an approach can support the organizations to change their business mission towards a service-driven direction, which is naturally customer-driven (Grönroos, 2007), but “adopting a service logic is a strategic decision” (Grönroos, 2008, p. 310), which is not straightforward.

The role of service designers in industry is to participate in strategic decision-making from early on (Wetter Edman, 2013), foster human- and customer-centricity, provide a deep understanding of customers and users in addition to internal employees, promote service design internally, create room and facilitate collaboration across vertical silos, and improve functionalities of an organization (Miettinen, 2017). In these processes, in-house service designers provide external perspectives from outside in by understanding and communicating the needs of customers, users, and frontline employees regarding the investigation of the existing service offering in addition to ideation and co-creation of new solutions and fostering change (Bates & Davis, 2009; Miettinen, 2017; Reason et al., 2016).

Miettinen (2017, p.9) argues that “the industrial service design process has to be embedded into existing corporate structures and processes.” Reason et al. (2016)

support these views by bringing forward the challenge of how organizations' teams, processes, systems, and reward structures are usually organized internally leading to fostering siloed thinking and behaviour. Therefore, external perspectives through customer focus and insights should be brought into the organizations to increase alignment between departments in the analysis and co-creation of new human- and customer-centric solutions with the help of creativity and design-oriented processes (Reason et al., 2016). Indeed, adjusting the agile and iterative service design processes and activities into the existing business processes can foster scaling up service design within the organization and radically transform business processes (Geuy, 2017) towards a human- and customer-centric direction.

Despite the growing and evolving role of in-house service design and its great possibilities and benefits within organizations in service and organizational development, design is often seen as a support function in many organizations (Oakland et al., 2021) and not as a dynamic, ongoing activity. This is due to the fact that many manufacturing "organizations still exist at the delivery end of the thinking life cycle, not at the discovery end" (Golsby-Smith, 2007, p. 22). Therefore, design is not seen as a strategic toolkit shaping new futures. Instead, customers predominantly come last in 'non-design' organizations, which means that they are considered as objects to whom the developed services and products are sold and delivered at the end of the delivery life cycle. In addition, product development, especially in the area of manufacturing industry, has traditionally been viewed as a phase where "the value and role of product development to the organization is minimised since its activities are merely something that the organization needs to contend with temporarily" (Junginger, 2008, p. 28). Product development actions are not viewed as a process of change, nor design in itself as an active intervention that creates change within an organization (Meurer, 2001) since product development is usually focused on the object-related functions of usability and form.

In opposition to the views presented above, design can offer a new approach to strategy immersed in a social process of argumentation and debate, with the customers and users at the discovery end (Golsby-Smith, 2007). Yet, transforming into a customer-centric organization might be a tough call for engineering-based corporate cultures that have long histories of fostering business behaviour from the inside out (Reason et al., 2016). Embedding design expertise might be challenging in contexts where operational management is strongly emphasized to defend the status quo in terms of the delivery end (Golsby-Smith, 2007). Hence, design is not always effectively managed and it might not be integrated into business processes (Borja de Mozota, 1998). In addition, transforming into a customer-centric and service-dominant organization can be challenging due to strong existing routines, rites, and heroes (Borja de Mozota, 1998). Such tendencies in decision-making attitudes, regarding early closures on problem-solving, contrast with design attitudes based on higher-order human-centric approaches (Boland & Collopy, 2004). The

latter approach is defined as allowing time for openness and closure to find the best possible answer (Boland & Collopy, 2004).

## 2.2. Transformation Design in Organizations

Transformation design acknowledges that 'design is never done'. Because organisations now operate in an environment of constant change, the challenge is not how to design a response to a current issue, but how to design a means of continually responding, adapting and innovating. Transformation design seeks to leave behind not only the shape of a new solution, but the tools, skills and organisational capacity for ongoing change. (Burns et al., 2006, p. 21)

Design research has increasingly studied design's strategic and transformative role within organizations in the last two decades (e.g. Bate & Robert, 2007; Buchanan, 2004; Burns et al., 2006; Junginger, 2008; Junginger & Sangiorgi, 2009; Kurtmollaiev et al., 2018; Sangiorgi, 2011; Trullen & Bartunek, 2007; van Aken, 2007; Yu & Sangiorgi, 2018). This is due to the fact that design is used for solving complex problems in different contexts by enabling a wide range of stakeholders and disciplines to collaborate in the design process to develop practical and desirable solutions (Burns et al., 2006). Hence, design is becoming transformational due to its role in affecting services, organizations, and societies. This is called transformation design, originally set forth by Burns et al. (2006).

Service design approach that supports shaping behaviours and creates pressure for organizational processes and structures is conceptualized as transformation design (Burns et al., 2006; Sangiorgi, 2011). In addition to developing and shaping solutions through new service and business models, the focus of transformation design is to reinforce organizational abilities to brace sustainable innovation and human- and customer-centric development cultures within organizations (Bailey, 2012; Miettinen, 2017; Terrey, 2013). In addition to creating new solutions and services, service designers have moved to provide tools and capacities for organizations in terms of human- and customer-centred innovation and development (Sangiorgi, 2011). Thus, designers: a) engage in strategic processes of business problem definitions, not just respond to given briefs as problem statements; b) think systematically; c) apply design in broader social, economic, and political contexts; d) collaborate fruitfully with other disciplines; and e) champion a human-centred design approach at the highest levels (Burns et al. 2006, p. 27-28).

Burns et al. (2006) define six characteristics of transformation design: 1) defining and redefining the brief since designers participate in defining the problems to create the brief; 2) collaborating between disciplines since designers facilitate collaboration

to solve complex issues; 3) employing participatory design techniques since bottom-up innovation strategies with help of frontline personnel and users support problem-solving; 4) building capacity, not dependency since transformation design projects should leave organizational capacities and skills to answer ongoing change; 5) designing beyond traditional solutions since designers shape behaviour of people, systems, and organizations, not just form; 6) creating fundamental change since transformation design projects can initiate cultural changes of human-centeredness within organizations.

Burns et al. (2006) argue that transformation design is not a change management process, but participating in the design processes might help to move towards the desired outcomes. This is due to the fact that such processes offer participating stakeholders' ownership of the vision, tools, and capacity to adapt and innovate in addition to "initial steps towards changing the culture, aligning thinking and focusing around the end user" (Burns et al., 2006, p. 22). Pinheiro et al. (2012) support this notion by arguing that if service designers involve internal stakeholders and units in customer-centred conversations, the object of change may expand to organizational cultures and norms.

Design practitioners face both philosophical and practical challenges in the area of transformation design (Burns et al., 2006). The philosophical challenges designers face are 1) the loss of personal creative authorship by collaboratively facilitating others' ideas, 2) shaping the behaviour of systems, interactive platforms, and people's roles and responsibilities rather than form, 3) transformation design is never done since emergent systems keep changing, 4) creativity happens in run-time in short design cycles of in-flow and in-situ of the market, not just in design-time in studios as safe zones, 5) diversity over the quality of accepting what's good enough, and 6) design becomes a Pro-Am community of shared practice including professional educated designers and amateurs, or the non-design trained (Burns et al., 2006, p. 26).

The practical business difficulties and barriers that designers face relate to questions about a) leadership and value; b) the development of new business models, tools, and processes; and c) the encouragement of new skills and orientation among designers (Burns et al., 2006, p. 27). Hence, regarding the practical challenges that designers face, "an appropriate shared language and evidence base" should be built up to support "communicating the value and impact of a transformation design process" among internal stakeholders (Burns et al., 2006, p. 27). In addition, better tools and techniques must be developed to be shared in multidisciplinary collaboration among stakeholders, and non-designers within organizations must be induced into design practices (Burns et al., 2006; Junginger, 2008; Pinheiro et al., 2012; Sangiorgi, 2011).

Buchanan (2004) argues that integrating design into management in complex organizations is one of the important challenges that management faces. Therefore, he considers managing design from the perspective of design management, which he

sees as a specialty in management itself. According to Buchanan (2004, p. 55), design management is particularly important in organizations where strong engineering cultures thrive: “Engineering often neglects the human dimensions of technology that are essential for success in the marketplace.” Thus, managing as designing challenges management to think of the organization itself and how the organization and its services and activities are shaped (Buchanan, 2004).

Bate and Robert (2007), Trullen and Bartunek (2007), and van Aken (2007) look at transformation and change from a design science perspective to organizational development (OD) interventions. Design studies contribute to management theory development in the area of OD (Trullen & Bartunek, 2007). In addition, Trullen and Bartunek (2007) see that design approaches add to action research and to related methodologies when planning and taking action in organizations. Bate and Robert (2007) argue that design supports shifting focus from management orientation of OD towards a more user-centric organizations. They look at this intervention through the subfield of design sciences of experience-based design. According to Bate and Robert (2007) the shift happens through: a) new value commitments and orientations between clients and users; b) considering organization design as a whole (structures, systems, processes, etc.) instead of concentrating on services only; c) the application of new diagnostic and intervention methods such as interviewing and prototyping, and; d) sustaining the change of the improvement efforts. Van Aken (2007) proposes that design science can provide human behaviour and humanistic values to the design and learning in terms of planned change and performance improvement by combining and aligning humanistic values with business. According to van Aken (2007) this happens by: a) integrating business and humanistic specifications; b) a high-quality process; c) combining change management and organization design, and; d) putting full attention to redesign and the learning to perform in the support of productive alignment.

### **2.2.1. Transformational Effects of Service Design**

Due to its effective means of human- and customer-centred problem-solving, service design affects organizations, service systems, and end-to-end processes in addition to the behaviours and decision-making of an organization (Yu & Sangiorgi, 2018). According to Andreassen et al. (2016, p. 24) service design, especially service system design, can “enhance an organization’s process, structure, and culture in creating value for customers.” They argue that service design might facilitate organizational change by affecting organizational performance and customer experience through external touchpoints. Internal organization change happens by affecting the touchpoints that affect internal IT systems and administrative procedures, personnel satisfaction by frontline and support personnel in addition to virtual and physical service delivery (Andreassen et al., 2016). In addition to service systems, service design can reform organizations since customer-driven service development practices require changes

at the organizational levels (Andreassen et al., 2016; Morelli et al., 2021). Hence, the existing organizational practices, behaviour, and decision-making (Junginger, 2008), “organizational structures, processes and culture will inevitably be impacted by implementing an outside-in perspective in service design” (Andreassen et al., 2016, p. 24).

Pinheiro et al. (2012) state that the object of change may extend from service systems to organizational norms and cultures from artefacts and behaviours if service design practitioners involve organizations in customer-centric conversations. Shah et al. (2006) propose how an organization can transform from product-centric to customer-centric through changes in organizational culture, structure, processes, and financial metrics. Though, for any transformation to be successful, it requires strong leadership commitment concerning the organizational realignment of horizontal and vertical structures through process and systems support, revised metrics, learning, and continuous improvement (Shah et al., 2006). This is due to the fact that applying service design may contradict with organization’s existing innovation routines, processes, and practices (Kurtmollaiev et al., 2018; Yu & Sangiorgi, 2018).

From the perspective of organizational transformation, service design can catalyse organizational transformation due to its capabilities in facilitating change within organizations since it provides the toolsets, capacities, and design knowledge for human-centred innovation (Bailey, 2012; Lin et al., 2011; Sangiorgi, 2011; Yu & Sangiorgi, 2018). Service design “grows into a powerful transformative force that is capable of changing institutions” and hence, the organizations that start implementing it should prepare for organization-wide transformation regarding changes in the mindsets and routines of employees (Kurtmollaiev et al., 2018, p. 70). When user and customer-centred activities, such as service design, are integrated into the organization, it can result in different qualities and impacts on service development and operations; it can impact the entire innovation process; it integrates multidisciplinary functions, and; it can affect stakeholders’ perspectives and behaviours (Yu & Sangiorgi, 2018).

Junginger & Sangiorgi (2009) elaborate on three levels where service design can have impacts and outcomes in organizations: 1) artefacts & behaviours regarding service interaction design - the impact will remain small or temporary if improvements touch upon new or improved artefacts and hence, organizational norms and values are not questioned behind them; 2) norms & values regarding service design interventions - changes might not be radical unless the new service concept affects deeper fundamental assumptions such as norms and values of the organization, and service designers demonstrate the value of change by engaging the organization and rethinking the organizational elements around the new service; 3) fundamental assumptions regarding organizational transformation - a long-term collaboration and strong commitment from the organization is required since service concepts require deep transformations, which touch the fundamental assumptions of the

organization. Hence, design is used to unveil deep assumptions regarding the current situation versus an agreed future vision. In addition to long-term commitment, achieving sustainable and effective transformation within organizations requires genuine interest, change of cultures and attitudes through trust-building, ongoing dialogues, and co-created vision (Junginger & Sangiorgi, 2009; Sangiorgi, 2011). Thus, service designers must be able to generate transformative insights regarding the fundamental assumptions, norms, values, and behaviours of the organization (Junginger & Sangiorgi, 2009).

When design confronts organizational and behavioural change, pilot projects can work as seeds and vehicles for change since they offer a fundamental role in opening the way to transformative changes and knowledge exchange within longer transformation processes (Junginger & Sangiorgi, 2009; Junginger, 2008). Kurtmollaiev et al. (2018) support these notions based on the study they carried out on the telecommunication company Telenor. Their study shows that service design causes changes in organizational mindset and practices and that service design “becomes the new service development process itself and grows into a powerful transformative force that is capable of changing institutions” (Kurtmollaiev et al., 2018, p. 70).

Sanders (2009) claims that the most critical component in getting companies to transition from designing for customers to designing with customers is the mindset and attitudes held by individuals. Before co-creation can happen, such people who think it makes sense to design with customers and people are needed. Once the mindset is there, there is the ability to change processes and the culture of the organization (Sanders, 2009). Howard et al. (2015) talk about the design thinking mindset, which they argue is both scalable and applicable both to individuals and an organization. They define two types of mindsets, which are design thinking as a way of work and as a way of life. According to them, the latter – design thinking as a way of life – focuses on designing for transformation holistically and creating positive change (Howard et al., 2015). In addition, Liedtka et al. (2013) and Rousseau (1995) argue that integration of service design regarding transformation requires challenging fundamental assumptions, beliefs, norms, and values that individuals and staff members hold in addition to mental models in organizations brought forward by Vink et al. (2019). Borja de Mozota (1998, p. 250) argues that “the integration of design is not likely to happen unless the company is going through a crisis where past beliefs and mechanisms have proved inefficient and there is a willingness to be receptive to new kinds of information.”

### **2.2.2. Organizational Challenges of Service Design**

Service design requires open and experimenting cultures to support its ways of working. Hence, the success of embedding service design depends on the level of understanding of the value of service design principles and tools (Kurtmollaiev et



al., 2018). In 'non-design' organizations imagining customer emotions and guessing their needs is common and hence, managers might not see value in interacting with customers (Kurtmollaiev et al., 2018). Thus, in this kind of institution, the right mindset of using service design does not exist (Kurtmollaiev et al., 2018). The experimental nature of service design might be seen as too messy, fuzzy, and risky for the organizations – “nothing like the conventional formal stage-gate process” (Kurtmollaiev et al., 2018, p. 68). Therefore, in institutions where performance orientation and formal and linear processes are favoured, e.g. Stage-gate process provided by Cooper (2001), embedding service design may be hindered (Kurtmollaiev et al., 2018). Service design work might be tried to be squeezed into the existing models, which is not fruitful ground for service design (Kurtmollaiev et al., 2018). This causes high frustration among service designers while resistance to real changes in innovation and delivery processes keeps existing within the organizations (Kurtmollaiev et al., 2018). In addition, service design might be seen as trendy, and as a consequence, it might be seen as an instrument to be used only with a symbolic meaning of using it (Kurtmollaiev et al., 2018).

The existing practices, meeting business key performance indicators (KPIs) and personal goals to sustain the status quo might inhibit the use and implementation of service design on a wider scale (Kurtmollaiev et al., 2018). Issues also arise due to tight resources. Several projects run at the same time. Hence, they suffer from a lack of time, funding, and human capital. In addition, managers might be unwilling to “release their best resources to work on interdisciplinary projects within cross-functional teams” since this may imply “the loss of project ownership and direct control” (Kurtmollaiev et al., 2018, p. 68).

Top management should encourage the creation of service design-based common vocabulary to enable shared corporate language by realigning KPIs with service design principles and objectives and providing room for experimentation (Bailey, 2012; Kurtmollaiev et al., 2018). Encouragement and rewarding methods should be in place (Bailey, 2012) such as performance-appraisal systems (Kotter, 1995). Design should be integrated into management styles to encourage the use of design amongst staff (Bailey, 2012). In addition, specialized teaching and training in service design should be offered to managers and employees to familiarize them with it in parallel with business practices throughout the organization to initiate behavioural change (Bailey, 2012). This is due to employees' personal experiences with service design, which “can further ensure a smooth transition from a rigid shareholder-value-focused firm to a more flexible customer-centric and design-driven organization” (Kurtmollaiev et al., 2018, p. 71). Hence, all of these are crucial elements when building in-house service design capacities and capabilities to support “delivering input to the business strategy in the long-term, while also delivering value to the business through projects in the short-term” (Bailey, 2012, p. 2). However, changes and new practices might take time for large organizations, and hence, support must

come from all management levels if a change in the culture is to be achieved and sustained (Bailey, 2012).

The organizational challenges and development needs brought forward by Kurtmollaiev et al. (2018) and Bailey (2012) are in line with Deserti & Rizzo (2014), Holmlid et al. (2017), Junginer & Bailey (2017), Lin et al. (2011), Sangiorgi et al. (2017), Sangiorgi et al. (2012) and Sangiorgi & Prendiville (2017). They all bring forward the need to develop and make changes in terms of structures, processes, systems, and practices to support design work since they work as crucial elements in shaping internal organizational behaviour regarding innovation practices. When these are viewed as existing support structures, they can either enhance or hinder participatory and co-creative micro-scale innovation in the development of future macro-scale visionary solutions to enhance organization strategies (Deserti & Rizzo, 2014).

As presented here, organizational challenges may occur since service design facilitates change through iterative customer-centric outside-in working principles. These may be contradictory to the existing linear innovation processes – such as Cooper's (2001) Stage-Gate process model – and fact-based decision-making cultures in the organizations where service design is applied and integrated into development. Therefore, in this study, transformation design is seen through the perspective of service design.

### **2.3. Organizational Transformation**

Organizational transformation research has its origins in change management and organizational development (OD) (Dawson & Andriopoulos, 2014). Kurt Lewin's writings contributed to the beginning of organizational development in the 1940s (Lewin, 1974). Organizational development at the time focused mostly on gradual or incremental organizational change, which is supported by group and individual-level interventions (Lewin, 1974; Bennis, 1969, as cited in Chapman, 2002). According to Chapman (2002, p. 16), the area then “broadened to encompass large-scale interventions including strategic change.”

Change can be planned or unplanned (Lewis, 2011). Planned changes are intentional organizational efforts, whereas unplanned changes are caused by environmental uncontrolled forces or internally emerging organizational processes and interactions (Lewis, 2011). Bartunek and Louis (1988) argue that organizational transformation and organizational development are two different approaches when understanding organizational change. They both deal with the culture of an organization in addition to shared meanings, beliefs, and values (Bartunek & Louis, 1988). However, organizational development research focuses on proactive processes on how to facilitate planned change – e.g.

conflict management skills or the behaviour of a change agent when planning and implementing change processes – while organizational transformation focuses “on a mapping of patterns of change in organizational form” when an organization is undergoing the change – e.g. organizational values, mission, and structure (Bartunek & Louis, 1988, p. 99). Hence, organizational transformation research deals with unplanned changes, or more significant stages and transitions that organizations experience during their life cycle – which affect the organizations as a whole (Bartunek & Louis, 1988).

Change, in accordance with Chapman (2002), fosters individual development, enhances internal organizational performance, and connects goals with partners in business and society. She presents two change levers: primary and secondary, of which beliefs, and values serve as primary change levers, and thus, they are the major transformation forces. These serve as a launchpad for secondary change levers, which are processes, structures, and systems (Chapman, 2002). Knowing that the organization is out of sync with its environment or that possibilities are being missed makes people more open to change (Chapman, 2002). However, accepting the need for change and being willing to engage in potentially hard and painful processes are further requirements for an organization (Chapman, 2002). This is where change agents can support in terms of empowering participants and stakeholders and encouraging them to broaden their perspectives regarding the nature of the change and its purpose and benefits (Chapman, 2002).

In this dissertation, organizational transformation is defined as the series of changes that take place over a considerable amount of time and lead to the desired future state. Organizational transformation entails a series of adjustments that collectively move the organization toward new working cultures, rather than just one or two changes. This dissertation discusses organizational transformation as it relates to shifting engineering-based and technology-oriented working cultures to being more human- and customer-centric. During this journey, changes can be both unplanned and planned regarding the past and the future. In terms of the planned future changes, organizational development can be of help. All components and areas of change inside an organization, from the creation of values and strategy through vision and mission, personnel, systems, processes, norms, practices, and employee behaviour at all levels, must be taken into consideration in organizational transformation.

### **2.3.1. Types of Organizational Change**

There are different types of organizational change. Watzlawick et al. (1974) and Bateson (1972) were the first ones to present first-order and second-order change as two stages of change. In addition, alpha, beta, and gamma changes were developed by Golembiewski et al. (1976) and Golembiewski (1979). Watzlawick et al. (1974) made a distinction between first-order and second-order change: the first-order

change occurs within a given system and it refers to incremental change – the system itself remains unchanged – whereas the occurrence of the second-order change, which refers to radical change, changes the system itself. Bartunek and Moch (1987, p. 484) refer to first-order change as “incremental modifications that make sense within an established framework” whereas “second-order changes are modifications in the frameworks themselves.” Weick and Quinn (1999) refer to first-order change as continuous, which are small continuous adjustments. The second-order change for them is episodic, which is discontinuous (Weick & Quinn, 1999). According to Levy (1986, p. 19), second-order change is where the transformation happens, which triggers changes in four areas: core processes, mission and purpose, culture, and organizational paradigm (world view). Chapman (2002, p. 16) argues that second-order change is commonly described as “transformational.” Bartunek and Louis (1988) propose that second-order transformational change requires shifts in beliefs, attitudes, and cultural values within organizations, which according to Chapman (2002) work as primary change levers regarding change management strategy.

