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**ORGANIZATIONAL TRANSFORMATION THROUGH IN-HOUSE
SERVICE DESIGN: A CASE STUDY OF A MULTINATIONAL
MANUFACTURING CORPORATION**

by

Krista Korpikoski and Satu Miettinen
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Chapter 10

Organizational Transformation Through In-House Service Design: A Case Study of a Multinational Manufacturing Corporation



Krista Korpikoski and Satu Miettinen

Introduction

Traditionally, product development, especially in the area of manufacturing industry, has 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). Hence, product development actions are usually focused on the object-related functions of usability and form, and are not viewed as processes of change, nor design in itself as an active intervention that creates change within an organization (Meurer, 2001). However, an organization’s internal operations, such as research and development (R&D) processes and activities, may be closely linked to its overall customer experience and service experiences (Junginger, 2008; Yu & Sangiorgi, 2018). In addition, they affect employee experiences in the phases of service development, implementation, and delivery of newly developed services and end-to-end processes. Yet, transforming into a customer-centric organization might be a tough call for engineering-based corporate cultures in the context of the manufacturing industry. This can be 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). Therefore, this chapter concentrates on discovering how service design as a new in-house methodology and practice

K. Korpikoski (✉) · S. Miettinen
Faculty of Art and Design, University of Lapland, Rovaniemi, Finland
e-mail: krista.korpikoski@ulapland.fi

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supports the transformation from an expert-driven organization to a more human- and customer-centric one.

In academic literature, organizational transformation (e.g. By, 2005; Bustinza et al., 2017; Francis et al., 2003) and especially change management (e.g. Kotter, 2007; Lauer, 2010; Paton & McCalman, 2008) are well-covered areas. They are mainly treated in the area of organization and management studies. Since in-house service design is becoming more commonly used, it inevitably starts changing service systems and organizations by bringing in human- and customer-centric working cultures. Hence, more focus should be put on combining organizational transformation and change management studies with design research. Such understanding would increase organizations' understanding of the meaning and benefits of in-house service design as well as how to manage, lead, and support efficient use of service design. In addition, such understanding would increase knowledge of the required change aspects that organizations must put focus on at individual and organizational levels when moving towards human- and customer-centric working cultures. Therefore, this study discovers the under-researched area of service design as an in-house development methodology by combining it with organizational transformation studies. The study asks:

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

The results of this research are based on a qualitative case study of a multinational manufacturing corporation, which has used service design as an in-house practice as a part of the R&D department since the autumn of 2014. Thus, the organization is seen as a valuable information provider. Twenty-six semi-structured interviews including 36 interviewees provide the data for this study. Interviews were conducted in 2018 at all organizational levels except for the chief executive officer (CEO) and shareholders. By then the in-house service design team had been within the organization for four years. The first author has a working background as an in-house service designer in the organization under study.

The data analysis follows coding methods according to the rules of Saldaña (2016) in addition to thematic analysis following the rules of Braun and Clarke (2022). As a result, we present that in-house service design has supported an organization's working culture to transform towards human- and customer-centricity through the change aspects of individuals and an organization. The individual change aspects consist of changes in individuals' attitudes, mindsets, and beliefs, which are achieved through experiential learning through service design. These form the preconditions for further organizational changes in terms of organizational paradigm transformation through strategy renewal affected by human- and customer-centric values.

Description of the Company Under Investigation and the Role of Service Design

The participating organization of this study employs approximately 60,000 persons globally and it is a matrix organization with over a hundred years of history in engineering and manufacturing. The role of services is based on sales, maintenance, and consulting services. Along with digitalization and the Internet of Things (IoT), the role of services has become increasingly important for the organization in the last decade. Hence, these changes within societies and increased customer demands have put services into a more central role. Before the use of in-house service design, product development activities followed Cooper's (2001) Stage-Gate process model as a project management technique and end-users of the products had mainly been the information sources for designers. Since 2014, in-house service design expertise and consultants' help have introduced human- and customer-centric development processes and activities. Customer in this context means business-to-business customers.

The role of in-house service design regarding service development is strategic in the organization under study. Service designers are located in the company headquarters to work side-by-side with key business stakeholders, management, and other departments such as marketing and information technology (IT). In addition, some country-level service designers have been hired. In-house service designers have an active role in the early phases of service development regarding customer research and the ideation and creation of new service concepts. Design actions such as co-creation and prototyping methods are used together with customers, frontline employees, and other internal stakeholders and experts. In-house service designers hold a strong communicative and facilitative role within the projects. They guide discussions with other project and business stakeholders and engineers regarding the current front- and back-end processes versus future visions. In addition, they provide strong support for management regarding decision-making due to understanding customer value in depth.

Theoretical Background

Service design is a networked bottom-up activity (Meurer, 2001, p. 52), which can contribute to front- and back-end business processes (Yu & Sangiorgi, 2018, p. 103) with the help of human-centric methods and skills (Junginger, 2008). As a human- and customer-centric holistic methodology, service design uses outside-in strategies in problem-solving activities (Andreassen et al., 2016; Junginger, 2008) and it leans on experiential learning and knowledge-building (Buhring & Liedtka, 2018; Kolb, 1984; Stock et al., 2018). Within organizations, service designers participate actively in creating and making changes happen through iterative development processes together with customers, users, organization's

partners, and internal stakeholders from different levels, units, and departments (Junginger, 2008; Miettinen, 2009). 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.