Alpha, beta, and gamma change are defined by Golembiewski et al. (1976) and Golembiewski (1979) as follows: a) the participants in alpha change only concentrate on what they are already doing; b) in beta change the criteria used to evaluate behaviour are modified, and; c) gamma change is a quantum change where work and its objectives are understood or a transition from a condition to another. In addition to these, Bartunek and Moch (1987) present a third-order change, which brings forward individual perspectives to change. In terms of this Bartunek and Moch (1987) refer to educating organizational members so that they’re aware of their current schemata and can change those as they see fit (Bartunek & Moch, 1987). The goal of third-order change initiatives is to empower organization members to recognize and alter their own schemata as necessary based on the organizational goals (Bartunek & Moch, 1987).

### **2.3.2. Models and Theories of Organizational Transformation and Change**

In addition to the types of organizational change presented above, the previous research literature also presents several models and theories in terms of organizational transformation and change. There is a significant amount of research on change management from many disciplines (Teczke et al., 2017). Chaos theories (e.g. Bohm, 1992; Cohen et al., 1972; Lorenz, 1963; Miles, 2022; Stacey, 1996), action theories (e.g. Argyris et al., 1985; Parson, 1977; Weick, 1969), and life cycle theories (e.g. Greiner, 1972; Kotter & Cohen, 2012; Quinn & Cameron, 1983; Tushman & Romanelli, 1985) all apply in the field of change management.

According to Caluwé and Vermaak (2003), in chaos theory humans pay attention to the interactions between objects and the patterns that emerge as a result. The system becomes more dynamic as more patterns are weaved into it (Caluwé &

Vermaak, 2003). The environment can be greatly affected by a single modest change in some parameter, making the behaviour of this kind of system unpredictable (Caluwé & Vermaak, 2003). In the classic action theory, power and political processes are introduced as perspectives on organizations (Caluwé & Vermaak, 2003). According to action theory, each person or group attempts to maintain or enhance its influence (Caluwé & Vermaak, 2003). Conflicts and power blocks are inevitably caused by personal interests and motivations (Caluwé & Vermaak, 2003). Thus, in the area of change management, action theories concentrate on the actions and behaviours of individuals and groups in an effort to explain how change occurs within organizations through complex processes of several factors e.g. organizational culture, individual motivations, and group dynamics. Life cycle theories offer a framework for comprehending the various stages that an organization goes through as it develops and adjusts to new possibilities and challenges (Caluwé & Vermaak, 2003; Bartunek & Louis, 1988). According to Caluwé & Vermaak (2003), one of the most appealing qualities of life cycle theories is that they provide a historical and diachronic perspective on the chaos theory and all of its concepts of fluctuations and crises.

An example of a chaos theory is the Garbage Can Model presented by Cohen et al. (1972). The model concentrates on organizational decision-making, which is seen as chaotically organized anarchies “characterized by problematic preferences, unclear technology, and fluid participation” Cohen et al. (1972, p. 1). In a process known as the garbage can, participants, issues, and solutions are moved from one occasion for decision-making to another in such a way that the type of decision made, how long it takes, and the problems it resolves are all dependent on the interplay of many elements (Cohen et al., 1972).

Examples of action theories are Lewin’s (1974) change management model of unfreeze – changing – refreeze and Argyris’ (1976, 1977) single and double-loop learning. According to Lewis (2011), Lewin’s model proposes that the change process is linear and that the phases of change are singular. Lewin (1974) argues that in the phase of unfreezing, it is important to purposefully stir up stakeholders’ emotions in order to crack open the shell of complacency and self-righteousness. The issue of freezing the new level is similar (Lewin, 1974) in the process of establishing new practices as habits and routines (Lewis, 2011). This is where organizational learning theories become valid in terms of collective learning and behaviour of individuals that lead to organizational learning. E.g. Argyris (1976, 1977) presents the single-loop and double-loop learning models. Error detection and correction are processes involved in organizational learning (Argyris, 1977). According to Argyris (1977, para. 9), double-loop learning enables an organization to discover errors and challenge “the underlying policies and goals as well as its own program.” Single-loop learning, on the other hand, assists an organization in maintaining its current policies or achieving its goals (Argyris, 1977). In addition, Weick (1969)

provides the “loosely coupled systems” theory, in which he considers both the organizational level and the individual level, wherein people’s intentions and actions are interdependent, and thus, reasons or motives result in behaviour.

In terms of life cycle theories, Kotter & Cohen (2012, p. 6) present the model of eight stages in achieving successful large-scale change: 1) increase urgency; 2) build the guiding team; 3) get the vision right; 4) communicate for buy-in; 5) empower action; 6) create short-term wins; 7) don’t let up, and; 8) make change stick. Bartunek and Louis (1988) present a model of the process by which transformation takes place in mature organizations. The transformation process goes through the stages of unfreezing the original frame, preparation of the reframe, generation of the new frames, and testing for decision-making, adoption, and refreezing the new frame (Bartunek and Louis, 1988). Such times of renewal may require wider transformation efforts in terms of second-order changes to affect the organization’s norms, structures, and strategies (Bartunek & Louis, 1988; Tushman & Romanelli, 1985). In this process, organizational members may experience anxiety, shock, and defensiveness in addition to ambiguity and hopelessness, but management’s ability to stimulate and encourage change might support the transformation efforts (Bartunek & Louis, 1988). However, the dynamics of an organization may also change during the transformation processes in terms of second-order changes. Due to this, managers may experience crisis and defensive reactions due to their loss of control caused by a more participative approach favouring employee suggestions for organizational development (Bartunek & Louis, 1988). Overall, the more a shift in organizational stakeholders’ understanding develops in response to organizational internal actual demands rather than merely adhering to external limitations, the more the organization will create new understandings that are suitable for itself (Bartunek & Louis, 1988).

### **2.3.3. *Experiential Learning and Service Design***

Learning is an essential part of organizational transformation. There is no ability for an organization to change if there is no learning among the individuals who run the organization. This is why learning must be considered. Here, the perspective of experiential learning is presented since the research and development processes used in service design are similar to Von Hippel’s (2005) iterative learning through the processes of innovating and Kolb’s (1984) model of experiential learning. Therefore, the other learning theories e.g. cognitive learning theory, behavioural learning theory, constructivism learning theory, and transformative and social learning theories are not considered. Situated learning theory e.g. by Lave and Wenger (1991) would also be appropriate when considering practice-based doing and learning through design within the contexts where design is applied and embedded. However, the contexts – time and space – are also considered in experiential learning theories (e.g. Kolb, 1984), which is why only experiential learning is brought forward here.

According to Kolb (1984), experiential learning is a holistic learning theory, which combines experience, perception, cognition, and behaviour. In the process of learning, experience is transformed into new knowledge (Kolb, 1984). First, the human adapts to time and space – social and physical environments – and ideas are formed and reformed through experiences (Kolb, 1984). Second, knowledge is a transformation process that is always being created and recreated. Third, the objective and subjective aspects of experience are altered by learning. Fourth, the nature of knowledge must be comprehended in order to comprehend learning, and vice versa (Kolb, 1984). “Learning by doing” originally presented by John Dewey in 1916 (Dewey, 2012) is closely connected to experiential learning since the process of learning happens through reflection on doing.

Learning by doing is also one of the fundamentals and core principles in design thinking, and thus, in service design in terms of a learning process: “At its core, design is a hypothesis-driven process, focused on learning and iteration” (Buhring & Liedtka, 2018, p. 139). The very nature of service design is embedded in the problem-solving space that is also recognized in design thinking (Doorst, 2011) where the learning happens through the process of ideating, testing, and evaluating (Chin et al., 2019) and relates much to creativity (Pressman, 2018). One could argue that both service design and design thinking rely on creativity, which is an integral component of learning (Sullivan, 2017). These elements of creativity and learning are at the core of the co-design approach that service design utilizes.

Service design uses an approach where a continuous learning process is fostered through its iterative working approach and service prototypes are developed through the process of testing and evaluation (Kuure et al., 2014). In service design, learning and development happen through innovative working principles and processes in practice or through prototypes. Design thinking principles, like “quick and dirty” prototyping, “thinking with hands,” “failing often and early,” and “serious play” (Kelley, 2001; Brown, 2008), and “try thinking verbs not nouns” (Kelley, 2001) guide the iterative work present in service design. The co-design and participatory approaches used in service design foster a strong peer-to-peer learning process, which is one of the methods of engaging not only stakeholders but also the leadership in evaluating possible solutions, learning about them in concrete ways, and making decisions.

Experiential learning has proven to be one of the successful strategies when embedding design thinking in the organization (Stock et al., 2018). It facilitates and fosters strong peer-to-peer learning where the benefits of user and stakeholder inclusion, design process, and methods are experienced through practical case studies in company contexts. This may create strong buy-in among stakeholders since the co-design approach used in service design is one of the methods of engaging not only stakeholders but also the leadership in evaluating possible solutions, learning about them, and making decisions.

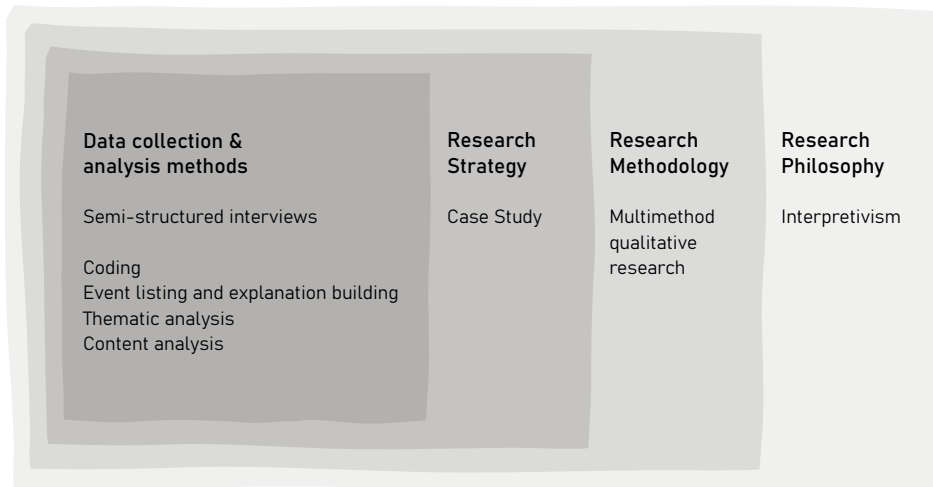
According to Sangiorgi (2011, p. 34) “within organizational development studies, a strong emphasis is given to participatory research and learning processes within organizations seen as drivers for transformational change.” From the organization’s perspective, outside-in strategies along with human-centred activities of customer research, participatory design, and iterative processes provide the organization with an avenue to learn about customers and themselves (Andreassen et al., 2016; Junginger, 2008). Along this process of making and creating new solutions, designers bring people, structures, and resources of the organization into alignment, and learning is put into action (Junginger, 2008). The engagement of internal organization stakeholders as project participants empowers them to be co-creators of new solutions (Sangiorgi, 2011). This is required since transformational changes cannot happen without a deep involvement of psychological engagement among stakeholders in the systems (Chapman, 2002). These go in line with Adcroft et al. (2008, p. 44), who claim that people, managers in particular, “learn best when they are active learners and reflect their own experiences.”

According to Buhring & Liedtka (2018), design’s emphasis on learning in action offers a powerful contribution to enhancing strategic planning processes in conjunction with foresight where assumptions of future scenarios can be tested through experiments. When ecosystem players at different levels are engaged in the design and execution of experiments, learning becomes an ongoing process and future scenarios can be adjusted as real-world feedback informs the process (Buhring & Liedtka, 2018). Hence, “instead of regarding design and management as different entities, there are grounds for focusing on the similarities between the two and to examine the learning that could occur between design and management” (Borja de Mozota, 1998, p. 257). When the design is valued as a process, design can lead to sustained innovation, higher customer value, and improved competitive advantage (Borja de Mozota, 1998). This is achieved due to interdisciplinary conversations, which designers facilitate to enhance stakeholders’ ability to align, learn, and change together (Liedtka, 2017).



### 3. RESEARCH DESIGN

The research design of this research is assembled through several layers adapted by Saunders' and Tosey's (2013) illustration and thoughts of the "Research onion." Figure 2 below presents the overview of the components of how this study was conducted. All of the components are described in further detail in the becoming subsections, but first, this chapter presents the overview of the intersection of research fields – design research, organization and management studies – where this study is located.



*Figure 2. The research design of this research.*

#### 3.1. Intersection of Design Research, Management and Organization Studies

This research bridges the areas of design research, management and organization studies. The aim of the dissertation is to increase interdisciplinary understanding of service design in an organizational context. It does it with the connection to the interpretive paradigm through the process of understanding the phenomenon of in-house service design from pragmatic action and solution-oriented implication towards subjective dimensions of individual interpretations and understandings of service design.

During the Renaissance, the academic cultures of art and science were integrated (Grand & Jonas, 2012). In the 17<sup>th</sup> century, through the work of Galileo Galilei in physics and mechanics, and Francis Bacon through the creation of “artificial things” shaped by art and human ministry, modern design research can be seen originating (Buchanan, 2001). It was also in the 17<sup>th</sup> century when art and science separated, leading to “traditional design” and “traditional science”, as what we know today (Grand & Jonas, 2012). In the 19<sup>th</sup> century, design in London was separated from the university sector, and an institute-style model of mechanics and physics was applied as a practice of *doing* but emphasizing *thinking* and the latest researched knowledge of design processes (Frayling, 1993). Moving on to the 20<sup>th</sup> century – to the times of change from craftwork and pre-industrial design to industrial design and mechanisation, and the emergence of post-industrial design (Cross, 2006) – design and design research evolved further resulting in design education in universities and “design knowledge” (Buchanan, 2001). According to Bærenholdt et al. (2012, p. 5), “design knowledge today is another kind than traditional scientific knowledge, it is practical and scientific, and it works through synergies.”

In 1948 Warren Weaver presented the idea of “organized complexity”, which is central to design thinking and design research. Then 1969 Herbert Simon (1996) proposed the science of design as an answer to fill the void between natural sciences and design as a practice. He applied methods that were developed in the areas of management sciences, and in the theory of evaluation in terms of utility theory and statistical decision theories (Schön, 1983; Simon, 1996). In comparison to Simon’s positivist views on design as rational problem-solving, Schön (1983) proposed more constructivist views on design as a reflective practice. He (Schön, 1983) reflected on the model of Technical Rationality and proposed the process of reflection-in-action and tacit knowing-in-action, which are central to the art and in professional problem-solving practices.

Frayling (1993, pp. 4-5) presented three categories of research in art and design deriving from Herbert Read (1893-1968): 1) research *into* art and design; 2) research *through* art and design, and; 3) research *for* art and design. Research *into* art and design Frayling (1993) defines historical, aesthetic, or perceptual research or research into theoretical perspectives of art and design. Research *through* art and design he sees as materials research, action research through practical experimentation, or research through actual development work. Research *for* art and design Frayling (1993) presents as thinking through the process of gathering reference materials and knowledge in the creation of the artefacts. Downton (2003) makes a similar division in design research as Frayling. However, he refers to research *into* design as research *about* design. He defines it as understanding the practice of design more clearly of what design ought to be, what designers actually do, teaching and learning design, and the history of design and designed things. Research *through* design Downton (2003) sees as the knowledge of the designer, which is embedded in the designed

outcomes following the thoughts of Frayling. Research *for* design Downton (2003) defines as research, which is done during the process of designing to support the design process and the creation of the outcome.

Cross (2006) offers three interpretations of the relationship between science and design, which are 1) scientific design, 2) design science, and 3) science of design. Cross (2006, p. 122) argues that “scientific design refers to modern, industrialised design” where scientific knowledge is applied in modern design practices. Design science Cross (2006, p. 122) defines as “a scientific activity itself”, which holds the systematic knowledge of design processes and methodologies in addition to scientific and technological underpinnings of the design of artefacts. Science of design Cross (2006, p. 123) sees as the study of design where design principles, practices, and procedures are studied “through scientific methods of investigation.”

According to Cross (2006), in the field of design research, design knowledge can be found in three sources: people, processes, and products. Since design knowledge resides implicitly in people, they are the immediate subjects of design research in the investigation of human abilities how people design, and how they learn to design to make the knowledge explicit. Secondly, Cross (2006) sees processes as the tactics and strategies of designing, and hence, design knowledge resides in processes and techniques of designing as well. Thirdly, design knowledge is also embedded in the products’ forms, materials, and finishes, which is why they must also be studied. Based on people, processes, and products, Cross (2006, pp. 125-126) divides design research into the following categories: 1) design epistemology – the study of designerly ways of knowing, 2) design praxiology – the study of the practices and processes of design, and 3) design phenomenology – the study of the form and configuration of artefacts.

“In the design sciences academic research objectives have a more pragmatic nature” (Van Aken, 2001, p. 3). The core mission of design science is the development of knowledge for the field in question (Van Aken, 2001, 2004). Thus, the knowledge produced is used in the service of performance and action when designing solutions to problems (Van Aken, 2001; Romme, 2003). In this sense, design sciences are prescription-oriented and prescriptive in nature when developing and testing solutions for the future (Van Aken, 2001). What requires more focus is how design sciences and design research can be combined with organizational and management studies since as a social practice, design, especially service design, is increasingly being applied and embedded as a function in organizations. Therefore, design starts naturally affecting people, processes, products, services, and organizations as a whole. Due to this, more descriptive research is needed to understand the impacts of design, and service design, as a new practice in different organizational settings. This is where organizational and management studies come into play.

When following Simon (1996, p. 166), “an important goal of the design is to fashion and change social organization in general and individual organizations

in particular.” Thus, while developing and “changing existing situations into preferred ones” (Simon, 1996, p. 111) design does not only affect the changes in the production and delivery of newly developed products and services. It also affects internal changes in organizations in terms of organizational values, strategies, people, development and innovation processes, project management practices, performance, and quality among others. This is why in this research the produced knowledge cannot be seen to produce knowledge only about or for the field in the area of design research and design sciences, but also about and for organizations and management. Therefore, this research produces knowledge in the intersection of design research, organizational, and management studies.

According to Clegg and Hardy (1999, p. 3), organization studies “relate to *organizations* as empirical objects, to *organizations* as social process, and to the intersection and gaps between and within them.” Without going into the details of the history of organization studies, it is good to point out that the field of organization studies has matured greatly along with industrial development (Hatch & Cunliffe, 2006). The field has grown from the introduction of the factory and growth of the machines in the late 18<sup>th</sup> century to further industrial development in the 19<sup>th</sup> century continuing to post-industrialism and post-industrial organizations in the 20<sup>th</sup> and 21<sup>st</sup> centuries organised around knowledge and the use of information (see e.g. Bell, 1976; Burns, 1962; Hatch, 1997; Hatch & Cunliffe, 2006).

Organization studies consist of a series of evolving conversations by organization studies researchers who reflect, reproduce, and refute the tradition of the discourse in addition to the “practices in which members of organizations engage” (Clegg & Hardy, 1999, p. 3). It is an interdisciplinary field of study based on science and humanities (Romme, 2003), which draws from a variety of disciplines such as marketing, production anthropology, and sociology (Clegg & Hardy, 1999) in addition to psychology (Schein, 1980). According to Hatch (1997) and Hatch and Cunliffe (2006), the themes of organizational studies include the study of organizational environments, social structures, technology, culture, physical structures, power, control, conflict, strategy, organizational change, and learning, and more. Van Aken (2004) defines organization studies as description-driven where the dominant paradigm lies in the explanatory sciences thus he sees the field as problem-focused where the typical outcome of the research resides in causal models. Schwab (2004) agrees that the study of causal relationships between factors is common in organizational research.

Management studies aim to understand and explain management activities, outcomes, and contexts (Economic and Social Research Council, 2001, as cited in Thomas, 2004). Management research is a field of study, which concerns the aspects of social life such as performance, decision-making, handling objects, procedures, and actions – which are “concerned with the production and distribution of material wealth through some form of social organization” (Thorpe & Holt, 2008,

p. 1). The field provides knowledge for management as a practice in addition to the development of theories in academic settings (Thomas, 2004; Thorpe & Holt, 2008). It is a relatively new field of study (Thomas, 2004). The modern use of the term management comes from the United States of America (USA), which was initiated along with the creation of management schools in the USA in the first half of the 20<sup>th</sup> century (Easterby-Smith et al., 2004). Education in these schools was based on principles of managers' own experience in addition to Fred Winslow Taylor (1856-1915) and Henri Fayol (1841-1925) who were the two dominant figures of modern management methods in the period (Easterby-Smith et al., 2002). Management's emergence is also indicated by the times when academic journals started appearing in the USA, United Kingdom (UK), and Europe in the 20<sup>th</sup> century related to management (Thomas, 2004).

Management studies are divergent and therefore it is often seen as a problematic field (Thomas, 2004). The boundaries of management studies are indistinct since many areas of specialism are included in it such as marketing, strategy, human resources management, organizational behaviour, finance, accounting, and operations in addition to multidisciplinary studies that go across the boundaries (Thomas 2004). Thus, management studies draw from a wide range of other disciplines such as sociology, psychology, philosophy, anthropology, economics, history, statistics, and mathematics (Drucker, 2008; Easterby-Smith et al., 2002). Hence, management studies do not have a clear identity. It is an applied and divergent field, and thus, there is no strong consensus on what the field contains due to its heterogeneous and complex profile (Thomas, 2004). According to Thomas (2004), some authors equate management studies with organizational studies. Some authors equate it with business studies such as Saunders et al., (2016) and Ghauri and Grønhaug (2005). Despite the variety of outlooks and beliefs in management research, the same research methods and strategies are applied in management research as in other disciplines in the area of social sciences (Thomas, 2004).

Gibbons et al. (1994) present Mode 1 and Mode 2 research regarding the transformation of knowledge production. Mode 1 knowledge Gibbons et al. (1994) see as the traditional knowledge produced in disciplinary and cognitive contexts in academia where knowledge itself has value. Thus, Mode 1 is academic knowledge, which can be seen as descriptive and problem-focused producing causal models and explanations in the area of organization research (Van Aken, 2004). Mode 2 Gibbons et al. (1994) define the knowledge that is produced in social and economic contexts that are broader and transdisciplinary. Hence, Mode 2 knowledge is applied knowledge created in organizations and institutions to guide problem-solving efforts (Gibbons et al., 1994). Therefore Mode 2 knowledge in the area of management research can be seen as prescription-driven and solution-focused, which produces grounded and technological rules (Thomas, 2004; Van Aken, 2004).

In terms of designing, organizing, and managing, they are all considered as social processes in the context of organizations in this research. In this dissertation, the discipline of social sciences is considered in addition to design research. When following Frayling (1993) and Downton (2003) in terms of design research, this study follows research *into* design and *about* design in an organizational context. Though, the meaning is not to produce knowledge only for designers as is often the case in design research, but also for organizational stakeholders. When following Cross (2006) in terms of the relationship between research and design in this study, this dissertation follows the science of design. Though, the aim is not to produce knowledge of design principles, practices, or procedures of design, but rather to bring forward individual interpretations and understanding of in-house service design as a phenomenon within the organization in the process of creating new services. Thus, the subjective interpretations and understandings of service design as a part of the organizational context perceived both by designers and other stakeholders are relevant in the study.

In this dissertation, management studies are equated with organization studies due to the indistinct boundaries of management studies in the discipline of social sciences. Due to this, this study refers to organization and management studies together. Unlike the prescriptive nature of management and design sciences when referring to Mode 2 research (Gibbons, 1994), this dissertation is seen more as interpretive and descriptive research of in-house service design as a phenomenon in the context of an organization. Though, this study does not concentrate on effectuation and causation, as brought forward by Van Aken (2004) in terms of Mode 1 research, but interpreting and describing the phenomenon as it is experienced and brought forward by the study informants, and then interpreted and described by the researcher of this study. Therefore, in this study the 'what' and 'how' are sought from the research data in an interpretive and descriptive manner. Hence, this study does not provide nor develop prescriptive ready-made solutions on how to improve the efficiency or quality of an organization in the future related to each of the aspects of change found in this research. Rather, this study describes what the aspects of change are and ought to be based on the history and development of an organization related to service design from the perspective of in-house service design's advantages and organizational challenges related to it.

Thus, this descriptive study, which is closer to Mode 1 academic research, provides knowledge for organizations, knowledge that can be utilized as a starting point when starting to develop and improve internal operations in terms of organizational and managerial efficiency, quality, and performance related to the mapped aspects of change. However, it is up to each organization to decide and develop its own future directions in terms of the organizational aspects of change mapped and found in this research. Hence, this research is close to Van Aken's (2004) viewpoints regarding 'design sciences' combined with managerial implications. Therefore, the

knowledge provided in this study can be used in organizations when starting to develop operations internally. These can be followed by design-based actions and decision-making based on the organization's own needs of how each of the change aspects ought to be internally developed.

### **3.2. Research Philosophy – Interpretivism**

The philosophical paradigm of this research is interpretivism. The roots of interpretivism can be traced back to the 19<sup>th</sup> century when various philosophers and social theorists affected its emergence (Crotty, 1998). Auguste Comte (1798-1857) and Émile Durkheim (1858-1917) are seen as the founders of sociology as a scientific and formal academic discipline (Crotty, 1998; Lengermann & Niebrugge, 2007). Impacted by the thoughts of Auguste Comte the female social theorist, philosopher, and political journalist Harriet Martineau (1802-1876) emphasized the importance of understanding social phenomena from the perspectives of individuals' experiences thus making a distinction between the study of humans from natural sciences (Lengermann & Niebrugge, 2007; Logan, 2015; Martineau, 1838). Hence, Martineau's work can be seen to have started the interpretive movement.

In addition to Martineau, the German philosopher Wilhelm Dilthey (1833-1911) saw different kinds of realities between natural and human realities, and therefore they should be studied through different kinds of methods (Crotty, 1998). Dilthey presented the process of understanding (*Verstehen*) and interpretation of subjects (Dilthey & Jameson, 1972). Despite the works of Martineau and Dilthey, the German sociologist Max Weber (1864-1920) is credited as the founder of interpretivism since he popularized and developed it further (Crotty, 1998; Weber, 1949). According to Weber (1949), human and social sciences seek to understand psychological and social phenomena and to explain the understanding interpretatively. He focuses on causality thus defining sociology as “a science which attempts the interpretive understanding of social action in order thereby to arrive at a causal explanation of its course and effects” (Weber, 1968, p. 3). He makes a clear distinction between qualitative and quantitative research methods employed in human and social sciences and natural sciences (Crotty, 1998).

Among others, roots of interpretivism can also be traced to German philosophers Wilhelm Windelband (1848-1915) and Heinrich Rickert (1863-1936) and Austrian-American philosopher Alfred Schütz (1899-1959) (Crotty, 1998). According to Crotty (1998), Windelband saw natural realities seeking what is seen as nomothetic (law-like regularities) and social realities seeking what is seen as idiographic (individual considerations). Heinrich Rickert made a clear distinction between natural and cultural sciences (Crotty, 1998). With the concept of cultural sciences, Rickert emphasized the significance of understanding cultural phenomena

and their unique development on their own terms by not reducing them to natural phenomena (Crotty, 1998). In social sciences Schütz (1972) applied phenomenology, arguing that social phenomena must be understood in terms of individuals' everyday experiences in the cultural contexts in which they are embedded. Crotty (1998, p. 70) argues that Schütz aimed to “harmonise the idiographic with the nomothetic and make possible a study of human affairs that can be said to be rigorously scientific.”

According to Crotty (1998), the studies of natural and social worlds have come closer together in more recent times, and thus, interpretivism has cut itself loose from the traditional moorings in terms of its clearly divided distinctions of natural and human sciences. It was developed as a critique as opposed to positivism to enable subjectivist perspectives to study the meanings of humans, which are seen as different from physical phenomena due to the creation of meanings (Saunders et al., 2016). According to Merriam (2009), interpretivism is often qualitative research in nature. “Rather than starting with a theory”, the aim of interpretivism is to “generate or inductively develop a theory or pattern of meaning” (Creswell, 2013, p. 25).

Interpretivism aims to understand the complex world of the subjects and their lived experiences from their point of view in the contexts where they live (Schwandt, 1994). Therefore, interpretivism can be seen as context-dependent, time-dependent, and situation-specific (Schwandt, 1994). Thus, the realities are seen as socially constructed, and hence, “there is no single observable reality” (Merriam, 2009, p. 8). Rather, there are multiple realities or interpretations, which researchers construct (Merriam, 2009) by interpreting and constructing meanings of the interpretations and “the constructions of the actors that one studies” (Schwandt, 1994, 118). This is why interpretivism is also closely linked to constructivism and social constructivism (Creswell & Creswell, 2018) or to constructionism and social constructionism (Eriksson & Kovalainen, 2008).

Ontology, the study of being of ‘what is’ (Crotty, 1998; Schwandt, 2007), of interpretivism is relativist (Guba & Lincoln, 2005). This means that different kinds of realities exist in the form of individual mental constructions, which are experientially and socially based, specific and local, and dependent on the content and form of the persons that hold them (Guba & Lincoln, 1994). Epistemology is the process of thinking and seeking to know what the researcher wants to know (Crotty, 1998). In interpretivism, epistemology is both subjectivist and transactional, meaning findings are created in the interaction process between the researcher and the respondents (Guba & Lincoln, 1994). Thus, the researcher and the object of the research are interactively linked, meaning that the researcher who is shaped by the lived experiences will affect the knowledge that is generated by the researcher and in the data generated by the subjects (Guba & Lincoln, 1994; Lincoln et al., 2011). The methodology, meaning principles of inquiry, and the process of ‘how’ we look for new knowledge (Schwandt, 2007), in interpretivism is hermeneutical and dialectical (Guba & Lincoln, 2005). This means that individual interpretations



are compared and contrasted dialectically in the generation of informed and sophisticated construction(s) when achieving consensus (Guba & Lincoln, 1994).

The paradigm of this research is interpretivism. This dissertation research does not focus on seeking the truth but on building a better understanding of the real-world phenomenon in a particular context at a particular time. The experiences described by respondents are the focus of the research. The research does not follow Weber in terms of focusing on causalities. Rather, this research follows Schwandt and Guba & Lincoln. When referring to Schwandt (1994), the creation of meanings and generating knowledge in this research happens through the interpretation of experiences shared and described by the respondents. Hence, what the research produces is seen as context-dependent, time-dependent, and situation-specific, as Schwandt (1994) describes. Thus, also the views of Guba & Lincoln (1994) become relevant since in this research it is identified that the respondents' and researcher's subjective mental constructions, knowledge, experiences, contexts, and values affect what the research produces. As Guba & Lincoln (1994) describe, in the creation of knowledge, the object of this research and the researcher are interactively linked in the dialectical process of achieving consensus through the interpretation and categorisation of findings.

Together with interpretivism, and when approaching theory, the logical reasoning of this research is inductive. In inductive reasoning, features found in the data are generalised, or extended, into an order or rule (Reichertz, 2014). Thus, in making inductive inferences, empirical observation statements are generalised in the development of theories (Kelle, 2014). In qualitative induction, processing data happens by assembling specific qualitative features into patterns where the combination of the features resembles another in essential points (Reichertz, 2014) followed by generalised conclusions. According to Reichertz (2014), qualitative induction is only a probable form of inference, which benefit is that it can be operationalised. Although, with a difficulty. Despite this, "qualitative induction is the basis of all scientific procedures that find, in collected data, only new versions of what is already known" in the interacting research community (Reichertz, 2014, p. 129). In this research, the book chapters, which each include its own inductive analysis process, provide an answer to the main research question of this research through qualitative induction.

### **3.3. Research Methodology – Multimethod Qualitative Research**

The research foundation of this research lies in qualitative research methodology. According to Saldaña et al. (2011), qualitative research is nonquantitative in character and thus it is used when one wants to understand the natural social world. As an approach, qualitative research is most commonly applied in exploratory or

descriptive research (Leavy, 2017). It is in-depth research (Muratovski, 2022), which is naturalistic, interpretive, and inductive in nature (Mayan, 2016). It aims “to interpret or make sense of the meaning people attach to their experiences or underlying a particular phenomenon” (Mayan, 2016, p. 11). This is done by working inductively on different forms of data by examining it from many angles to provide in-depth analysis from the study of context(s) (Mayan, 2016; Muratovski, 2022). As a methodology, qualitative research is widely applied in different fields such as sociology and social sciences, anthropology, psychology, information science, political science, healthcare, and education (Flick, 2014; Mayan, 2016; Merriam, 2009) in addition to design (Ireland, 2003; Muratovski, 2022). The most commonly used research frameworks in qualitative research, also in the field of design, are case studies, phenomenology, ethnography, and grounded theory (Ireland, 2014; Muratovski, 2022).

This research has been conducted by the use of multimethod qualitative research. In multimethod qualitative research more than one qualitative data collection method is applied with associated analysis procedures (Saunders & Tosey, 2013). In this research, the publications, each with their own qualitative data collection and analysis methods, are further elaborated in the section “Data Collection and Analysis” in this chapter. Within the qualitative methodology, design research is combined with the areas of organizational and management studies in this dissertation, which provide a more specified academic context for this study.

### **3.4. Research Strategy – Case Study**

The need for a case study arises when one wants to understand complex social phenomena (Yin 2009). According to Saldaña et al. (2011), “a case study focuses on a single unit of analyses” e.g. one person, persons, or one organization, and so on. Merriam and Tisdell (2015, p. 37-38) define a case study to be “an in-depth description and analysis of a bounded system” where the analysis unit, e.g. school or schools, teacher(s), defines the study to be a case study instead of the topic under investigation. Although the phenomenon under investigation is intrinsically linked with the case (Merriam and Tisdell 2015). According to Ghauri and Grønhaug (2005) case study research is useful when the phenomenon under study in addition to the concepts and variables are difficult to quantify and prove outside their natural settings and contexts.

Mayan (2016, p. 50) argues that if one chooses a case study approach, “the method through which to understand the case must still be decided”. Instead, according to Yin (2009, p. 4), a case study is a research method that allows the researcher to retain “the holistic and meaningful characteristics of real-life events” where the boundaries between the real-life context and the phenomenon under investigation are not obvious. Unlike Yin, Stake (2005) claims the case study not to be a methodological

choice. He argues that a case study concentrates on studying the selected case – a choice of object (Stake, 1994) – based on the diverse interests of the chosen phenomenon (Stake 2005). In this sense, the selected case offers an opportunity to learn about the phenomenon. He argues that in the area of qualitative research, the concentration of case study is on gathering experiential knowledge and a better understanding of the particular case by paying attention to the implications of its social, political, and other contexts (Stake 2005). In this research, a case study is not seen as a method. Rather, the organization under study is seen as the case, and in-house service design is the research phenomenon. Thus, there is a need to learn about the phenomenon, which is seen as context-dependent on the social construction of in-house service design within its time, place, and context where the boundaries between the research phenomenon and real-life context are not visible. Hence, this study is closest to Stake's definition of case study research – this is an instrumental case study since it uses an organization as a case to gather insights into a phenomenon (Stake, 1995).

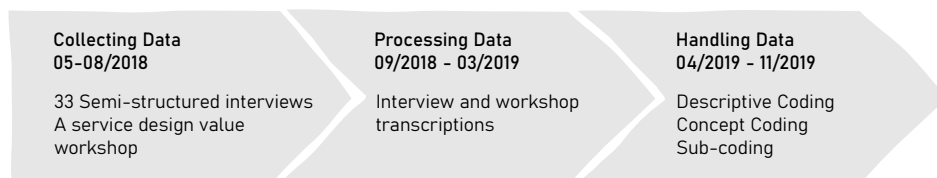
According to Yin (2009), the case study category depends on the type of research questions being posed - *what*, *how*, *why*, *who*, and *where*. *How* and *why* research questions are more likely to answer to an explanatory case study whereas an exploratory case study is justifiable if the research questions concern *what* (Yin 2009). The second type of *what* questions or its derivatives e.g. “how many” or “how much” in addition to *who* and *where* questions are advantageous when describing the incidence or prevalence of a phenomenon (Yin, 2009, p. 9). Since the focus of this study is to describe in-house service design as a phenomenon intrinsically linked with the organization through the understandings and interpretations of individuals, this study concentrates on discovering and describing the *what* and *how*. Thus, this dissertation is seen as a descriptive case study due to the fact that the study follows an interpretive paradigm despite the fact that an exploratory case study was seen as the case study category in the first research publication. The aim of the study is not to explain the causalities of the phenomenon as brought forward by Weber (1968) and applied by Van Aken (2004) in terms of organization research linked to explanatory research. Rather, this study interprets and describes the subjective understandings and interpretations of lived experiences described by individuals related to in-house service design as a phenomenon.

A case can be chosen deliberately, strategically, or for convenience (Saldaña et al., 2011). In this dissertation, the case – the multinational manufacturing corporation – was chosen deliberately since the organization was relatively far in the application of in-house service design as a part of R&D. Therefore, the organization as a case provided a rich opportunity to learn about the phenomenon. In addition, convenience affected the choice of the organization due to the fact that I had had a collaborative partnership with the organization due to my previous role as an in-house service designer within the organization before doing this dissertation. Thus,

knowing the organization and the required personnel to be interviewed made the collaboration fluent regarding the research.

### 3.5. Data Collection and Analysis

This research is a cross-sectional study, which means that the data was collected at a particular time to provide a snapshot of the organization (Saunders & Tosey, 2013) in terms of the research phenomenon of in-house service design. All qualitative data were collected during the summer of 2018 in four months from May to August. The full dataset of this study consists of 33 semi-structured interviews and a service design value workshop. All semi-structured interviews and workshop discussions were transcribed into text files. Then the interviews and workshop discussions were then coded with the help of Atlas.ti – qualitative data analysis software resulting in 25 concept code groups. The summary of the timetable of data collection and the first analysis phases are presented in Figure 3 below.



*Figure 3. Summary of the timetable of data collection, processing, and handling of data.*

Three publications – book chapters – were written based on the collected datasets of 33 semi-structured interviews and a service design value workshop. The publication I, which is based on the concept code group “Organizational Readiness for Service Design” was analysed further including 12 interviews. Categorisation, event Listing, and explanation building were used as further analysis methods. In publication II, the concept code group “Service Design Value” provided the basis for further analysis including 26 interviews. The thematic analysis method supported the further analysis of publication II. In research publication III, concept code groups were not utilized. The results of the publication are based on 17 semi-structured interviews from the perspectives of executive directors, service business stakeholders, and members of R&D. Content analysis was used as the main method in publication III. Thus, two concept code groups of the 25 provided the basis for the first two publications, but not for the third publication. How the data was selected and analysed per publication is presented and discussed further after the introduction of datasets, informants, and data handling with the help of coding.

### **3.5.1. Semi-Structured Interviews**

Semi-structured interviews settle between structured and unstructured interviews (Myers, 2009). Thus, pre-formulated questions are used in semi-structured interviews, but there is no strict adherence to them since naturally, new questions might emerge during interview conversations (Myers, 2009). Although, there is some consistency across the interviews (Myers, 2009). Gibson and Brown (2009, p. 88) argue that the key themes that the interviewer is looking for, are formulated as key questions and they are discussed in a flexible order through natural flows of conversation by trying to fit the “pre-defined interests into the unfolding topics being discussed.” According to Harding (2013), interview guides are used, which consist of a list of topics or specific questions, but the questions are open-ended in nature and the order of questions may change. In addition, the researcher can use planned and/or unplanned probes while interviewing (Harding, 2013).

In this research, the aim of the interviews was to gather a holistic understanding of service design in the organization through the experiences and views described by interviewees. Therefore, to be able to provide answers related to service design, people who had been working on projects where in-house service design was used were chosen to be interviewed from five organizational levels and different departments. Thus, people were interviewed from all organizational levels excluding the organization’s chief executive officer (CEO) and the shareholders.

Two lists of planned questions were used in addition to two planned probes in the conducted interviews. Two different lists of questions were planned beforehand for 1) in-house service designers, and 2) other organizational stakeholders. To support answering questions related to organizational processes, The Internal-Business-Process Perspective – The Generic Value-Chain Model adapted from Kaplan & Norton (1996) was used in addition to the Performance Pyramid developed by Lynch & Cross (1991) as probes. All of the interview questions and planned probes are found at the end of this dissertation as appendices. The list of questions was long, thus naturally, everything could not be discussed, but there was consistency across interviews regarding the topics in terms of service design values, challenges, organizational strategy, evolvment and transformation of the organization in addition to organizational learning, processes, and organizational performance.

Regarding in-house service designer interviews – three in-house service designers and a service design manager – the purpose of the semi-structured interviews was to understand the following: 1) the role of service design and its impacts within the organization in addition to other stakeholders’ attitudes towards service design experienced by in-house service designers; 2) evolvment of service design in the organization, also in terms of strategy change, organizational transformation needs, development needs of service design and other stakeholders/departments in addition to short-term and long-term benefits and values of service design for the organization; 3) understanding service design’s contribution to organizational

processes and the experienced expectations related to service design and its deliverables in addition to the experienced challenges and obstacles with help of The Internal-Business-Process Perspective – The Generic Value-Chain Model adapted from Kaplan & Norton (1996); 4) experienced impacts, benefits, and challenges of the used service design tools, methods, and prototyping also in terms of individual and organizational learning; 5) in-house service designers' perspectives in terms of service design in relation to internal efficiency and external effectiveness with the help of a Performance Pyramid (Lynch & Cross, 1991).

In terms of the stakeholder interviews, the meaning of the semi-structured interviews was to understand the following: 1) the level of understanding of service design and its role in relation to each interviewee in addition to the experienced contribution and values that service design brings into the organization; 2) evolvement of service design in the organization in terms of strategy change, experienced obstacles, challenges, and organizational transformation needs in addition to short-term and long-term benefits; 3) understanding organizational processes and stakeholders' expectations related to service design and its deliverables in addition to the experienced challenges and obstacles with help of The Internal-Business-Process Perspective – The Generic Value-Chain Model adapted from Kaplan & Norton (1996); 4) experienced impacts, benefits, and challenges of the used service design tools, methods, and prototyping also in terms of individual and organizational learning; 5) stakeholders' perspectives of service design in relation to multi-disciplinary stakeholder work and development needs of service design; 6) stakeholders' views of service design in relation to service quality and product-service-ecosystems; 7) service design in relation to internal efficiency and external effectiveness with the help of a Performance Pyramid (Lynch & Cross, 1991).

The questions proposed to in-house service designers and organization stakeholders were slightly different due to their positions regarding the research phenomenon. Since in-house service designers are the experts in the field and moderately newly acquired expertise in the organization, they were proposed questions from their perspective. The meaning was to gather an understanding of in-house service designers' experiences of how they and their work are perceived by other stakeholders and how service design fits the organization as a whole. The questions directed to other stakeholders were proposed from their perspective of how they perceive and experience service design and in-house service designers in terms of the conducted projects and the organization as a whole. Due to the aim of gathering a holistic understanding of service design within the organization, many topics were handled. This was beneficial in terms of a learning experience, but rather challenging in terms of choosing the direction of the research, which according to Merriam (2009) and Thomas (2004) is often the challenge in qualitative research, which may contain big data sets. Therefore, everything that was discussed in the interviews could not be included regarding the topic of this dissertation.

Once interview data were gathered during the summer of 2018, they were next transcribed. Transcriptions were done by me and an organization providing transcription, language, and research services. The process took seven months from September 2018 to March 2019. As a result, 450 pages of text were provided from the 33 interviews for further analysis.

### Number of Interviews and Interview Participants of the Dissertation

The semi-structured interview dataset consists of 33 interviews: 23 individual interviews, eight pair interviews, and two group interviews. 45 informants joined the interviews. The summary of the semi-structured interviews and the number of interviewees can be seen in Figure 4 below. In addition, Chart 1 presents the summary of the interviewees at five organizational levels and the departments they represent.