Transformation Design Embedded with Service Design

As a social practice, service design can be naturally seen to fit with the fields of social change and organizational studies (Sangiorgi, 2011). During the last two decades, design research has increasingly studied design's transformative role within organizations (Bate & Glenn, 2007; Buchanan, 2004; Junginger, 2008; Junginger & Sangiorgi, 2009; Kurtmollaiev et al., 2018; Sangiorgi, 2011; Trullen & Bartunek, 2007; Van Aken, 2007; Yu & Sangiorgi, 2018). Service design approaches that support shaping behaviours, processes, and organizations are conceptualized as transformation design (Burns et al., 2006; Sangiorgi, 2011). The focus of transformation design is not only on developing and shaping the final solutions but also on reinforcing abilities to brace sustainable innovation (Bailey, 2012; Terrey, 2013).

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 the 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 the behaviour of people, systems, and organizations, not just form, and they consider issues more holistically regarding high levels of systems thinking; (6) creating fundamental change since transformation design projects can initiate cultural changes of human-centeredness within organizations. According to Burns et al. (2006), transformation design is not a change management process, but participating in the design processes might help to move towards the desired outcomes. 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.

According to Yu and Sangiorgi (2018), service design impacts transforming both service systems and organizations. 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; it can affect stakeholders' perspectives and behaviours. Hence, service design can catalyse organizational transformation (Yu & Sangiorgi, 2018). This is also due to the skillset and toolsets that the designers hold (Yu & Sangiorgi, 2018). Bailey (2012) and Lin et al. (2011) support these arguments by bringing forward how service design can trigger changes in organizational contexts by incorporating human-centred cultures with design tools and knowledge. Andreassen et al. (2016) argue that service design can reform organizations since customer-driven service development practices require changes at the organizational levels.

Junginger and Sangiorgi (2009) elaborate on three levels where service design can have impacts and outcomes in organizations: (1) artefacts and behaviours regarding service interaction design – the impact will remain small or temporarily if improvements touch upon new or improved artefacts and hence, organizational norms and values are not questioned behind them; (2) norms and 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 and 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). Hence, 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. Service design causes changes in organizational mindset and practices (Kurtmollaiev et al., 2018). In addition, their study shows 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). Managers who start implementing service design 'should prepare for organization-wide transformation that includes changes in employees' mindsets and routines' (Kurtmollaiev et al., 2018, p. 71).

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). In addition, Liedtka et al. (2013) and Rousseau (1995) argue that the 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’.

Experiential Learning with Help of Service Design

The authors argue that before any transformation in organizations can happen, learning of individuals must occur first. Therefore, it must be considered as well. Research and development processes used in service design are similar to Von Hippel’s (2005) iterative learning cycle in product development and Kolb’s (1984) model of experiential learning. 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 Buhning and 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).

Research Design

This is a qualitative case study, which follows an inductive research approach. The concentration of the research is to find out the *what* and *how* (Yin, 2009). The results follow Yin's (2009) and Stake's (2005) definitions of context dependency since the topic under investigation is seen as socially constructed within its context, place, and time. The interviewees' statements have been interpreted as each person's individual and unique experiences of service design within the organization under study after four years of service design usage. Hence, interviewees' opinions do not represent official statements of the organization. This was brought up with each informant before data gathering. Hence, following Stake (2005) and Merriam and Tisdell (2015), the aim is to produce a better understanding of the phenomenon through participants' experiential knowledge, which is intrinsically bounded with the case in its real-life context, in this case, the particular organization, the multinational manufacturing corporation.

Data Collection and Participants

The organization under study was chosen due to the use of in-house service design expertise as a part of R&D projects since the autumn of 2014. Altogether, 33 semi-structured individual, pair, and group interviews were conducted in 2018 including 45 participants from all organizational levels except for the CEO and shareholders. Interview consent was collected from each informant before interviewing them.

In this chapter, the results are based on data from 26 semi-structured interviews including 36 interviewees. Eighteen individual interviews, two group interviews, and six pair interviews were conducted. Hence, 18 interviewees participated in pair and group interviews. Twelve of the 36 interviewees come from the R&D department. Twenty-four interviewees represent other departments of the organization. All