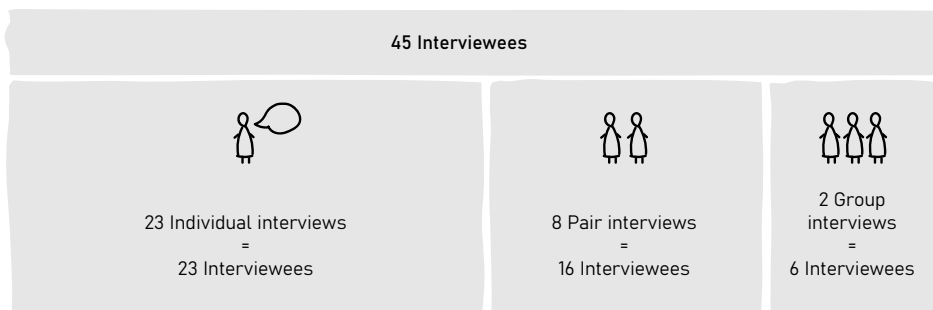
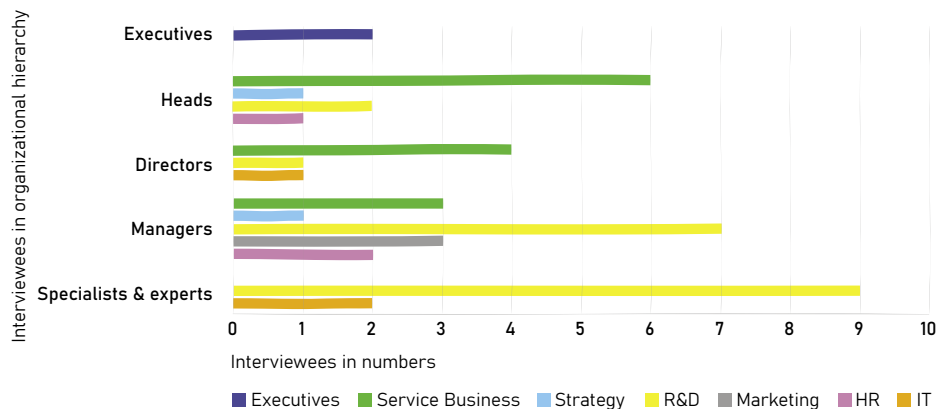


Figure 4. Description of the semi-structured interviews and the number of interviewees.

Chart 1. Summary of the interviewees at five organizational levels and the departments they represent.



### **3.5.2. Service Design Value Workshop**

Workshops are used as a qualitative data collection method when gathering data from several participants at once (Storvang et al., 2018). Workshops are creative settings when discussing the current situation in terms of ‘what is’ now and ‘what could be’ in the future in terms of what needs to change (Storvang et al., 2018). Ørngreen and Levinsen (2017, p. 73) argue that “workshops as a research methodology aim to produce reliable and valid data about the domain in question regarding forward-oriented processes, such as organisational change and design.” According to Ørngreen and Levinsen (2017), workshops are becoming more common in the area of research as a data collection method. When collecting data, issues in workshops can be presented, discussed, experimented with, and played out (Ørngreen and Levinsen, 2017). According to Lain (2017) and Spagnoletti et al. (2013), workshops foster engagement through constructive feedback and collaborative discussions among the workshop facilitator and participants. According to Storvang et al. (2018), there are usually three roles in the workshop: facilitator, researcher, and participant, of which in some cases facilitator/researcher plays both roles.

In addition to the semi-structured interviews, a service design value workshop was held with members of an in-house service design team. The workshop was held to provide in-depth perspectives of in-house service designers in comparison to the considerable amount of management and other stakeholder interviews. The meaning of the workshop was to understand the perspectives of in-house service designers in terms of the positive impacts of service design within the organization and the challenges that in-house service designers face. The topics were discussed with the help of two themed posters that were hung on the wall to guide discussions: 1) positive values of service design, and 2) progressing values of service design. The length of the workshop was 2,5 hours. First, the workshop participants were given a task to consider the topics silently by writing thoughts down on post-it notes. Then the notes were attached to the posters and they were presented and reflected upon through free discussions. Since I arranged the workshop as a researcher, my role was to perform two roles of facilitator/researcher in the workshop.

All of the discussions in the workshop were audio and video recorded, which were then transcribed into a text format. 33 pages of text were produced of the workshop transcriptions. All data that was collected in the workshop was not used in this research. The workshop discussions that answered theme number 2) progressing values of service design were used for publication III, which considers the challenges of in-house service design in organizational transformation. How the workshop data was analysed further is presented and discussed in the section “Publication III” in this chapter.



### **Number of Workshop Participants and the Total Number of Study Informants**

Five informants joined the workshop: four in-house service designers and a service design manager. Two of the in-house service designers who joined the workshop had not joined the semi-structured interviews. Thus, the total number of informants in this study is 47 when considering study participants in the semi-structured interviews and the workshop. Five of the 47 informants were in-house service designers and one of them was a service design manager.

#### **3.5.3. Coding**

According to Gibson and Brown (2009), to code means creating categories of data, which are used in the description of the general features of data. In the coding process, commonalities are searched from the data, which are then labelled accordingly to identify related content across the dataset (Gibson & Brown, 2009; Saldaña, 2016). According to Braun and Clarke (2022) codes form analytical entities. Then, in the search for commonalities when doing analysis, the researcher looks for connections between codes that were not initially obvious (Harding, 2013). In this research, all interview data were coded with the help of Atlas.ti – qualitative data analysis software. The coding rules of Saldaña (2016) were applied in two coding rounds. Descriptive Coding, Concept Coding, and Sub-coding methods were used. The coding process took eight months from April to November 2019.

Since coding is usually the first step when making sense of the data and the research phenomenon (Mayan, 2016) coding provided the basis for analysis regarding the first and the second publication of this dissertation. Thus, Descriptive Coding, Concept Coding, and Sub-coding rules were applied following the rules of Saldaña (2016) resulting in 25 concept code groups. In the first publication, one of the concept code groups – Organizational Readiness for Service Design – was chosen for further analysis. This is due to the fact that the code group could be seen providing answers related to the topic of the book “Empathy and Business Transformation” edited by Melanie Sarantou and Satu Miettinen (2023) in which the first publication of this dissertation was published. Thus, organizational transformation and empathy wanted to be inspected related to service design from the following perspective: How can an organization evolve into being more receptive to service design as an empathic development approach? In the second publication, another concept code group – Service Design Value – was chosen for further analysis since the publication aimed to answer the following research question: How has in-house service design supported an organization’s working culture to transform towards human- and customer-centricity? The perspective of organizational transformation regarding in-house service design was inspected through the positive impacts of service design. Therefore, the concept code group related to service design values was chosen for further analysis in the second publication.

### 3.5.4. Categorisation, Event Listing, and Explanation Building

As described above, the concept code group “Organization Readiness for Service Design” was reviewed and restructured further regarding the first publication. This was regarded as the first analysis phase of the publication. In the second analysis phase, further categorisation of the concept code group, event listing, and explanation building were used as analysis methods. Then, one of three sub-categories, which emerged from the concept code group and which are presented in the results section of this dissertation, was placed under further analysis. The narrative of the sub-category including the codes and interviews started to take shape with the help of event listing and explanation building. According to Miles and Huberman (1994), the meaning of event listing is to arrange concrete happenings into a series of events. This activity supported in forming of a chronology of events that had happened in the organization in terms of the major happenings that led the organization to choose service design as the empathic development approach. Then explanation building method was used to support creating a broader understanding of the major events. According to Yin (2009), the process of explanation building is iterative in the search for causal links in empirical data. Thus, the analysis methods of event listing and explanation building supported forming a holistic understanding of the data.

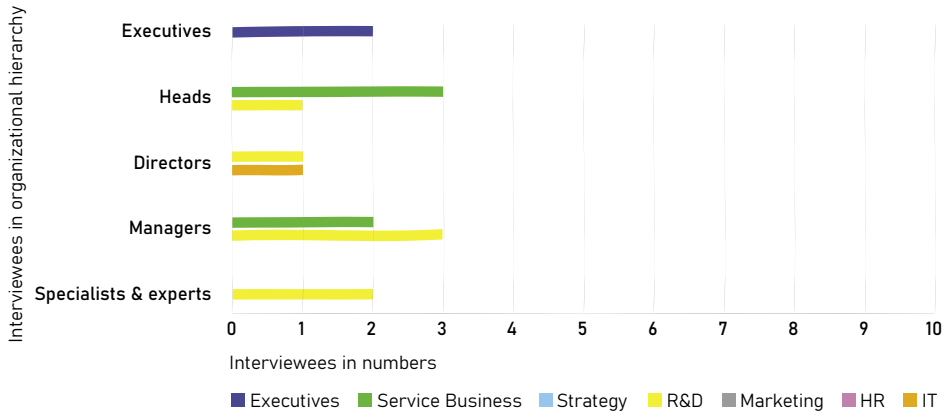
### Data Summary and Number of Informants in Publication I

12 of the 33 interviews provided data in this category: 10 individual interviews, a group interview of three interviewees, and a pair interview. Hence, 15 informants were interviewed. The data summary of the semi-structured interviews and the number of interviewees regarding the first publication can be seen in Figure 5 below. In addition, Chart 2 below presents the summary of the interviewees’ roles regarding the first publication.



*Figure 5. Data summary of the semi-structured interviews and the number of interviewees in Publication I.*

**Chart 2.** Summary of the interviewees' roles in Publication I.



### 3.5.5. Thematic Analysis

In addition to coding, thematic analysis was applied regarding the second publication. According to Braun and Clarke (2022, p. 4), thematic analysis “is a method for developing, analysing and interpreting patterns across a qualitative dataset” in the development of themes, which is the ultimate analytic purpose. Gibson and Brown (2009) argue that commonalities, differences, and relationships are searched from the data in thematization. In thematic analysis, the meaning is to identify and describe implicit and explicit ideas within the dataset, which means the development of themes instead of counting explicit words or phrases (Guest et al., 2012).

Coding provided the basis for the second and third analysis phases regarding the second publication. In the second and third analysis phases, thematization was used as the further analysis method. Codes that had associated themes and meanings were grouped within the concept group of “Service Design Value.” Then, as guided by Guest et al. (2012), each sub-theme was named to identify implicit and explicit ideas of the data. Ten sub-themes emerged from the concept code group. The sub-themes are presented in the results section of this dissertation. Next, all interview quotations of the ten groups were transferred into Microsoft Word files and each file was titled according to the name of the theme. After a few reading rounds of the ten themes, one of the themes “Transforming business and working culture”, was chosen to provide data for this publication. This was due to the fact that it provided answers to the research question from the perspective of organizational transformation. Then, all quotations under this sub-theme were read through carefully and thematized further. As a result of this, three categories emerged from the data to answer the research question. These are presented closely in the results chapter of this dissertation.

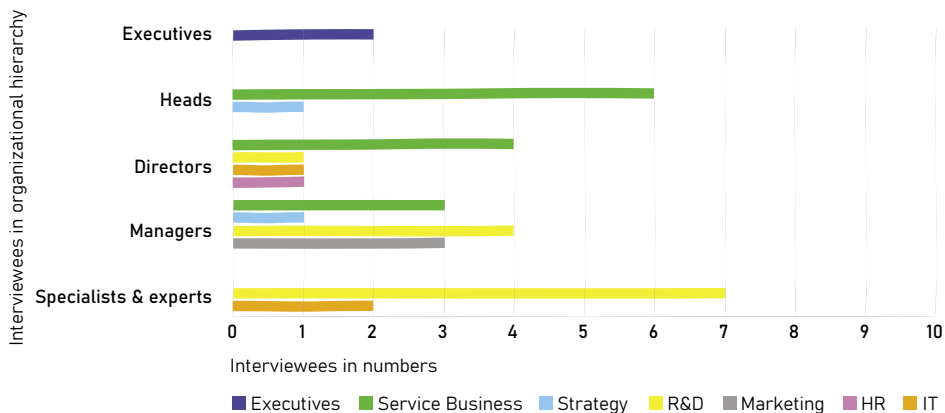
## Data Summary and Number of Informants in Publication II

26 of the 33 semi-structured interviews provided data for this publication: 18 individual interviews, six pair interviews, and two group interviews. 36 informants were interviewed. The data summary of the semi-structured interviews and the number of interviewees regarding the second publication can be seen in Figure 6 below. In addition, Chart 3 below presents the summary of the interviewees' roles regarding the second publication.



**Figure 6.** Data summary of the semi-structured interviews and the number of interviewees in Publication II.

**Chart 3.** Summary of the interviewees' roles in Publication II.



### 3.5.6. Content Analysis

Conventional content analysis was used as the analysis method in the third publication of this dissertation. According to Hsieh and Shannon (2005), the meaning of content analysis is to develop new concepts, models, or phenomena, but not to create new theories. In conventional content analysis, the categories are formed based on the data. The categories that are formed, represent the most important information of the study (Tuomi & Sarajärvi, 2013). In content analysis,

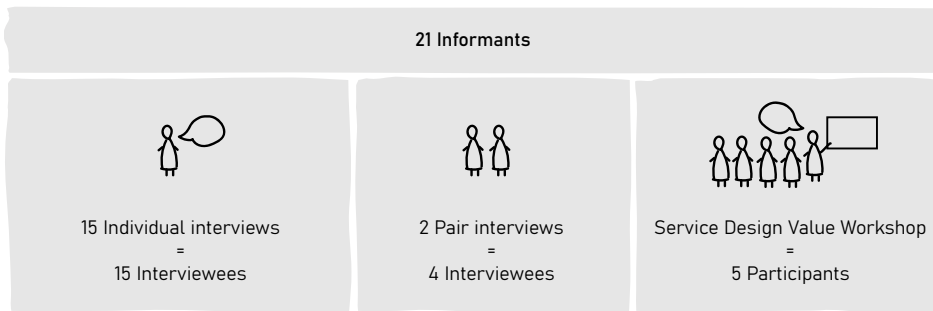
the selected units of analysis are processed through meaning units, which according to Graneheim and Lundman (2004) are words, sentences, or paragraphs. The aim of content analysis is the creation of categories or themes where condensation and abstraction can support the process (Graneheim & Lundman, 2004).

The analysis process regarding the third publication started by bringing the interview quotations and workshop transcripts into a Microsoft Excel file related to the organizational challenges of in-house service design. All of the quotations were organized into five columns accordingly related to the roles of the interviewees at five organizational levels. Next, all the quotations were organized into meaning units based on the meanings of the phrases, as guided by Graneheim and Lundman (2004). Then, meaning units were labelled resulting in 247 labels, which were then clustered by grouping the labels based on their content similarities. Five main categories emerged. These are presented in the results section of this dissertation. Next, a more simplified Microsoft Excel table was created to provide further condensation of the five categories, which were inspected through the perspectives of interviewees at five levels. This made it simpler to compare the meanings between categories and interviewees at five levels.

The perspectives were limited to executive directors, service business stakeholders, and R&D personnel. This was due to the meaning of the publication, which was to understand the perspectives of management in the area of service business, R&D, and executive directors in addition to service design experts. Thus, the views of IT, HR, marketing, strategy, and R&D in terms of industrial design and user experience design were left out. In addition, the data from the service design value workshop regarding the topic discussed under theme 2) progressing values of service design, provided data for the publication.

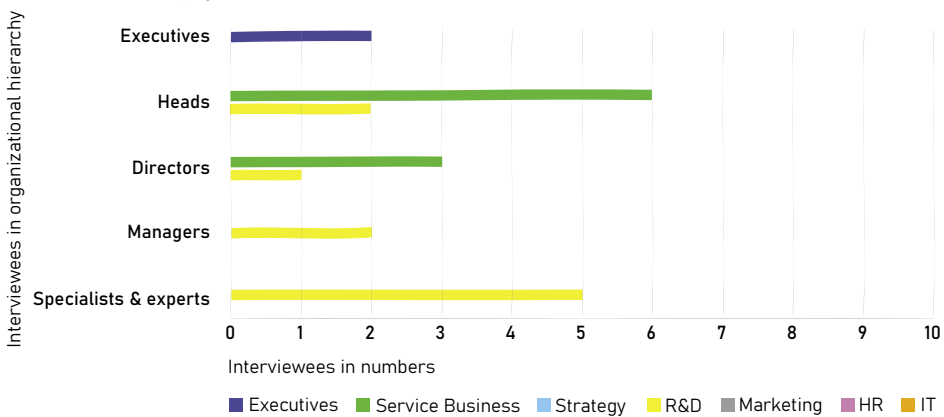
### **Data Summary and Number of Informants in Publication III**

17 of the 33 semi-structured interviews provided data for this publication: 15 individual interviews and two pair interviews. Thus, 19 informants joined the interviews. Four service designers and a service design manager joined the workshop. Hence, the total number of informants regarding this publication is 21 since two persons who joined the workshop had not joined the interviews. The data summary of the semi-structured interviews and workshop participants regarding the third publication can be seen in Figure 7 below. In addition, Chart 4 below presents the summary of the interviewees' roles regarding the third publication.



**Figure 7.** Data summary of the semi-structured interviews and workshop participants in Publication III.

**Chart 4.** Summary of the interviewees' roles in Publication III.



### 3.6. Ethical Considerations and Limitations

All of the published publications in this dissertation have been conducted by the ethical guidelines of the Finnish Advisory Board on Research Integrity (2023). The board defines the ethical guidelines and norms for research, including respect for research participants' autonomy, dignity, and culture, both immaterial and material (Finnish National Board on Research Integrity, 2019). In no case should research "cause significant risk, damage or harm to research participants, communities or other subjects of research" (Finnish National Board on Research Integrity, 2019, p. 8).

In terms of the research publications, the ethical considerations include gathering interview and workshop consents from all research participants. The consents were obtained through signing a consent form that included information about the research's purpose and aims; described permission for documentation and recording; stated how the data is stored; explained the analysis and reporting process including

pseudonymization and anonymization; provided participants' rights including the right to withdraw from the interview or workshop at any time. The research data has been stored safely and all research participants' identities have been obscured in the results provided in the original publications. The participants' privacy has been protected in this way.

In addition to the interview and workshop consents, a partnership agreement was provided since the data was collected and handled as a part of the Business Finland project *Design in Smart Mobility Business Services*, which was funded by a European Regional Development Fund (ERDF) and six partner organizations during 2018-2019. A partnership agreement was required by the project partners. The agreement includes more detailed information about the technical and financial terms of the research project. In terms of the signed non-disclosure agreements, which had to be signed with the partner organizations within the project, the ethical considerations extend beyond the participants as individuals to the corporate level. The level of detail that can be revealed about the organization in this dissertation is constrained by confidentiality. This provided an opportunity for more open reporting of the results.

This research has followed a case study protocol. Despite this, the following limitations of this study should be acknowledged. Credibility and trustworthiness bear a connection to ethics in qualitative research. It is critical to establish credibility in other ways since qualitative research cannot be replicated in the same way as various quantitative and theoretical studies. Saldaña (2011, p. 135) states that this is possible to be accomplished in a number of ways: citing prior research, transparently laying out the selection and usage of methodologies, outlining the data collection and triangulation, and confirming the analysis of data with participants. On the other hand, transparency in reporting the complete study process demonstrates trustworthiness.

Like any other type of research, qualitative case study research has various restrictions. Case studies may be broad or narrow in scope (Creswell, 2013). Therefore, the datasets can be rigorous, which affects the generalisation of the results or potential lack of external validity, and thus, the transferability of the results, in addition to the issues of reliability (Merriam, 2009; Thomas, 2004). According to Merriam (2009), the challenges also come from studying complex social units and thus, the description of the phenomenon may become rich and thick. This might cause an issue that the researcher does not have time to devote to such undertakings and the researcher must be able to decide how to limit the research (Merriam, 2009).

The data collection and analysis processes in this research were performed only by the author regarding all publications. It is good to note that the author has a working background as an in-house service designer within the organization under study. Therefore, the background of the author might affect the interpretation of the research findings. In addition, no researcher triangulation for the case study and

analysis of this dissertation appears. Thus, researcher/investigator bias natural in qualitative research must be considered (Flick et al., 2004; Mehra, 2002).

It is also good to note that since this dissertation is based on interpretivism, respondent bias may also appear (Lincoln & Guba, 1997). Quantification of codes was performed regarding the concept code groups in the early phases of data analysis 2018-2019. In further phases of data analysis 2021-2022, quantification of the content brought forward by the interviewees under the sub-themes and sub-categories was not done. This was not seen as relevant because all interviewees did not have transparency on all topics discussed. Instead, similarities and differences were looked for in terms of what interview content was repeated between interviewees and how the content was brought forward. In addition, by whom and with what emphasis the content was brought forward, were seen as valuable. Hence, thematization and further categorisation were done based on the repetitive similarities and differences between the topics. The quotations brought forward in the results have been chosen in such a manner that they represent the content in the best possible way. Despite the lack of further quantification of datasets, the amount of data from different data sources in addition to the number of methods used in analysing the data are seen as sufficient in terms of data and method triangulation in this research. In addition, the analysis methods chosen are seen as consistent with what was sought from the data per publication. Hence, in the context of this dissertation and the participating organization under study, the results are considered reliable.

Regarding theory triangulation (Flick et al., 2004), this dissertation has looked at in-house service design and human- and customer-centricity from the perspective of organizational transformation. The topic was studied through the views of a) empathy and organizational events, b) in-house service design's support to organizational transformation, and c) organizational challenges. The topic is also closely related to transformation design. Considering these theoretical perspectives on organizational transformation, this dissertation is considered sufficient in terms of theory triangulation, and thus, valid.

Age of the interview participants was not gathered, which might affect the interpretation of the results. This is because the interviewees' age was not seen as relevant information since service design as a methodology was new or fairly new for everyone besides service designers. However, this might affect the interpretation of the results. In addition, Finnish and English were utilized during the data collection and analysis processes. This inevitably has an impact on the nuanced meanings when the interviewees' quotes are translated from Finnish to English since some words have no English equivalent and Finnish language use differs from that of English. Regarding this, the Finnish interview quotations have been translated while retaining their original meanings in the best possible way.

All of the aspects brought forward in addition to the challenges of qualitative case studies are identified in this dissertation. Despite these limitations, this qualitative



case study research acknowledges the views of Shields (2007, p. 13, as cited in Merriam, 2009, p. 53) that a “case study includes paradoxes and acknowledges that there are no simple answers.” The data analysis performed in addition to the open process report provided in this dissertation and the results presented are seen as a representative and transparent overview of the research phenomenon. Although, it is good to note that the reliability, validity, and thus, transferability of the results are limited to this research and the organization under study.

## 4. RESULTS

The following research question is addressed in this doctoral dissertation: What is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design? This question is addressed through the three sub-questions that were developed in each of the three publications. These have served as the foundation for this research. In this section, the results of coding are described first since coding provided the basis for the first two publications. Then I report the results of each of the three publications.

### **Coding Results**

In terms of coding, which provided the analysis basis for the first two publications, all together 1,207 codes emerged with the help of Descriptive Coding. This coding round was done to provide micro-level descriptive nouns or short phrases of few words to describe the topics. Since Saldaña (2016) argues that nouns alone do not provide a sufficient basis for further and more complex theoretical analysis, Concept Coding and Sub-coding methods were applied in the analysis of this research. Sub-coding method supported the creation of third and fourth-ordered tags, which were assigned to the descriptive codes as sibling codes. In this way, the codes became more focused, as guided by Gibson and Brown (2009). The sub-codes supported giving further nuances to the descriptive codes by bringing forward more specific content of each code, and thus, the analysis and thematization became easier. Concept Coding in this research worked as an analytical task for creating lumps of larger units of data as argued by Saldaña (2016). As a final coding task, concept codes were created to provide a basis for the formation of macro-level concepts. As a result, 25 concept code groups were formed. The summary of the code groups is presented below in Table 1.

*Table 1. Concept code groups and the number of codes in each group.*

Innovation Capability 8 codes	Communication 5 codes	Key Performance Indicators (KPIs) 87 codes	The Changing Role of Marketing 18 codes	Organizational Processes 41 codes
Organizational Readiness for Service Design 118 codes	Competence Management 17 codes	Service Design Versus Business 21 codes	Service Design Challenges 130 codes	Service Design Value 208 codes
Service Design Value/Challenges 14 codes	Managing Service Design 13 codes	Development of Service Design 49 codes	The Possibilities of Service Design 24 codes	Service Design Methods 15 codes
The Role of Service Design in the Organization 83 codes	The Role of Service Design in the Projects 28 codes	Service Design Processes 76 codes	The Need for Service Design in Internal Organizational Development 24 codes	Service Design Versus Marketing 7 codes
Project Management 31 codes	Stakeholder Group Work 45 codes	Strategy 40 codes	Performance Pyramid 83 codes	Product Development Processes 20 codes

Two of the 1,207 descriptive codes were excluded due to the fact that they were not attached to any of the groups above. One of the two codes was related to qualitative research and another to quantitative research brought forward by only one interviewee. Thus, the number of codes included in the study was 1,205 regarding the 25 concept code groups.

#### **4.1. Evolving towards a More Empathic Organization**

Here I present how the participating organization evolved into being more receptive to service design. The research question addressed in this publication was: How can an organization evolve into being more receptive to service design as an empathic development approach? The topic was studied through the happenings that occurred in the organization during the time span of ten years 2005-2014 before the initiation of an in-house service design team in 2014.

The concept code group “Organization Readiness for Service Design” including 118 codes was reviewed and restructured further regarding the first publication. As a result of further categorisation of the concept code group, a clear narrative began to take shape resulting in three sub-categories: 1) the time before service design was

a part of the corporation; 2) how the corporation starts to evolve once service design has been introduced (early use of service design), and; 3) how the corporation continues to evolve in terms of leadership practices, management practices, and culture after the service design approach has been used for some time (use of service design).

Since the aim of the first publication was to understand how an organization evolves into being more receptive to service design, the first of the three sub-categories – the time before service design was a part of the corporation – was analysed further with the help of event listing and explanation building. As a result, six major events and customer-centric development actions were located in the time span of 2005-2014. These happenings of the organization are closely linked to the individual and organizational aspects of change, which initiate a culture shift towards the human- and customer-centric transformation of an organization leading to the initiation of an in-house service design team in 2014.

The happenings were as follows: 1) the former chief executive officer (CEO) was chosen as the corporation CEO in 2005; 2) an external digital agency supported the IT-led development project of online channels during 2006-2007 with the help of user-centred design by listening to users and customers; 3) an IT-led development project of online services were developed with the help of customer and user-centric methods during 2008-2009; 4) an R&D-led customer-centric development project was executed in the area of service business during 2010-2011; 5) an R&D-led customer-centric concept development project was carried out during 2012-2013 with great results; 6) the current CEO was chosen as the corporation CEO and an in-house service design team was initiated in 2014.

When the former CEO started in the position in 2005, the organization started to put more focus on customers. Thus, user-centred design along with digital agency and customer-centric methods were applied first in IT-led projects, which led the organization to start using the term customer experience (CX). Thus, the two IT-led development projects that were run during 2006-2009 cleared the pathway for individuals – directors and management – to learn about the user- and customer-centric ways of working. Such learning initiated a change of mindset from non-customer-centric thinking to designing with customers. In this process, user- and customer-centric project initiatives, active project personnel, and partner organizations were strong support.

*We were working with an external digital agency who brought that approach to us. [...] at that point we were exposed to, [...] what wasn't necessarily called service design but user-centred design, and the idea that you start by listening to [...] users and customers, and then you work back from that. [...] After that I was a true believer.*  
(n44)

The R&D-led development project during 2010-2011 offered a pathway to provide learning and understanding of customer-centric development tools and methods, also for executive directors. Despite this, the project did not receive much attention from the top-level management, but the customer-centric methods were considered valuable. Therefore, strong top-level management support was not achieved yet in terms of customer-centric outside-in development strategies.

*By that time, we presented with [name of the former design manager] the work that was done for the UK market [...] They [referring to top-level management] saw the surface of it, as design is often seen as such, that design is the surface. Then we were in that category. Can we [referring to top-level management] get these development tools and methods, these are what we want to show for inspiration. Then they [referring to top-level management] said goodbye, and that was it. (n12)*

In another R&D-led concept development project during 2012-2013, customer-centric development methods were tested and used more thoroughly to see where they could lead. At that time there was no prior knowledge of service design in the organization. The project was executed by a design manager and a design director with a “customers and users” team. The project had to be carried out in secret, and once completed with the results available, permission had to be asked from the unit leaders to show it to the executive board in 2014. The project ended up being a huge success. The executive directors and the current CEO who was chosen as the corporation’s CEO in 2014 were impressed. The project supported organizational learning among top-level management. As a result, support in terms of customer-centric ways of development was achieved from top-level management.

*[Name of the executive board member] said that this was not great, this was very great. Then he began to praise it. He had talked about it with [name of the CEO], saying that he cannot explain what he saw, and suggested that the CEO go and see it. Well, [name of the CEO] rearranged his schedules so that he could come and see it [...] Everybody came. Then we kept 70 presentations of it. (n12)*

The results show that for an organization to become more empathic, a change of individuals’ mindset is critical from non-customer-centric thinking to designing with customers. In this process, organizational learning and strong support from top-level management are needed. In the organization under study, active people, partner organizations, and customer-centric project initiatives were the key factors in facilitating learning and trust-building to achieve support. When customer-centric methods were thoroughly understood and the meaning and importance of customer-centricity emerged, there were changes in mindsets and thus, stronger support from top management could be gained. This was crucial since top management is in a key

position in providing opportunities for empathic development approaches such as service design.

*It starts with the management. That they understand and internalize that this is the right way to go. (n27)*

The results in this publication also showed that for an organization to become more empathic, a top-level vision is also needed in terms of what to achieve with empathic and customer-centric development approaches when thinking of external rewards and internal qualities of an organization. The transformative insights and learnings that the top-level management and current CEO gained through project experiments supported the creation of new visions and willingness to start focusing more on customers – which in turn enabled the required organizational arrangements and investments to service design. As a result of this ten-year life-span of project experiments resulting in learning, trust-building, change of mindsets, getting management support, and creating visions, an in-house service design team was hired in addition to service design consulting to work as a part of R&D. The official service design pilot project was then kicked off in September 2014.

*(...) it requires leadership, clarity about the direction where we want to go with it. And then, of course, it requires thinking how you build the teams and expertise and [...] how you make them collaborate with the rest of the organization. (n30)*

In addition, the societal transformation regarding digital services and service-centricity has affected the changes in the organization by reforming their business and business opportunities from selling products to selling data. Thus, in 2014 the organization had reached a point where a stronger customer focus started to be preferred. The events in 2014 reinforced this: a) the newly elected CEO was aiming for differentiation, especially in the area of services; b) an executive director had the willingness to engage in customer-centric ways of working; and c) service business directors had a strong desire to start doing things differently in comparison to the traditional ways of working. Thus, an in-house service design team was formed on 1 September 2014.

*[Name of the executive board member] was the driving force, and [name of the CEO] of course, too, because [name of the CEO] wanted differentiation in the area of services, but it concretely came through that [name of the executive board member] wanted this. [...] He created those conditions in a certain way. (n34)*

*It happened at that point because [name of the CEO] was adamant, [name of the executive board member] had the willingness and we were maybe the only few people*

*[...] who had an urge to do things, like in principle, a bit differently. Goddamn it, let's do things differently than what the dinosaurs here have done the last 30 years, [...]. This kind of mentality. (n34)*

### **Summary of the results**

To sum up the results, the reasons that led the organization to start using service design as an empathic development approach are a sum of many phenomena. In terms of internal changes in the organization, the CEO change in 2005 led to customer-centric project experiments from 2005 to 2014, which affected the organization to start learning and increasingly applying user- and customer-centric ways of working through outside-in development strategies. Active personnel, partner organizations, and customer-centric project initiatives facilitated organizational learning which led to mindset changes and trust-building among individuals. The transformative insights led to the commitment and strong support from top-level management and the creation of new visions. These in turn supported the organization in putting more focus on implementing customer-centric methodologies also in terms of management and practicalities arrangements in addition to investments.

In addition, external global societal changes put pressure on organizations to focus on digital services and understanding customers in order to provide value for them. This shift has also pushed the participating organization to find new growth and differentiation opportunities to increase competitiveness. Thus, the organization started to pay more attention to the creation of digital services that focus on selling data and other valuable content through multiple platforms and devices. This, in turn, required the organization to understand the needs and values of the customers more deeply to be able to translate those needs and values into meaningful new service opportunities, processes, and systems.

When considering the internal organization changes and external societal change forces gone through above, in 2014 the organization reached a point where the newly elected CEO, an executive director, and two service business directors were eager to start driving stronger customer focus. Hence, the former design manager was given the mandate to form an in-house service design team, which kicked off their pilot project on 1 September 2014. Still, it was not until the first official service design pilot project that all of the executive directors were convinced of service design.

## **4.2. Organizational Transformation through In-house Service Design**

Here I investigate how in-house service design starts altering the working culture of an organization in terms of human- and customer-centricity when it has been in use for four years within the organization. The research question of this publication was: How has in-house service design supported an organization's working culture to

transform towards human- and customer-centricity? The concept group of “Service Design Value” including 208 codes was reviewed. Codes that had associated themes and meanings were grouped into ten sub-themes:

1. Transforming business & working culture
2. Knowledge building & organizational learning
3. Service design’s implications for the work of internal stakeholders
4. Impacting strategy & implementing strategy
5. Impacts on innovation capabilities
6. Impacts on competitiveness & differentiation
7. Impacts on brand value
8. Short & long-term impacts on business
9. Support for managerial decision-making (role-based view)
10. Facilitative role within the organization (role-based view)

Next, all interview quotations of the ten groups were transferred into Microsoft Word files, which were titled accordingly following the list above. After a few reading rounds, the first of the themes “Transforming business and working culture“, was chosen to provide data for this publication since it provided answers to the research question. Next, all quotations under this sub-theme were read through carefully and thematized further. As a result of this, three categories emerged from the data to answer the research question: 1) experiential learning through service design has supported changing individuals’ attitudes; 2) understanding the meaning and benefits of service design has supported changing individuals’ mindsets and creating belief, and; 3) towards a new organizational paradigm through strategy renewal.

The results show the effects of in-house service design from the change aspects of individuals and the organization to enable the transformation of the organization’s working culture. Hence, changes in individuals must happen first to initiate changes in an organization. Hence, affecting individuals is a primary task in order to affect the organization, which comes as secondary. These are presented next.

Learning of individuals – internal stakeholders – is essential, especially experiential learning, in the process of changing technology-oriented and expert-driven attitudes towards human- and customer-centricity. This is due to the fact that learning provides a pathway in creating understanding and building knowledge of service design as a human- and customer-centric methodology among personnel. Here the projects where service design as a methodology is used provide a fundamental role. Experiential learning of service design through service design projects offers a possibility for internal organization stakeholders to understand what it means altogether, how it is done, and why it makes sense to develop in such ways. This, in turn, results in changing the attitudes of individuals towards human- and customer-centricity.

*Those who have been involved in service design projects have gone through a eureka moment and realisation to understand what it means altogether. (n27)*



*... it's also that attitudinal change (...) I think already by (name of the first official service design project) (...) people were starting to ask, and pull, and now, I think even more so (...). I think it's a very natural pull (...), it has more demand now than supply. (n13)*

*Making decision-makers understand the value we got from the field by having open discussions and asking questions, that we got there to see customers' daily lives and their needs, it has changed attitudes, or at least in that project. (n28)*

The results also showed that understanding the meaning and benefits of service design supports changing stakeholders' mindsets and creating belief in human- and customer-centricity. Experiencing and understanding the meaning of customer-centric development, and learning from customers about the customers and productivity issues of the organization, have supported changing stakeholders' technology-oriented mindsets towards human- and customer-centric thinking. In addition, understanding the benefits of service design through project experiments and pilot projects has created a belief among personnel in service design as a human- and customer-centric methodology and practice – which could work more widely in the organization.

*(...) we wanted to first create belief in this thing (service design) through project rehearsal and piloting. (...) Of course, it helped that there was such a success story. It created a belief that this could work more widely, and service design is a way we can win together with the customer. (n27)*

*What I see is the greatest value that has changed, people's thinking and understanding have changed. People want to do things differently and they find it natural to ask the customer. Then everything else (...) follows. (n34)*

From the perspective of the organization, service design has affected the organization's strategy by becoming part of it and thus it has initiated the organizational paradigm transformation. The continuous inclusion of business-to-business customers in service development has supported the execution of an outside-in strategy. Thus, now the organization is willing to apply service design across the full chain from service development to service delivery and operations in addition to a traditional product business.

*(...) in the past we were in a world where headquarters made demands, product development developed, then they were launched, and then we hoped that the country-level organizations would manage to sell. This has now, in a way, gotten reversed. We now start with the customers. (...) it then became part of one aspect of*

*our strategy. There we then found that for us to remain a winner and innovate in this changing world, we need to work with customers, with partners, and also within the organization much more broadly. (n27)*

However, the existing norms and practices of the organization – which strongly hold the technology-oriented and engineering-based working cultures – are now challenged after shifting the focus towards human- and customer-centricity. In-house service design has not yet achieved a stable base within the organization culturally after four years despite its benefits for the organization and top management's strong commitment.

*It has brought a whole new culture. (n27)*

*In a new way, this (service design) challenges what the organization does, how things are done, and how to be customer-centric. We boldly just go and try and see, and test new ideas. It has brought new perspectives and increased courage. (n5)*

*We have not generated a new culture yet, but we have achieved such a situation with the help of the strong commitment of the company's management and key executives. If we left service design out now, we would go back to the old days and ways of developing with incredible speed. (n12)*

### **Summary of the Results**

In-house service design has supported the transformation of the organization's working culture in three ways towards human- and customer-centricity. First, it has affected individuals' attitude changes through experiential learning, which has resulted in internal buy-in and the 'pull' for service design in the organization under study. Second, understanding the meaning and benefits of service design has supported changing individuals' mindsets and creating belief in it as a human- and customer-centric methodology and practice. Third, through the changes of individuals in terms of attitude and mindset changes in addition to creating belief, in-house service design has become a part of the organization's strategy. Thus, it has initiated an organizational paradigm change by affecting the strategy and bringing in human- and customer-centric values. Hence, the first two, which are related to individual change aspects are crucial since the actions of an organization come always as secondary due to the fact that the changes and the development of an organization are always dependent on individuals. Therefore, in order to support the transformation of an organization's working culture, individuals must be affected first. Then the transformation of the organization can start to alter in terms of organizational paradigm change regarding human- and customer-centric strategy and values.

### 4.3. Organizational Challenges of In-house Service Design

Here I look into the organizational aspects of change from the perspective of challenges that arise in terms of norms and practices when in-house service design has been applied in service development for four years within the participating organization. The following research question in this publication was: What are the challenges from the perspectives of different organizational stakeholders that occur when in-house service design is used in service development?

Conventional content analysis was used as an analysis method in this publication. The analysis process started by bringing the interview quotations and workshop transcripts of executive directors, service business stakeholders, and R&D personnel into a Microsoft Excel file related to the challenges of in-house service design. All of the quotations were organized into five columns accordingly related to the roles of the interviewees at five organizational levels. As a result, 247 meaning units emerged, which were labeled.

Next, the meaning units were clustered into five main categories based on the meanings that emerged from the data. The results of the research show that the challenges occur in the following ways based on the experiences of the informants: 1) the lack of understanding of service design causes inefficiencies within projects and frustration among stakeholders; 2) existing linear organizational processes challenge the use of in-house service design; 3) tight schedules and small resources inhibit continuous development, scalability of the developed solutions and service design know-how; 4) value-based decision-making collides with fact-based and product-oriented decision-making cultures; and 5) organizational performance measures are not aligned with service design at the project level.

The content of these five categories was then brought into a more simplified Microsoft Excel table to provide further condensation of the five categories. All of the categories were inspected through the perspectives of interviewees at five levels. Table 2 below provides a simplified representation of the Excel table including quote examples of each main category at each organizational level. The summary of the results in each of the five categories is handled after the table from the perspectives of the organization's stakeholders at five levels.

**Table 2.** The five challenge categories of in-house service design including the stakeholders' quote examples.

THE ROLES AT FIVE LEVELS	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5
<b>Executives</b>	"It's not always, straightforward and evident from the very beginning for people who are not used to, dealing with service designers (about) what, how they are going to contribute." (n30)	"The more we see that as our offering is evolving towards (more) (-) service or a combination of products and services, we're going to probably need to reinvent ourselves in this innovation process (...). And today for us it's still to be done." (n30)	"... all resources are today a bit (...) scarce, (...), compared to what we would need I would say, with all our needs." (n30)  "When enthusiasm is strong, launches happen early, but there is still a lot to develop to get things done to be able to scale the solutions successfully." (n27)	"... we are challenged as a corporation (...), agility to use customer input and to iterate constantly. (...) It requires leadership and clarity about the direction where we want to go with it." (n30)	"In product and IT development projects we have the general metrics, the KPIs that we use, and process measures as complete on time and cycle time. So, about service design, they (the measures) are not up-to-date with it yet." (n27)
<b>Heads of service business and R&amp;D</b>	"... these different sections are called swim lanes, but do you see service design here anywhere? No." (n40)  "... you have to describe who owns the task and who contributes, (...) which milestone needs an additional bullet, what's the specific content (of service design)." (n21)	"... product development process descriptions, (...), they don't sufficiently take into account service design needs, (...) someone could do an additional project that complements the old deliverable document lists and milestones, and says what is the role of service design in all of them." (n21)	"... the needs change over time." (n45)  "The challenge is how to manage further development of services." (n34)	"The challenge is that (...) we have the burden of proof." (n21) "... as a development organization, we should be more agile, (...), we should create an operating model that works differently from the traditional waterfall models. It needs to be iterative." (n31)	"The challenge is the length of the lead time. The benefits of service design projects come after many years. Incentive models could be built, but it is difficult, (...) so how to measure the success of service design and how to give bonuses become a challenge." (n34)
<b>Directors</b>	"I think it still has a bit of a narrow role, so is the service design understanding at a good enough level? Maybe it comes back to how well we as an organization understand service design, what it means, and what are its possibilities." (n20)	"... there are many handovers and along the way, something gets lost (...) it probably starts from how we define the function and role of service design, tasks, and participation in our service development process or ways of working." (n20)	"It (service design) requires an awful lot of money and resources, and I think we should have even more of them on our own payroll. We don't have a service designer for every project, or what happens that they are there, to begin with. (...) then they disappear." (n42)	"It (service design) is difficult for middle management because the order of importance of things and the decision-making logic change." (n12)	"The two most important things are monitored in projects, the budget and schedule. Once they are locked, they are strictly followed." (n42)  "Qualitative measures are difficult because they are considered as subjective." (n12)

<p><b>R&amp;D Managers</b></p>	<p>"The value is not in the end result, but in the fact that (all) those things have been thought through and understood that there are such and such things also here, that this (development of a service and service design) is not such a simple thing." (n41)</p>	<p>"... it (the process) is product oriented. It is not (...) fitting to the (development of) services, even at a generic level. (...) we push too big entities forward in gate-like ways, which is a very straightforward way to do development." (n25)</p>	<p>"... the problem is that (...) learning stops when something is pushed out, (...) so how to enable (...) constant development, constant learning becomes the matter." (n25)</p>	<p>"... we have measurement and fact-based decision-making, (...) but how can experimentation and other qualitative values support decision-making, and how does that lead to an efficient organization that makes good decisions by aligning decisions with the right values? That's the challenge in my opinion." (n25)</p>	<p>"... service design aims are difficult to connect with business KPIs, but we must create our own KPIs for service design projects to give direction and focus." (n25)</p>
<p><b>In-house service design specialists</b></p>	<p>"If this person totally understands what you are doing and understands your value, things go, but then, if this person doesn't, it's a pain, (...), you still need to kind of prove your value and that takes a lot of energy and a lot of time." (n46)</p>	<p>"Agile development doesn't happen if we follow the existing product development process." (n26)</p>	<p>"... seems like we put a lot of money, we develop, and then we just multiply, everywhere." (n47)</p> <p>"... we don't have enough people. If we would be like, (...) twenty people, I'm sure the impact would be much more." (n46)</p>	<p>"Ability to listen is difficult because it is drowned under the consistency and scalability discussions and the culture of harmonisation." (n26)</p>	<p>"... there is a problem with the bonus (system) and the mindsets won't change and they (other stakeholders) won't collaborate if you're kind of giving bonus the way it is now." (n47)</p>

In terms of **the lack of understanding of service design**, executive directors expressed that not all stakeholders understand what it means nor how in-house service designers contribute. Therefore, involvement in human- and customer-centric projects is a learning experience for many. Similar experiences appeared among the heads of service business and R&D. In addition, they argued that the lack of understanding of service design causes challenges and inefficiencies in project management. Directors brought forward similar issues. The lack of transparency regarding service design responsibilities in terms of project management tools and the lack of understanding of service design does not support guiding stakeholders' work. Therefore, service design might end up having a narrow role within the projects. R&D managers expressed the same issues by arguing that in-house service designers have to fight for their position to be heard and taken seriously. In addition, in-house service designers expressed that their work is hindered or even prevented in such projects where the project owner does not understand service design's meaning and role.

The executive directors brought forward that the organization is now challenged to develop the processes in a more agile direction since **the existing linear development processes** are built from the perspectives of product development and IT. These

views were supported by the heads of service business and R&D. They argued that the existing linear processes do not sufficiently consider the role, deliverables, and milestones of service design nor are they flexible enough to enable the agile use of in-house service design in different phases of the project's lifecycle. Directors expressed that the function and role of service design are not clearly defined within the organization and thus, the role of service design is too short within the projects. This creates knowledge gaps in addition to the lack of continuous presence of service design along the projects' lifecycle. R&D managers highlighted the challenges that appear when service design and iterative ways of working are trying to be squeezed and fit into the linear development processes. The product-oriented organization concentrates too much on operations, efficiency, and pushing solutions out in gate-like ways. These ways of behaving and acting do not support the creation of services with the help of service design that is agile and iterative in nature. In-house service designers agreed. They experienced that the existing product-oriented linear development processes do not support service design in terms of ideation and agile experimentation. In addition, they argued that knowledge gaps appear since they have to leave the projects before the service concepts have been fully productized. This causes a lack of ownership of the developed solutions.

Regarding **the tight schedules and small resources**, the executive directors expressed that service design resources are scarce in comparison to what the organization would need. There is a strong enthusiasm to develop solutions, which are then launched early. This creates the dilemma of having to further develop the solutions to be able to scale them successfully, but there are not enough in-house service designers. Heads of service business and R&D expressed the challenge of timetables and costs of the projects. Solutions are pushed out fast, but the actions of service design would require more time and money. In addition, the high demand for in-house service design combined with small resources causes issues in the phase of productization where constraints and limitations start appearing. In addition to the challenges mentioned above, directors and R&D managers brought forward that due to a small amount of in-house service designers and many projects running at the same time, in-house service design ends up having a narrow role. Therefore, the directors argued that a follow-up of the developed solutions is missing. The directors also stated that the scalability of service design know-how is inhibited since business priorities demand it to happen in business centres. This leads service design to happen in a silo. In-house service designers experienced they have a limited role because of the small number of them, and there is a lack of definition of the role of service design within the organization. Thus, the continuous development of the developed solutions and scaling up service design know-how within the organization is challenging.

**The value-based decision-making of service design collides with the organization's fact-based and product-oriented decision-making cultures.** The

executive directors brought forward that the organization is now challenged to use customer input in agile ways and to iterate constantly. In comparison to the old ways of developing where the solutions were expected to be at the level of perfection before going to the market, the existing operative models are now challenged in terms of innovation processes, continuous development of the solutions, internal productivity, and efficiency. Heads of service business and R&D experienced that it is challenging to operate in iterative and agile ways due to the existing decision-making models in addition to the burden of proof. Directors stated that as a result of service design, the decision-making logic has changed, which is a big change for middle management. This creates fear of possible loss of direct control and project ownership, which might lead to contradictions between management and design, and challenge the continuation of the projects and the quality of the solutions. R&D managers brought forward the challenge related to fact-based decision-making cultures and fear of failure. The combination of these damages learning and experimentation and thus inhibits value-based decision-making. In-house service designers expressed the difficulty related to the ability to listen in an organization where the consistency roller works centrally in the cultures of standardization and harmonization in order to scale the solutions.

In terms of **organizational performance measures, challenges appear when business metrics are not aligned with service design at the project level.** According to the executive directors, quantitative business measures, market research metrics, and performance measures are in use. Though, they are not aligned with the service design and no qualitative measures are in place. In addition, they experienced the challenge of isolating and measuring the success of service design since many stakeholders contribute to the development of the projects. Heads of service business and R&D argued that measuring the success of service design and how to give bonuses is challenging since the lead times are long and thus, the benefits of the projects come after many years. During this time, people might change roles or leave the organization and the organization itself might change. Directors argued that qualitative measures are challenging due to their subjective nature. The project metrics that are strictly followed are the schedule and budget. R&D managers experienced qualitative metrics as challenging in an engineering-based organization, which holds the burden of evidencing, measuring, and proving the results quantitatively. Now the alignment of business KPIs is in the hands of service designers at the project level and it must be done to support guiding projects. Despite this, two areas should be measured: 1) the input of how service design influences the solutions during development, and 2) the output of what comes out as a solution. In-house service designers expressed that service design is challenging to measure quantitatively because of long lead times in terms of validating the output. In addition, the existing bonus systems do not encourage the other departments to collaborate with service designers in the early phases of service development regarding the input.

## Summary of the Results

Overall, the results show based on the experiences of organizational stakeholders at five levels that when in-house service design is applied in service development, challenges occur in the following areas: 1) the lack of understanding of service design; 2) existing linear organizational processes; 3) tight schedules and small resources; 4) fact-based and product-oriented decision-making cultures; and 5) organizational performance measures. The challenges that emerge in these areas are experienced by stakeholders at all five organizational levels. Therefore, in-house service design requires strong leadership and clarity about the direction where the organization wants to go with it. Then support structures must be built accordingly.

In terms of the lack of understanding of service design, it would be crucial for the organization to focus on training personnel and building service design tasks, responsibilities, deliverables, and responsible persons to be part of the project management tools. In this way the knowledge related to what to expect from service designers would be externalised in terms of development operations management and the knowledge would not be management-dependent. In addition, redefining the existing process models or developing new innovation processes is crucial, especially for service development to support the development of product-service systems in agile and iterative human- and customer-centric ways. Regarding small resources and tight schedules, there is a wider need for in-house service designers. In addition, internal stakeholders should be induced into service design practices. In terms of enabling value-based decision-making cultures more strongly, the organization should define clarity about the direction of where the organization is willing to go with service design. This is also where a closer inspection and development of the existing operative management models and innovation processes could provide support. Last, but not least, the organization should develop qualitative project metrics to be aligned with quantitative business KPIs and develop bonus systems to encourage the stakeholders' input in the phases of service development.



## 5. DISCUSSION

In this discussion, I comprise first the results from the original three publications. Then I provide a reflection based on the research's theoretical background. Last, a new theoretical framework is proposed as an answer to the primary research question of the dissertation: *What is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design?*

### 5.1. Revisiting the Research Questions

As an answer to the primary research question of this dissertation, this research has reflected it through the sub-questions of the three publications. In doing so, I have gained a thorough comprehension of the research topic in the development of the research's conclusions. Therefore, when looking at the journey of transforming an organization's working culture towards human- and customer-centricity to enable efficient integration of in-house service design, this dissertation argues that both changes of individuals and an organization are needed. This is reflected further after the short summaries of the results regarding the three publications.

**Publication 1: How can an organization evolve into being more receptive to service design as an empathic development approach?** Six major events were located during 2005-2014 before the initiation of an in-house service design team in the participating organization. The events show that at the beginning of the journey, first and foremost, customer-centric project initiatives, active personnel, and partner organizations are crucial when enabling facilitation of organizational learning. Learning through outside-in development strategies can lead to mindset changes and trust-building among stakeholders regarding human- and customer-centricity. Such learning can lead to transformative insights, which can lead to further organizational commitment and strong support from top-level management and the creation of new human- and customer-centric visions more broadly. These, in turn, can support the organization in putting more focus on applying customer-centric methodologies in terms of management and practicalities arrangements in addition to investments.

In addition to the internal changes and development of an organization, also external global societal changes put pressure on organizations. Such pressures have also pushed the participating organization to find new growth and differentiation opportunities to increase competitiveness. This, in turn, has required the

organization to understand the needs and values of the customers more deeply to be able to translate those needs and values into meaningful new service opportunities, processes, and systems. All in all, when considering the external societal pressure and internal organization changes in terms of the individual and organizational development that occurred during the ten-year life-span during 2005-2014, in 2014 the organization reached a point where the organization started driving stronger customer focus. As a result of this, in-house service design team was formed.

**Publication 2: How has in-house service design supported an organization's working culture to transform towards human- and customer-centricity?** When in-house service design had been applied in the participating organization for four years, it can be seen starting to affect the transformation of the organization's working culture in three ways towards human- and customer-centricity. First, it has affected individuals' attitude changes through experiential learning. Second, understanding the significance and advantages of service design has supported changing individuals' mindsets and creating belief in it as a human- and customer-centric methodology and practice. All these have led to the third outcome. In-house service design has become a part of the organization's strategy. As a result, it has started an organizational paradigm shift by altering the strategy, which now includes human- and customer-centric organizational values.

Because an organization's actions always come as secondary due to its dependence on individuals, the first two, which are connected to individual change aspects, are essential in terms of organizational transformation. Therefore, individuals must be impacted first in order to support the transformation of an organization's working culture. Then the organization's transformation in terms of organizational paradigm shift with reference to human- and customer-centric strategy and values might begin to change.

**Publication 3: What are the challenges from the perspectives of different organizational stakeholders that occur when in-house service design is used in service development?** When in-house service design has been applied in service development for four years, challenges have started to occur in the areas of organizational norms and practices in five areas based on the experiences of organizational stakeholders at five levels. The experienced challenges are the following: 1) the lack of understanding of service design causes inefficiencies within projects and frustration among stakeholders; 2) existing linear organizational processes challenge the use of in-house service design; 3) tight schedules and small resources inhibit continuous development, scalability of the developed solutions and service design know-how; 4) value-based decision-making collides with fact-based and product-oriented decision-making cultures; and 5) organizational performance measures are not aligned with service design at the project level.

The results show that in-house service design requires strong leadership and clarity about the direction where the organization wants to go with it. This must

be followed by support structures, which must be built accordingly to enable the organizational integration of service design into its research, innovation, and development operations. First, it would be necessary for the organization to focus on staff training and creating service design tasks, responsibilities, deliverables, and responsible parties to be part of the project management tools in order to tackle the lack of awareness of service design. Second, it is essential to redefine the current process models or create new innovation processes, particularly for service development, to support the agile and iterative development of product-service systems that are focused on the needs of customers. Third, regarding small resources and tight schedules, there is a greater requirement for in-house service designers and it is important to involve internal stakeholders in service design procedures. Fourth, to enable value-based decision-making cultures more strongly, the organization needs to be clear about the direction it wants to go in terms of service design. This is also where it would be helpful to look more closely at and develop the current operative management models and innovation processes. Last, but not least, the organization should create qualitative project indicators that are in line with quantitative business KPIs and create incentive programs to encourage stakeholder participation in the early phases of service development.

## **5.2. Change Aspects of Individuals**

Previous studies have discussed the importance of changing individuals' fundamental assumptions, mindsets, attitudes, and beliefs when organizations are in a transition from design for customers to designing with customers and starting to integrate service design into organizational activities and practices (Kurtmollaiev et al., 2018; Liedtka et al., 2013; Sanders, 2009; Rousseau, 1995). According to Chapman (2002), attitudes, beliefs, and values function as primary change levers, which are the main transformation drivers, and they also act as a springboard for secondary change levers like processes, structures, and systems of an organization. Sanders (2009) supports these views. An individual's mindset and attitudes are the most important factors when encouraging organizations to transition to designing with customers (Sanders, 2009). People who believe it makes sense to design with customers and people are necessary before co-creation may take place. Once the attitude is established, it is possible to start altering organizational culture and processes (Sanders, 2009).

According to Liedtka et al. (2013) and Rousseau (1995), challenging fundamental assumptions, beliefs, norms, and values held by individuals as well as the mental models in organizations proposed by Vink et al. (2019) are necessary for the integration of service design in relation to organizational transformation. Hence, managers must be prepared for an organizational-wide transformation when applying service design, which requires changing employee mindsets and routines (Kurtmollaiev et

al., 2018). However, according to Borja de Mozota (1998), integration of design requires readiness of an organization through a possible crisis to be open to new types of knowledge. This can be the state, especially in organizations where strong engineering cultures thrive since engineering often neglects the human dimensions, which would be essential in terms of success in the marketplace (Buchanan, 2004). If design is viewed as a process, it can result in ongoing innovation, increased customer value, and an improved competitive advantage (Borja de Mozota, 1998). This is made possible by the interdisciplinary conversations that designers facilitate to improve stakeholders' capacity to interact, learn, and change together (Liedtka, 2017).

Based on the findings from publications I and II, I argue that individuals' fundamental assumptions in terms of attitudes, mindsets, and beliefs must be changed first. These trigger changes in organizations and their working cultures. This is due to the fact that changes in individuals regarding attitudes, mindsets, and beliefs are preconditions for further organizational changes. In order to achieve the changes in attitudes, mindsets, and beliefs of individuals, happens most efficiently through experiential learning by being part of the development projects where service design is used. Here pilot projects offer a fundamental role since they open the way to transformative changes and knowledge exchange within longer transformation processes (Junginger & Sangiorgi 2009, Junginger 2008, Sanders 2009). This view is in line with the results of this dissertation, which shows that customer-centric project initiatives and active people are required to facilitate learning at all levels. Such learning in action and experiential learning are powerful contributors since learning happens most efficiently through the inclusion of internal stakeholders and units (Buhning & Liedtka 2018, Liedtka 2017, Kolb 1984, Pinheiro et al. 2012, and Stock et al. 2018). This creates commitment and ownership in addition to trust-building (Junginger & Sangiorgi 2009, Sangiorgi 2011) between in-house service designers and other stakeholders including management at all levels. In terms of the results from publications I and II, the lessons learned from the executed customer-centric project experiments as well as the official service design pilot, these projects started to strengthen trust in customer-centric development among top-level management. These, in turn, supported clearing the path for socially sustainable and effective transformation within the organization in terms of human- and customer-centricity.

Hence, the results of publications I and II prove that learning to understand the meaning and benefits of service design as a human- and customer-centric methodology supports changing the decision-makers' decision attitudes towards design attitudes (Boland & Collopy 2004). In addition, the results show that understanding the meaning and benefits of service design affects changing mindsets from technology-oriented thinking to human- and customer-centricity. Hence, this study shows, in line with Chapman (2002), that deep involvement of psychological engagement supports changing attitudes and mindsets.

In terms of changing beliefs, Borja de Mozota (1998) argues that the company must go through a crisis of past beliefs and inefficient mechanisms to be able to integrate design. Unlike Borja de Mozota (1998), this study claims that changing past beliefs does not necessarily require a crisis. Instead, the results of this study show that beliefs can be changed through changing attitudes and mindsets by being part of human- and customer-centric projects – in projects where the path is cleared for learning the socially sustainable human- and customer-centric ways of working such as service design when developing services and organizations. Such participatory support learning within organizations and thus, create belief in human- and customer-centricity – which works as a driver for transformational change (Sangiorgi, 2011). These results support also the views of Andreassen et al. (2016), Junginger (2008), and Meurer (2001) who argue that service design is a networked bottom-up activity, which uses outside-in strategies along with human- and customer-centric activities to provide the organization stakeholders an avenue to learn about their customers and themselves. Such learning supports the change of individuals in terms of attitudes, mindsets, and creating belief.

Overall, the study shows that in-house service design can support changing individuals' attitudes and mindsets from technology-oriented working cultures towards human- and customer-centricity. Here experiential learning through service design is the key. This is due to the fact that in the process of learning, experience is transformed into new knowledge (Kolb, 1984). People, and managers in particular, learn most effectively when they are active learners and reflect on their own experiences (Adcroft et al., 2008, p. 44). Hence, experiential learning is one of the successful strategies when embedding design in the organization (Stock et al., 2018). This is the case also in terms of trust-building among personnel and management according to the results of this dissertation. Indeed, understanding the meaning of service design has supported changing individuals' mindsets and understanding the benefits of it. This, in turn, has supported creating belief and trust in service design as a methodology.

All in all, the results of this research show that changing the individuals' attitudes, mindsets, and beliefs are the required individual change aspects in order to initiate the transformation of an organization's working culture towards human- and customer-centricity to enable efficient integration of in-house service design. This is achieved with the help of experiential learning that fosters trust-building, which are essential in this process. Once the attitudes, mindsets, and beliefs of individuals support service design as a human- and customer-centric methodology and practice, changes in organizations can start more widely. These are discussed next.

### 5.3. Change Aspects of an Organization

Service design can catalyse organizational transformation due to its capacity for facilitating change within organizations and because it offers the toolsets, capabilities, and expertise for human-centred innovation, (Bailey, 2012; Lin et al., 2011; Sangiorgi, 2011; Yu & Sangiorgi, 2018). It impacts the transformation of service systems and organizations – it can have different qualities and effects on service development and operations, it can have an impact on the entire innovation process, it can integrate multidisciplinary functions, and it can change stakeholders' perspectives and behaviours (Yu & Sangiorgi, 2018). An organization can move from being product-focused to being customer-focused by adjusting its culture, structure, procedures, and financial indicators (Shah et al., 2006). Though, for this to happen, the organizational realignment of horizontal and vertical structures must be supported by process and system support, updated metrics, learning, and continuous improvement (Shah et al., 2006). According to Junginger & Sangiorgi (2009) and Sangiorgi (2011), service design impacts in terms of organizational transformation require a long-term commitment and genuine interest of an organization regarding transformative changes and transformation processes in addition to the change of cultures and attitudes through trust-building, ongoing dialogues, and co-created vision. Junginger & Sangiorgi (2009) elaborate on three levels where service design can have impacts and outcomes in organizations: artefacts & behaviours, norms & values, and fundamental assumptions.

According to Andreassen et al. (2016, p. 24) service design, especially service system design, can “enhance an organization’s process, structure, and culture in creating value for customers.” I argue that impacts of service design are inevitable at the level of artefacts and behaviours in terms of newly developed services, service operations, and end-to-end processes, which are shown as the concrete results of service design work. In addition to service systems, customer-driven outside-in development approaches such as service design can necessitate changes at the organizational levels in terms of organizational structures, processes, and culture (Andreassen et al., 2016). Hence, the existing organizational practices, behaviour, and decision-making will be impacted (Junginger, 2008). (Andreassen et al., 2016, p. 24). Based on the results of this dissertation, I argue that service design impacts organizations internally, but it alone cannot be responsible for the development or transformation of an organization. To reform organizations in order to enable efficient integration of in-house service design, an organization’s working culture must be transformed towards human- and customer-centricity. In order to do this, an organization must internally develop human- and customer-centric visions at the top-level management, as brought forward in the publication I. Such visions must be followed by a human- and customer-centric organizational paradigm through the development of strategy and values, as publication II shows. These

must naturally be followed by norms and practices that support the delivery of human- and customer-centric strategies, as discussed in publication III. Hence, the organization can start implementing human- and customer-centric values through outside-in strategies.

Kotter & Cohen (2012) argue that to achieve a successful large-scale change, getting the vision right is one of the eight stages, which they propose. According to Junginger and Sangiorgi (2009), co-creating visions based on external rewards and internal positive traits are needed in the generation of transformative insights. The empirical data of this study supports these notions. In terms of service design, new visions of human- and customer-centricity relate to what an organization can accomplish externally and how it can change internally – also in terms of the early stages of service development with regard to operations management during research and innovation activities. The publication I of this dissertation shows that such transformative insights enable the creation of human- and customer-centric visions among top-level management. After the creation of such visions, an organization can start making decisions and do possible practical arrangements in terms of investments, teams, expertise, collaboration, and practical facilitation in order to get service design to enter the organization.

Design can offer a new approach to strategy immersed in a social process of argumentation and debate, with the customers and users at the discovery end (Golsby-Smith, 2007) of service development. In order to further enhance value generation in the eyes of customers, the organizational strategy, structure, systems, and procedures must be carefully altered (van den Hemel & Rademakers, 2016). This means that customer-centricity should be a continual source of competitive advantage, which is woven into the fabric of the organization (Hart, 1999). The results of publication II show that after service design had been in use for some time in the organization under study, a further transition towards a human- and customer-centric organizational paradigm was enabled through a strategy renewal, which was supported by human- and customer-centric organizational values. As a result of this, service design was built as a part of the organization's newly created customer-centric strategy, which came into force in 2016. Hence, the research results support the views of Andreassen et al. (2016), Junginger (2008), and Meurer (2001) due to the fact that as a networked bottom-up activity service design can provide eye-opening learning experiences for the organization stakeholders. This dissertation shows that such eye-opening experiences can lead service design to become part of the organization's strategy and values.

Overall, to enable efficient integration of in-house service design, the results of this dissertation show that changing visions and organization paradigms through strategy renewal supported by human- and customer-centric values are the required organizational change aspects. These initiate the transformation of an organization's working culture towards human- and customer-centricity. However, given that these

are high-level principles, which enable the implementation of customer- and human-centricity at lower levels of an organization, they are insufficient. Newly developed visions, strategies, and values must be supported by norms and practices that direct the practical application and daily activities of employees in terms of human- and customer-centric work, in order to successfully drive human- and customer-centricity. Therefore, support structures of an organization in terms of norms and practices must be built. What these support structures are, will be discussed next. The discussion around norms and practices related to support structures are based on the results of publication III in this dissertation. The discussion is done under its own title due to the scope of the subject.

#### **5.4. Need for Human- and Customer-centric Norms and Practices**

Transforming into a customer-centric organization might be a tough call for engineering-based corporate cultures that have long histories of fostering business behaviour from the inside out (Reason et al., 2016). Such tendencies in decision-making attitudes, regarding early closures on problem-solving through strong existing routines, contrast with design attitudes based on higher-order human-centric approaches (Boland & Collopy, 2004). Hence, embedding design expertise might be challenging in contexts where operational management is strongly emphasized to defend the status quo in terms of the delivery end (Golsby-Smith, 2007). Hence, design is not always effectively managed and it might not be integrated into business processes (Borja de Mozota, 1998). Innovating change and new practices might take time for large organizations, and hence, support must come from all management levels if a change in the culture is to be achieved and sustained (Bailey, 2012).

In the third publication of this dissertation, service design was studied through the challenges that arise when service design is brought into the organization and how those challenges are experienced from the perspectives of different organizational stakeholders at five levels. The results of this study show from the perspectives of organization stakeholders at five levels that when in-house service design is used in service development, challenges occur in the areas of norms and practices related to the following: 1) organizational understanding of service design, 2) development processes, 3) scheduling and resources management, 4) decision-making cultures, and 5) organizational performance measurement. In terms of transformation design, the results show in line with Burns et al. (2006), that in-house service design is transformational due to its role in affecting organizations. Though, unlike Burns et al. (2006), I argue that the difficulties and challenges that emerge are not only faced by designers, but also by other stakeholders and management since they hold the power to further develop organizational norms and practices to enable efficient integration of in-house service design and agile service development.



The results present that the level of understanding of in-house service design and its role, responsibilities, and deliverables within innovation and development is not yet sufficient among the stakeholders. These findings are in line with Bailey (2012), Kurtmollaiev et al. (2018), and Burns et al. (2006). They argue that focus should be put especially on training service design to management and experts to familiarize them with it since the success of embedding service design depends on the level of understanding of the value of service design principles. In addition, service design training would decrease frustration among service designers, who face constant challenges in communicating the meaning and value of it among internal stakeholders (Burns et al. 2006). This study also shows that centralised toolkits, rules, and guidelines of service design should exist in a self-study format to increase internal understanding of where and how to use service design, what professional in-house service designers do, and what belongs to the rest of the project personnel. In addition, the results reveal that the lack of organization-wide understanding of service design causes challenges and inefficiencies in the level of project management. Hence, in-house service design ends up having a narrow role within the projects. To make project management easier, service design roles, deliverables, tasks, and responsibilities should be marked in the project management tools at the system level. In addition, how and by whom to support in-house service design should be prominent as well. These would offer support for stakeholders whose understanding of service design is not sufficient.

In terms of the development processes, this study shows that challenges emerge when linear development process models, which do not support iterative service development, must be followed. Hence, the study proves the views of Kurtmollaiev et al. (2018) in terms of linear development models e.g. Sage-gate process provided by Cooper (2001). The nature of iterative service design work, which is based on experimentation, learning, and continuous development, gets challenging when big entities are pushed through the gates of Stage-gate processes (Cooper 2001). This is not a fruitful ground for service design when the work is trying to be squeezed into the existing linear development models (Kurtmollaiev et al., 2018). Based on the results of this study, redefining the process models towards a more flexible direction ought to be done. However, this depends on where the organization is willing to go with in-house service design. Stakeholders bring forward the need to define service design's role and function within the organization since it would support understanding its role also in further phases of service development, such as productization. Now the role of in-house service design is experienced as too short since it is limited to the early stages of service development. However, the transformation towards flexible and agile innovation processes and operating models will take time. Due to this, heads of service businesses in this study highlight the need to define the role of in-house service design in terms of the existing linear development processes.

Despite the lack of understanding of service design, the narrow role of it also happens due to tight schedules, small resources, and many projects running at the same time. Thus, these findings are in line with Kurtmollaiev et al. (2018). Hence, issues arise from a lack of time, funding, and human capital (Kurtmollaiev et al., 2018). This study shows that the budgets are limited and the number of in-house service designers within the participating organization is too small. Therefore, service designers are required to be in new development projects before the developed concepts have been productized. This causes handovers must happen, which leads to knowledge gaps and a lack of ownership and control of continuous development. The results of this study also suggest that tight schedules combined with business priorities pull service design to happen in business centres. This leads service design to happen in a silo, which does not support the scalability nor integration of service design on a wider scale within the organization. Also, for this reason, non-designers at all levels should be induced into design practices (Burns et al., 2006) and more widely trained (Bailey, 2012). In addition, the results of this study present a wider need for in-house service designers. Business stakeholders wish for regular in-house service design interventions since managing and maintaining the continuous development of the developed services becomes a matter. Hence, business-minded service designers would be needed in every team since stakeholders would involve them throughout the entire lifecycle of projects and also during the delivery of services. This would require the organization to further define the role of in-house service design.

According to the executive directors and middle management, in-house service design challenges the fact-based decision-making logic and cultures in terms of value-based decision-making. The organization is now challenged to use customer input and to iterate constantly. The results of this study show that as a consequence of this, contradictions between management and design start to emerge since business priorities and aims do not necessarily match with the needs of the customers. Thus, giving control from management to designers and people working closer to the frontline might be challenging. According to (Kurtmollaiev et al., 2018) this might be the case, especially in traditional non-design matrix organizations, which lean heavily on the cultures of knowing by imagining customer emotions and guessing their needs while fearing failure. This study suggests that giving control from management to designers and iterative ways of working requires trust, which in-house service design specialists yearn for to enable frictionless work. Also, for this reason defining clarity about the direction of where the organization is willing to go with service design is required first. This would also enable further inspection of innovation processes and operative management models through in-house service design and value-based decision-making regarding service development.

In terms of organizational performance measures, this study suggests, in line with Shah (2006), that quantitative and financial metrics should be aligned with

qualitative project metrics to support achieving service design goals. These findings support also the views of Kurtmollaiev et al. (2018) and Bailey (2012). The creation and use of service design-based corporate language and common vocabulary should be encouraged by middle management by realigning KPIs with service design principles and objectives, and by providing room for experimentation (Kurtmollaiev et al., 2018). However, this study shows that it is not straightforward to do when service design is still such a new thing within the organization. According to top management, it is hard to measure the success of service design quantitatively since it is hard to distinguish and lead times are long. In addition, translating quantitative business performance goals into qualitative aims of the projects is left in the hands of in-house service designers. The results of this study suggest that project owners, managers, and directors should take a stronger role in the creation of project-specific qualitative metrics by helping to translate KPIs to match the qualitative aims of service design. In this way, business KPIs would not seem as being too far away or abstract for project personnel.

In addition, the results of the study are in line with Golsby-Smith (2007) in terms of organizational incentives to encourage stakeholders to collaborate with in-house service designers. He argues that the existing bonus systems reward operational efficiency by considering the delivery end. From the perspectives of in-house service designers in this study, rewarding operational efficiency by considering only the delivery end does not support stakeholders collaborating with service design, nor contribute to the early phases of service development at the discovery end. Hence, this study's findings also support the views of Kurtmollaiev et al. (2018) and Bailey (2012). The existing practices and meeting personal KPIs in sustaining the status quo and local goals inhibit the use and implementation of service design on a wider scale (Kurtmollaiev et al., 2018). To enhance the application of design principles, rewarding methods must also be in place (Bailey, 2012) such as performance-appraisal systems.

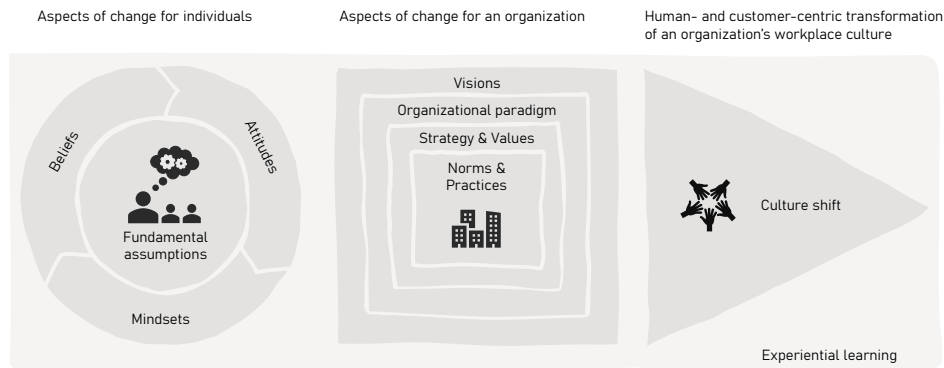
Overall, this study shows that in-house service design has a transformational force due to its role in affecting organizations while developing services. That is why organizations must understand the key issues that appear when starting to apply in-house service design as a human- and customer-centric practice. Based on the challenges that arise, the development of an organization must happen in the following areas: 1) the level of training to provide a deeper organizational understanding of service design, 2) the definition of continuous iterative and agile development processes, 3) scheduling and resources management, 4) enabling value-based decision-making cultures, and 5) qualitative organizational performance measurement supported by bonus systems in the early phases of service development. This study argues that the challenges in the five areas are not faced only by the design practitioners, but also by the stakeholders at all levels within organizations. Since service design is becoming an organic part of service development, it should gradually be developed into a really strong part of what the organization does.

To get a working culture shift to happen more fully when the organization is heading towards human- and customer-centricity, the researched knowledge provided by this publication offers new knowledge on the required development of norms and practices, in order to create support structures to manage and support the operations of in-house service design work. Such understanding supports the delivery of human- and customer-centric strategies and values in addition to the integration of in-house service design. Overall, the results of this dissertation show that to enable efficient integration of in-house service design, the required organizational change aspects are related to human- and customer-centric visions and organization paradigms through the development of human- and customer-centric strategies and values. These must be followed by the development of norms and practices that support the delivery of human- and customer-centricity. When all these are in order, the transformation of an organization's working culture towards human- and customer-centricity can happen more holistically.

## **5.5. New Theoretical Framework**

As a result, I have created a framework (Figure 8 below), which represents the required individual and organizational change aspects that enable a culture shift towards human- and customer-centric transformation to enable efficient integration of in-house service design. The aspects of change for individuals are related to the following: a) through experience-based learning to changes in attitudes, and b) from changing mindsets and creating beliefs to changing fundamental assumptions of an individual. Once the attitudes, mindsets, and beliefs change in terms of understanding the value and meaning of human- and customer-centricity – how development can be done by applying outside-in strategies – fundamental assumptions of individuals can start to alter.

Once fundamental assumptions of individuals have been changed in terms of attitudes, mindsets, and beliefs, fundamental aspects of change for an organization can start. The organizational aspects of change consist of changes in culture (Meyerson & Martin, 1987) related to organizational visions, paradigms, strategies, shared values (Awbrey, 2005), norms, and practices (Campbell, 2021). In this dissertation, it is argued that shifting the working culture requires developing human- and customer-centric visions in addition to changes in organizational paradigm through strategy renewal and shared values supported by human- and customer-centric norms and practices. Once changes happen in terms of the aspects of change for individuals and then at the fundamental aspects of change for an organization, the working culture shift can happen in terms of human- and customer-centric transformation to enable efficient integration of in-house service design.



**Figure 8.** Individual and organizational aspects of change towards a human- and customer-centric transformation to enable efficient integration of in-house service design.

For an individual to develop fundamental assumptions, learning is essential in changing attitudes, mindsets, and beliefs (Matthews, 1999). Fundamental assumptions of individuals in this study are seen as dispositions related to the worldview and mental models of cognitive orientation that persons hold. Existing worldviews and mental models are features that are defined by individuals' backgrounds, know-how, and personalities. These are seen as a collection of central or primary things, activities, rules, or principles on which something is based and they are accepted as true or as certain, or as 'taken for granted.' Hence, the fundamental assumptions are based on the person's worldview and mental models, which determine the rest – attitudes, mindsets, and beliefs (Appelbaum & Göransson, 1997).

Attitude in this dissertation is defined as a predetermined way of feeling and thinking about something – which may be considered a collection of characteristics based on people's preconceptions about how things work (Michlewski, 2015). Based on the attitude, a person will either act cooperatively or uncooperatively. Nelson and Stolterman (2012) argue that our mindsets determine how we perceive the world and how we act in it from the perspective of our stance or standpoints. In this dissertation, mindset is considered as a way of perceiving, thinking, and acting – which are formed based on the established sets of standpoints and attitudes held by someone. Hence, the attitude and mindset of an individual are closely connected. Belief in this dissertation is considered something that is acknowledged, regarded as true, or held as a predefined opinion, such as what someone considers the proper course of action.

Hence, changing the fundamental assumptions might be challenging, especially in technology-oriented organizations, which hold strong engineering-based corporate cultures and knowledge-based attitudes, mindsets, and beliefs held by individuals. Such strong existing attitudes, mindsets, and beliefs of engineers often neglect the

human dimensions as also brought forward by Boland and Collopy (2004), Borja de Mozota (1998), and Buchanan (2004). Therefore, turning the fundamental assumptions of an individual is not a straightforward process, but the process requires experiential learning and trust-building.

As already brought forward in this dissertation, from the perspective of transformation design, service design can create fundamental change since co-creative/participatory projects can initiate cultural changes of ‘human-centeredness’ within organizations, and thus, the object of change may expand to organizational cultures (Burns et al., 2006; Pinheiro et al., 2012). However, turning the mindset of a technology-oriented organization to human- and customer-centricity is not straightforward in engineering-based corporate cultures (Borja de Mozota, 1998; Boland & Collopy, 2004; Buchanan, 2004). Instead of considering mindset as a feature of an organization, in this study, it is considered as a feature of an individual. In terms of fundamental assumptions, Junginger & Sangiorgi (2009) bring them out from the organization’s perspective regarding the current situation versus an agreed future vision to achieve transformations in the generation of future service concepts. In this study, fundamental assumptions are viewed from the perspective of altering the existing worldviews of individuals in the generation of human- and customer-centric organizations. I argue that once the change aspects of individuals have altered in terms of attitude and mindset changes in addition to creating belief in human- and customer-centricity in terms of service design, the fundamental assumptions of individuals can change followed by change aspects of an organization.

In terms of the fundamental change aspects of an organization, the supporting elements of transforming the working culture in this study are seen as the collection of organizational visions, paradigms, strategies, shared values, norms, and practices. In this dissertation, organizational visions – which typically depend on the leaders – are viewed as the views and goals of the future state that the organization aspires to achieve. The organizational paradigm is the worldview of an organization, which consists of a strategy and shared values in addition to norms and practices that guide behaviour and decision-making (Du Plessis & Cole, 2011). Strategy in this dissertation is defined as the plan of action of how to achieve long-term objectives and a future state. Shared values are viewed as the general ideals and beliefs that guide an organization’s decisions and activities. Norms are concrete standards of conduct that preserve social stability and order. Norms are justified by underlying values. Organizational practices are the daily behaviours and actions of employees. They are determined by rules (norms) that govern behaviour at both the individual and systemic levels. Hence, practices are guided by written and unwritten rules, expectations, and systems that inform and follow the behaviour and actions.

Overall, prerequisites to the creation of human- and customer-centric visions are learning and trust-building through the process of mindset and attitude changes and creating belief in such ways of working. These affect the changes in the fundamental

assumptions of individuals. Once fundamental assumptions of individuals have been altered in terms of changing attitudes, mindsets, and beliefs, change aspects of an organization follow in terms of human- and customer-centric organizational visions, paradigms, strategies, and values. In addition, special focus must be put on organizational norms and practices to support human- and customer-centric behaviour and value-based decision-making. The development of such norms and practices relates to 1) organizational understanding of service design, 2) development processes, 3) scheduling and resources management, 4) decision-making cultures, and 5) organizational performance measurement. When norms at the level of people, processes, and systems are in place to support human- and customer-centric standards of behaviour, also human- and customer-centric practices and decision-making can start to flourish. Hence, a more complete transition in working cultures towards human- and customer-centricity can happen.

## 6. CONCLUSIONS

This research contributes new knowledge to the areas of design research in addition to management and organizational studies from the perspectives of service design, organizational transformation, and development research. As an answer to the primary research question – *What is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design?* – the novelty of this dissertation lies in the presented framework in terms of individual and organizational change aspects to get an organization's working culture to change towards human- and customer-centricity. The focus has been on mapping the organizational changes in addition to the impacts, and challenges of in-house service design from the perspective of human- and customer-centricity that the participating organization has gone through during its lifecycle between 2005-2018. The changes, impacts, and challenges during this timeframe have supported in providing answers to this dissertation in terms of the individual and organizational change aspects.

In terms of individual aspects of change, changing the existing fundamental assumptions of an individual towards human- and customer-centricity are achieved through the changes in attitudes and mindsets in addition to creating belief in human- and customer-centric ways of working. Experiential learning and trust-building are required in these processes of change. As a result, the individual starts accepting new ways of thinking, and hence, mental models develop or reconstruct. Thus, the 'taken for granted' rules start to diminish. Hence, in terms of this dissertation, technology-oriented and expert-driven minds of individuals start accepting new human- and customer-centric ways of behaving and making decisions. Once personal changes in attitudes and mindsets occur, belief in human- and customer-centric ways of working can appear. As a result, the fundamental assumptions of an individual can alter to support human- and customer-centricity. Based on these results, I argue that to achieve transformational changes within an organization, the change aspects for individuals must be looked at first since changing fundamental aspects of an organization come as secondary. Then, questioning the existing fundamental aspects of an organization can start regarding its prevailing engineering-based technology-oriented working cultures.

In terms of fundamental change aspects of an organization, human- and customer-centricity require newly created visions among the top-level management in addition to the organizational paradigm changes through the creation of human- and customer-centric strategies and values. Such transformational changes require a



long-term commitment and genuine interest of an organization. In addition, special focus should be put into developing norms and practices at the level of people and systems to support the delivery of human- and customer-centric strategies and values. Hence, once all change aspects of an organization are in place and considered, a human- and customer-centric organizational transformation can take place to enable efficient integration of service design into organizational management and operations practices.

When following Bartunek & Louis (1988, p. 99) in terms of “mapping of patterns of change” while undergoing the change and dealing with unplanned changes in addition to going through stages and transitions in the organizational lifecycle, this study contributes to the area of organizational transformation research. Based on this perspective provided by Bartunek and Louis (1988), mapping can be seen as statements of what has already happened, and thus, such historical perspectives can be seen as forming the basis for organizational transformation research. This is also the case in this dissertation regarding the organization’s history related to the organizational changes, impacts, and challenges of the research phenomenon.

In addition, this dissertation also contributes to the area of organizational development (OD) studies, which can be seen as having a future-oriented input or direction when following the perspectives of Bartunek and Louis (1988). This dissertation shows the areas, which could still be proactively developed in terms of norms and practices to enable the development of improved organizational support structures for in-house service design. Thus, in terms of organizational development research, this dissertation provides future perspectives on how the integration of service design into management and operation practices could be done more efficiently. Thus, regarding organizational development studies, organizations could use the provided knowledge of this dissertation in the proactive processes of planning, and how to facilitate planned change – which are the areas that the organizational development research focuses on when following the views of Bartunek & Louis, (1988). Therefore, the knowledge provided in terms of future directions of developing the existing norms and practices of an organization to enable efficient integration of in-house service design in terms of human- and customer-centricity, this study can be seen as contributing also to the area of organizational development (OD) research.

As stated, this study can be considered as contributing to both organizational transformation and organizational development research. Common to these fields is that both of them are concerned with an organization’s culture in addition to its shared meaning, beliefs, and values when following Bartunek and Louis (1988). Despite this, the main concentration has been on organizational transformation through the perspective of service design in terms of individual and organizational change aspects during 2005-2018, even though, the study has encompassed also elements of organizational development. In addition, the study contributes to

the area of design research – research *into* design when following Frayling (1993) and research *about* design when following Downton (2003) – since it provides also knowledge on the organizational changes, impacts, and challenges of service design into the field of design. When following Simon (1996), studying design bridges it to organization and management studies, which is natural due to the fact that design affects both external and internal changes in organizations in terms of newly developed services in addition to organizational values, strategies, people, development and innovation processes, project management practices, performance, and quality among others. This is also the case in this dissertation. The knowledge provided in this research provides an understanding of how to better lead service design in organizational settings, which is seen as valuable information in all three fields of research, but also in the practice-based field of managing design in the contexts of organizations. Hence, the knowledge of this dissertation is valuable both for scientists and designers in addition to organizations and internal organizational stakeholders besides designers.

### **Future Research**

To able to keep up a competitive advantage (Sangiorgi et al., 2016), this study shows that there is an increasing need for human- and customer-centric and holistically empathic development approaches such as service design – which consider the organization as a whole, understand the needs and values of customers, and construes those needs and values as meaningful new service opportunities, processes, and systems. More research on human- and customer-centricity such as service design is needed to be able to answer the future needs of customers and users and to improve the quality and internal efficiency of organizations. Such understanding would increase knowledge of how organizations have evolved and transformed towards human- and customer-centricity, and how to further develop organizations to enable human- and customer-centric working cultures.

In addition, the market share and significance of digital services have grown globally (Reason et al., 2016). This dissertation proves the point of Reason et al. (2016). The empirical data set shows that the direction where societies are heading affects the changes that take place in organizations. According to the results of this dissertation, manufacturing industry is evolving towards the direction of data-driven businesses. Therefore, the meaning and the share of digital services will continue to grow. This means an increasing need for further value creation for customers. This, in turn, will require a further in-depth understanding of customers' needs in their contexts. Hence, in terms of future studies, a more in-depth understanding of in-house service design from the perspective of human- and customer-centricity would be needed in different contexts where emerging technologies in addition to engineering-based working cultures play strong roles in product and service development. Such understanding would be important not only for the manufacturing industry but also

for other industries such as the transportation industry e.g. automotive, shipping, cargo, and aviation, which are going through significant changes regarding the Fourth Industrial Revolution in terms of the Internet of Things (IoT), robotics, Web3, blockchain technology, algorithms, and artificial intelligence (AI).

Technology must not become an absolute value. The boundaries between the physical and digital worlds are increasingly getting blurred. Hence, understanding the needed organizational norms, practices, and support structures to support human- and customer-centricity is highly needed in organization contexts where emerging technologies and digitalization play crucial roles. In addition, providing more knowledge of the organizational challenges in terms of service design would offer a more in-depth understanding of what areas to improve to enhance internal efficiency to support iterative, and human- and customer-centric development cultures. Such knowledge is crucial in providing an avenue to understand customers and helping organizations to learn the market needs. In addition, enabling iterative and agile human- and customer-centric ways of working offer the possibility to do decisions closer to customers, and thus, target decisions accordingly.

Overall, more research would be needed regarding organizational transformation and service design from the perspective of management. Such understanding would increase organizational know-how on how to enable frictionless human- and customer-centric working cultures, and thus, how to improve the internal efficiency and quality of an organization overall. In addition, the information would provide an understanding of how an organization-wide alignment in terms of human- and customer-centricity and service design can be carried out to enable a further transition into a more empathic and human- and customer-centric organization. The provided knowledge could support e.g. the development of management models, practices, operational processes and systems, project management, human resources (HR) and training personnel. Research from various contexts may also shed light on how the field of service design should advance to better meet the needs of various organizations.

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## **APPENDICES**

## APPENDICE 1.

### INTERVIEW DISCUSSION GUIDE – OTHER STAKEHOLDERS

#### Design in Smart Mobility Business Services project & Krista's dissertation

Time with the participant: approx. 1,5 hours

#### Introduction & Research Objectives

The research objectives are to:

- Understand organizational impacts of service design and the value it brings to organizations
  - Project affects
  - Process affects
  - Manager level affects
  - Company level affects
- Understand the role of service design on development processes, tools & methods used, stakeholder commitment and internal co-creation, and business overall (such as effects on strategy, customer happiness, increased profits, ...)
- Understand what are the positive values and possible challenges service design brings into processes, stakeholder commitment, and business
- How could service design better support organization, project work, and stakeholders in the future

#### Set-up (5min)

Describe the purpose of the research and the interviewee's / participant's contribution to it:

- Explain what will be involved, the type of questions to be asked, and how long (approx.) it will take
- Explain who you are and how the inputs will be used *in confidentiality*
- Ask them if possible to voice and/or video record, take pictures
- Get informed interview consent signed

#### About you and your work (5min)

1. What is your role and what are your responsibilities in this organization?
2. How long have you worked for this organization?
3. Are you a permanent employee?
4. What is your specialty and professional background?

#### Understanding of Service Design in Relation to Interviewees' Role

1. How do you perceive service design and what is its role regarding your work? Your relation to it?
2. WHAT ARE THE AREAS OF SERVICE DESIGN CONTRIBUTION?
3. What are the areas where service design gets the highest value?
4. What is the service design's contribution (value) to this corporation? (Part of change leadership, project leadership, operational leadership, or strategic leadership?)
5. How do you see the SD contribution to affect corporation results? How are the results seen/proven? (With executives, jump to the organizational performance topic from here)

6. How do you see service design differing in relation to other R&D fields such as Industrial Design and User Experience Design?
7. What is the good/what are the benefits related to service design?
8. Have you faced any challenges with service design or with service designers? What are the challenges?
9. What do you value in service designers' work? Are they messengers, catalysts for change, or...?
10. What about service designers' levels of understanding things in the organization?
11. How has service design affected your work/project work?
  - a. Example given: Has service design helped you in the decision-making process or in convincing someone? How? What support did it offer you? (In relation to the participant's role in the project? E.g. a decision maker?)
12. Do you have any doubts regarding service design? What kind of?

### **Evolvement of Service Design in the Organization**

1. Do you see service design having an impact on the organization's strategy change (2017-2020)?
  - a. Since strategy change is an internal investment, what has been the result(s) of strategy change?
  - b. What is followed?
  - c. What are the result indicators used?
  - d. How were they set?
  - e. From where have the meters come?
  - f. With whom have the meters been set?
  - g. What are the values and measurements that are related to service design & (R&D)?
  - h. How are/have the service design investments been followed?
2. On whose responsibility is/has the business (service) development (been) usually?
3. Who does/used to do service development before?
4. Why was service design decided to be taken as a part of organizational work and service development?
  - a. Was it a strategic decision? (Who defines the strategy and does it?)
  - b. Was it an operational or practical question regarding e.g. methods and tools in service development? (SD bringing in the practices for developing services?)
5. Were there any organizational transformations needed to apply service design? What?
6. What are the drivers and barriers when integrating service design in the organization? Are there any experienced obstacles? What? When? How? Why?
7. How does the service design approach affect and relate to the other disciplinary/department approaches?
8. What is the value of using service design? What is the goal? What do you need to achieve?
9. How do you see the company benefitting from service design? Short-term and long-term?
10. Has service design improved organizational innovation capabilities and competitiveness? If yes, how? If not, why so?

### **Service Design Process / (New) Service Development Process (Show value chain)**

1. What is the meaning of service design and its contribution to the corporation's processes?
2. In what phase of the service development/delivery process, do you see service design is most useful? Why?
3. What are the communication needs regarding service design in relation to you and other stakeholders?



- Has there been any challenges?
- 4. **What are your expectations regarding the results and deliverables of the phases? Have the expectations been met? If not, why?**
- 5. **What kind of material have you needed from service designers e.g. when trying to convince someone? Did the material support the decision-making process or in your work generally? How?**
- 6. **Are there any challenges regarding service development processes in relation to service design? What? Why?**
- 7. **Are there any experienced show-stoppers along the way in relation to service design? What? Why?**

### **Creative Tools and Methods of Service Design, Prototyping**

1. **How have the tools and methods supported your work/decision-making along the way?** (E.g. interviews and co-creation with customers, paper prototyping, blueprints etc.)
2. **Any challenges regarding the used methods and tools? What? Why?**
3. **How do you see prototyping and experimenting solutions benefitting you, projects, or the company?**
4. **How do you see co-designing actions (e.g. outside-in method) with customers and company stakeholders benefitting the project or the company?**
5. **What tools have you found most/least beneficial during the process?**
6. **Have the tools, methods, or service design processes supported in improving learning abilities or in motivating and empowering staff? How?** (E.g. Gaining new knowledge?)

### **Service Design in Relation to Multi-Disciplinary Stakeholder Work**

1. What is the relation of service design in comparison with your department and stakeholders? (Affect to practices, processes, breaking silos, increased co-creation...?)
2. How do you cooperate with service designers? Do you share similar tasks or do your tasks, tools, or working methods support each other? What? How?
3. How do you see service design supporting your work? Are there any experienced challenges or obstacles along the way? What? Why? How?
4. Has service design come and taken over something or some methods, tools, or tasks that used to belong to you before? Or are your tasks or methods overlapping? What? How?
5. ***How should service design, as a design-centered discipline, develop to better support multidisciplinary collaboration for service innovation?***

### **Service Quality and PSS (Product-Service Systems) / Service Ecosystems**

1. How were big and complex service entities & data handled before?
2. Does service design/designers or tools help in being clearer about service entities or service architecture (e.g. blueprints) regarding complex service ecosystems? How?

### **INTERNAL EFFICIENCY (Show Performance Pyramid)**

#### **Business Strategy, Day-to-Day Operations of Service Development, KPIs, and Organizational Performance**

1. ***How is performance measured in relation to new/existing service development? How are KPIs defined?***
2. ***What are KPIs related to (service development processes and) service design?***

3. **How do service design and R&D get shown in KPIs?**
  - a. **In which part of the meters is service design/design/R&D relevant?**
  - b. **What are the meters used? Why were such areas of measurement decided to be measured? What are the measurement techniques?**
4. **How/in which areas has service design helped to answer the required KPIs?**
5. **How has service design improved organizational (service development) performance? E.g. Has service design improved efficiency between strategy and operations?**
  - a. **How is it seen/proven internally? Has productivity and flexibility improved in the phase of service development? (E.g. between departments, groups, and teams? Day-to-day operations regarding stakeholder commitment? Breaking silos? Quicker development processes and cycles, how/why did it increase the speed of the process? Agile use of tools?)**
6. **Has service design improved the release time to market (return on time)? How? Why? E.g. Have the development cycle time and waste been reduced?**
7. **What about financials in business units once service is delivered? E.g. Improved savings due to shorter release times? Improved cash flows within delivery?**
8. **Has service design supported improving the corporation's or services' market value? If yes, how? If not, why?**
9. **Has service design helped in innovating totally new services & service innovations, disruptive services, or product ideas? How?**
10. **Any other organizational levels where service design has been affecting?**

## **EXTERNAL EFFECTIVENESS (Show Performance Pyramid)**

### **Frontline Satisfaction & Delivery**

1. **Has service design helped in improving the service delivery time or the quality of delivery? How?**
2. **Has service design improved the service quality in the eyes of the frontline? How?**
3. **How is it seen/proven? (E.g. Happier frontline, higher sales, or higher NPIs?)**

### **Customer Satisfaction & Expectations**

1. **Has customer satisfaction been improved regarding those projects where service design has been used?**
  - a. **How is it seen/proven concretely? E.g. Improved quality of service delivery or quicker more efficient delivery? Higher NPIs? Increased profits?**
2. **What about the customer value and brand value of the corporation? Has it increased due to the use of service design? How?**
3. **What about the strategic value and financial value (improved return on investment) of the corporation regarding the projects where service design was used? How? What areas/where?**

## **AT THE END OF THE INTERVIEW/REMEMBER**

Ask if they are happy to be contacted if a question arises e.g. via email.

Ask if they have any questions.

Ask them if you can take a picture of them.

Thank them and reassure their input has been useful.

## APPENDICE 2.

### INTERVIEW DISCUSSION GUIDE – SERVICE DESIGNERS

#### Design in Smart Mobility Business Services project & Krista's dissertation

Time with the participant: approx. 1, 5 hours

#### Introduction & Research Objectives:

The research objectives are to:

- Understand organizational impacts of service design and the value it brings to organizations
  - Project affects
  - Process affects
  - Manager level affects
  - Company level affects
- Understand the role of service design on development processes, tools & methods used, stakeholder commitment and internal co-creation, and business overall (such as effects on strategy, customer happiness, increased profits, ...)
- Understand what are the positive values and possible challenges service design brings into processes, stakeholder commitment, and business
- How could service design better support organization, project work, and stakeholders in the future

#### Set-up (5min)

Describe the purpose of the research and the interviewee's/participant's contribution to it:

- Explain what will be involved, the type of questions to be asked, and how long (approx.) it will take
- Explain who you are and how the inputs will be used *in confidentiality*
- Ask them if possible to voice and/or video record, take pictures
- Get informed interview consent signed

#### About you and your work (5min)

1. What is your role and what are your responsibilities in this organization?
2. How long have you worked for this organization?
3. Are you a permanent employee?
4. What is your specialty and professional background?

## Role of Service Design

1. **What makes you you?** (Service Designer in relation to Industrial Designers and User Experience Designers?)
2. **What is your specialty?**
3. **What do you make differently in comparison to the mentioned designers?**
4. **In which areas/organizational levels do you see service design having an impact on the organization? Where else than in the ones below? (E.g. stakeholder/department commitment, ...)**
  - **Operational?** (Relate to day-to-day operations of the corporation. They have a short-term horizon as operations are done repetitively. Operational decisions are taken at lower levels of management.)
  - **Tactical?** (Developing divisional plans, structuring workflows, establishing distribution channels, and acquisition of resources such as men, materials, and money. These decisions are taken at the middle level of management.)
  - **Strategic?** (Strategic decisions are major choices of actions and influence a whole or a major part of a business organization. They contribute directly to the achievement of the common goals of the corporation. They have long-term implications for the organization. Such decisions are taken at the higher level of management.)
5. **How do you see other stakeholders' attitudes towards service design?**

## Evolution of Service Design within the Organization

1. **Do you see service design affected the strategy change that happened in 2016, which is customer-centric? How?**
  - a. Any knowledge of how the strategic investments have been followed? Result indicators?
2. **What do you see is the value for the organization of using service design? E.g. How do you see the company benefitting from service design? *Short-term and long-term?***
3. **How has service design improved organizational innovation capabilities and competitiveness? Could you please give examples?**
4. ***How does the service design approach affect and relate to the other disciplinary/department approaches?***
5. **Do you see any of the tasks, methods, or tools you use overlapping with some other department's work & tasks? What? How? Has service design taken over of those or were they given to you as your tasks?**
6. ***How do you see stakeholders and other departments being ready for service design thinking and doing?*** How do you fit into their way of doing & practices and vice versa? Drivers and barriers when integrating service design in the organization? Are there any experienced obstacles, other than the ones that came up when mapping development processes? When? How? Why?
7. ***Are there any organizational transformations needed to apply service design better in the future? What? How?*** E.g. How should the leadership of the company develop to be able to better accept service design as a discipline? Or, should service design as a discipline evolve instead?
8. ***How should service design, as a design-centered discipline, develop to better support multidisciplinary collaboration for service innovation?***
9. **Should other departments or stakeholders be able to develop to better support service design? How?**

## **Service Design Process / (New) Service Development Process (Show value chain)**

- 1. What is the meaning of service design and its contribution to corporation processes?**
2. In what phase of the service development/delivery process, do you see service design is most useful? Why?
3. Have you experienced any communication challenges regarding service design between you and other stakeholders? What kind of challenges, with whom, and when?
4. What are the expectations from other stakeholders regarding the results and deliverables of the phases? Have the expectations been met? If not, why?
5. Are there any specific tasks and/or deliverables that you had to do for stakeholders, even though you felt 'this does not belong to my field of work'? What kind of tasks and why did they have to be done by you?
6. Any experienced show-stoppers along the way in relation to service design and other stakeholders? Any points of frustration? In what kind of situation did this/these emerge/in which context? Why?

## **Creative Tools and Methods of Service Design, Prototyping**

1. How do you see your tool tools support the organization in handling big and complex service entities (Product-Service Systems) & data?
2. Are there any experienced challenges along the way regarding the used methods and tools? What kind of? Why did they emerge?
3. How do you see tools, prototyping, and experimenting methods benefitting the projects, other stakeholders, and the company?
4. How do you see the tools, methods, or service design processes supporting and improving learning abilities or motivating and empowering staff? Within the company and stakeholders? (E.g. Gaining new knowledge?)

## **INTERNAL EFFICIENCY (Show Performance Pyramid)**

### **Business Strategy, Day-to-Day Operations of Service Development, KPIs, and Organizational Performance**

- 1. How is performance measured in relation to new/existing service development? How are KPIs defined?**
- 2. What are KPIs related to (service development processes and) service design?**
- 3. How do service design and R&D get shown in KPIs?**
  - a. In which part of the meters is service design/ design / R&D relevant?**
  - b. What are the meters used? Why were such areas of measurement decided to be measured? What are the measurement techniques?**
- 4. How/in which areas has service design helped to answer the required KPIs?**
- 5. How has service design improved organizational (service development) performance? E.g. Has service design improved efficiency between strategy and operations?**
  - a. How is it seen/proven internally? Has productivity and flexibility improved in the phase of service development? (E.g. between departments, groups, and work teams? Day-to-day operations regarding stakeholder commitment? Breaking silos? Quicker development processes and cycles, how /why did it increase the speed of the process? Agile use of tools?)**

6. **Has service design improved the release time to market (return on time)? How? Why?** E.g. *Have the development cycle time and waste been reduced?*
7. **What about financials in business units once service is delivered?** E.g. **Improved savings due to shorter release times? Improved cash flows within delivery?**
8. **Has service design supported improving the corporation's or services' market value? ? If yes, how? If not, why?**
9. **Has service design helped in innovating totally new services, service innovations, disruptive service, or product ideas? How?**
10. **Any other organizational levels where service design has been affecting?**

## **EXTERNAL EFFECTIVENESS (Show Performance Pyramid)**

### **Frontline Satisfaction & Delivery**

1. **Has service design helped in improving the service delivery time or the quality of delivery? How?**
2. **Has service design improved the service quality in the eyes of the frontline? How?**
3. **How is it seen/proven?** (E.g. Happier frontline, higher sales, or higher NPIs?)

### **Customer Satisfaction & Expectations**

1. **Has customer satisfaction been improved regarding those projects where service design has been used?**
  - a. **How is it seen/proven concretely?** E.g. Improved quality of service delivery or quicker more efficient delivery? Higher NPIs? Increased profits?
2. **What about the customer value and brand value of the corporation? Has it increased due to the use of service design? How?**
3. **What about the strategic value and financial value (improved return on investment) of the corporation regarding the projects where service design was used? How? What areas/where?**

## **AT THE END OF THE INTERVIEW/REMEMBER**

Ask if they are happy to be contacted if a question arises e.g. via email.

Ask if they have any questions.

Ask them if you can take a picture of them.

Thank them and reassure their input has been useful.

## **APPENDICE 3.**

### **SERVICE DESIGN VALUE WORKSHOP WITH SERVICE DESIGNERS: Value Mind Map(s)**

#### **1. POSITIVE VALUES OF SERVICE DESIGN (POSTER OF PROS)**

**What are the values you see service design bringing into the corporation?**

- WHAT ARE THE AREAS OF SERVICE DESIGN CONTRIBUTION?
- How do you perceive service design and its contribution (value) to this corporation?
- Where are the biggest service design impacts/effects seen? In which areas? Where/in which areas does service design get the highest value?
- How do you see the SD contribution to affect corporation results? How are the results seen/proven?

Examples to boost discussion, if needed:

- Operational producers of strategy?
- Leading/facilitating change?
- Bringing in new innovations?
- Disruptive thinking?
- Outside-in thinking & doing?

#### **2. PROGRESSING VALUES OF SERVICE DESIGN (POSTER OF CONS)**

**What are the challenges you see service design has in the corporation based on your experience?**

- What are the challenges you face as a service designer?
- What are the organizational challenges related to service design?
- What are the challenges related to service design?
- Where/in what areas should the organization develop?
- Where/in what areas should service design(ers) develop?

## **APPENDICE 4.**

### **SERVICE DESIGN PROCESS MAPPING WORKSHOPS WITH SERVICE DESIGNERS**

**Map the project's process steps and phases in linear order from left to right. Use Post-it notes to fill in the content per step in the process map.**

**Meaning to understand, how SD contribution affects corporation processes?**

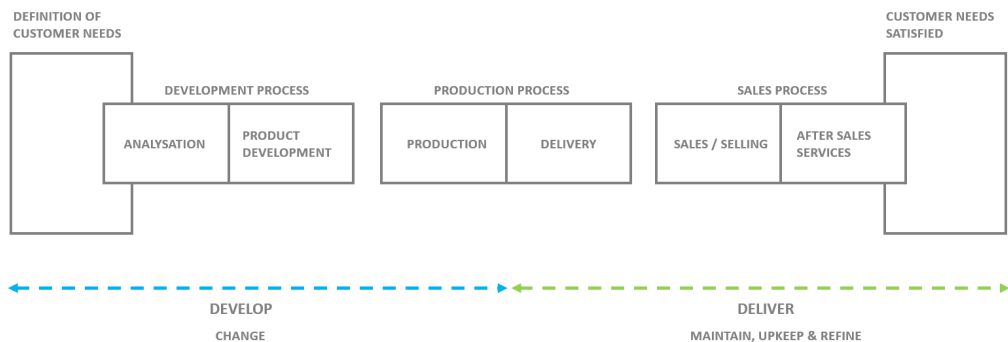
1. Were you involved in this phase?
2. What were the required KPIs in this phase?
3. What did you have to achieve/what was required at this phase?
4. Who were the actors involved at this point? What are their roles?
5. What was your contribution at this phase?
6. What were the service design activities delivered at this point?
7. What are the tools/methods used at this point?
8. What were the deliverables/output you had to deliver at this point?
9. What were the experienced obstacles at this point? What went well? What not? Why?
10. What was the outcome/result at this point? Was it what was expected?



## APPENDICE 5.

**THE INTERNAL-BUSINESS-PROCESS VALUE-CHAIN PERSPECTIVE – this is an edited version of Kaplan and Norton’s (1996) original model from the perspective of in-house service design and it was used as a prompt in interviews**

(adapted from Kaplan & Norton, 1996)



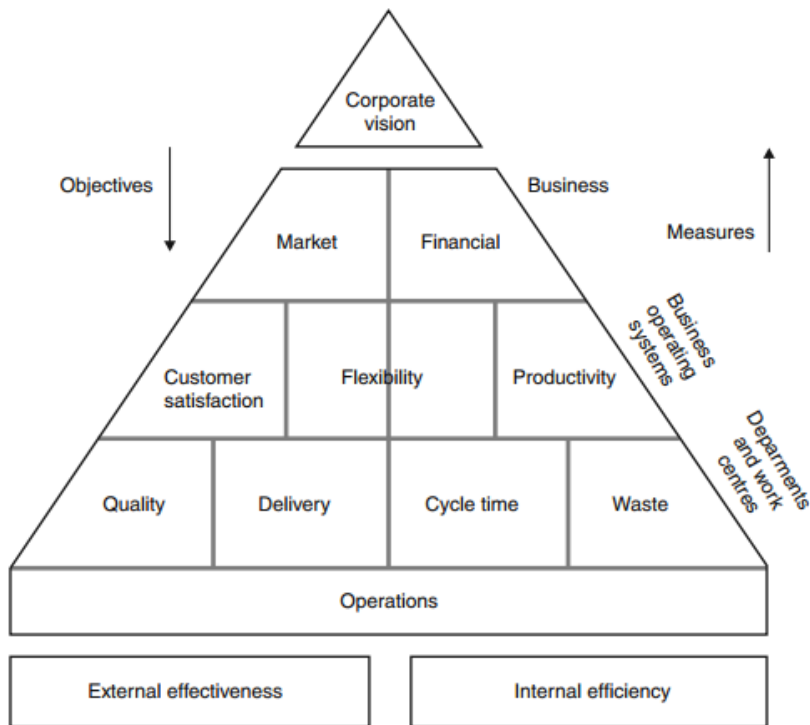
Reference:

Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Harvard Business School Press.

**APPENDICE 6.**

**PERFORMANCE PYRAMID – this is an original model of Lynch & Cross (1988) and it was used as a prompt in interviews**

(Lynch & Cross, 1988)



Reference:

Cross, K.F., & Lynch, R. (1988). The "SMART" way to define and sustain success. *National Productivity Review*, 8, 23-33.

Service design is increasingly applied in different organizational contexts as a human- and customer-centric development methodology. It provides value to companies by providing an in-depth understanding of the customers and their needs in societies where market needs change rapidly. This understanding supports organizations in the development of new services. However, applying service design in organizational contexts is not straightforward. The organizational working cultures in addition to the existing practices and processes may collide with the agile design approaches.

This dissertation research explores what is required for an organization, to transform its working culture towards human- and customer-centricity, in order to enable the efficient integration of in-house service design. The study was conducted as a multimethod qualitative case study of a multinational manufacturing corporation where engineering-based and technology-oriented cultures thrive. The novelty of this dissertation lies in the developed framework that considers individual and organizational change aspects to get an organization's working culture to change towards human- and customer-centricity. This, in turn, enables the more efficient integration of in-house service design.