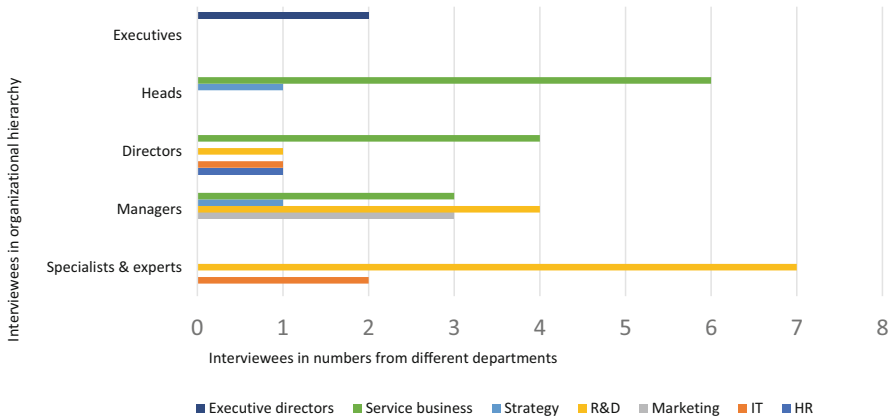


Chart 10.1 Description of the interview participants

of the interviewees were chosen based on their experience in service design projects. Both service designers and non-service designers were interviewed. The purpose was to get a holistic perspective and understanding of service design's impacts and involvement within the organization in addition to how it is perceived by stakeholders from different levels and departments of the organization (Chart 10.1).

The interviewees had an average of ten years of work experience in the organization by August 2018. Deviation from the average of ten years varied from four to 20 years of experience. Only a few of the participants had working experience from a few months to three years and one of the participants for 30 years. Demographics in terms of the interviewees' age were not gathered as their age was not seen as relevant information since service design as a methodology was new or fairly new for all research participants besides service designers. Half of the interviewees were female and half were male.

Data Analysis

Data analysis has been performed in three phases (Table 10.1). During the first phase, all 33 interviews were coded by the use of Descriptive Coding, Concept Coding, and Sub-coding methods by following the coding rules of Saldaña (2016). As a result, 1205 descriptive codes emerged, which were then categorized into 25 concept code groups. In the second analysis phase, the code group *Service Design Value* was chosen for further analysis. The content of the code group was categorized into ten sub-themes with the help of thematic analysis. In the third analysis phase, one of the sub-themes, *transforming business and working culture*, was further thematized. Then subheadings within the data were created to organize interview

Table 10.1 Journey of the research analysis process

Coding	Thematic analysis	Further thematization	Results
The 1st phase of analysing data	The 2nd phase of analysing data	The 3rd phase of analysing data	Interpretation of the content of a sub-theme
Used methods Descriptive coding Concept coding Sub-coding	Used methods Thematization of the interview content within a concept code group <i>Service design value</i>	Used methods Further thematization of a sub-theme: 1) Transforming business & working culture	Three subheadings including the interview content Synthesizing
Deliverable 1205 descriptive codes arranged into 25 concept code groups	Deliverable 10 sub-themes / text files	Deliverable Subheadings of the sub-theme	Deliverable Results written

quotations based on their meanings. Next, a synthesis of the topics was made to provide results.

Deriving Research Results

As described above, all of the conducted 33 interviews were coded into 1205 codes, which were then categorized into 25 themed concept code groups. All of the themes were derived from the codes. These formed the key interpretations for further data analysis. The data analysis was conducted in three phases: (1) coding, (2) thematic analysis, and (3) further thematization, which are presented and discussed next.

The First Phase of Analysing Data: Coding

During the first analysis phase, two coding rounds of the 33 interview transcriptions were done with the help of Atlas.ti – a qualitative data analysis program. Descriptive Coding, Concept Coding, and Sub-coding methods were used. As a result of the initial coding phase, 1205 empirical codes were created based on the Descriptive Coding rules of Saldaña (2016). The method offered a straightforward way to create descriptive nouns based on the topics discussed. Saldaña (2016, p. 105) states that nouns alone ‘may not enable more complex and theoretical analysis as the study progresses’. Due to this, the Concept Coding method was also used. Concept Coding provides an analytical task where so-called lumping can be done to create larger units of data (Saldaña, 2016). The method in this study helped to form macro-level concepts of micro-level nouns.

Since coding is an iterative and cyclical process, it is natural that the codes evolve as the researcher revisits the data. Hence, codes may become more focused (Gibson & Brown, 2009). This is what happened in this research. Sub-codes were generated to provide ‘further nuances within a given code structure’ (Gibson & Brown, 2009,

Table 10.2 25 Concept code groups

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

p. 142). As a result, third- and/or fourth-ordered tags, which work as siblings for the Descriptive Codes, were assigned to the codes to highlight more specific contexts of each code. This made further analysis and thematization of the data easier. Overall, as a result of the first analysis phase, 25 concept code groups were formed (Table 10.2).

The Second Phase of Analysing Data: Thematic Analysis

Thematic analysis was used as the analysis method in this phase. Following Braun and Clarke (2022), the concept code group *Service Design Value* of 208 codes formed the analytical entity and the conceptualized building block for thematization. The content of this code group was reviewed based on the descriptive codes within the code group. Commonalities in addition to differences and relationships were examined by following the rules of Gibson and Brown (2009). Revisits to interview transcriptions had to be naturally done to ensure further code grouping. Codes which included associated themes and meanings were grouped. Then headlines were created for each group to identify implicit and explicit ideas of the data as guided by Guest et al. (2012). The formed headlines worked as sub-themes of the *Service Design Value* concept code group.

1. Transforming business and working culture
2. Knowledge-building and organizational learning
3. Service design's implications for the work of internal stakeholders
4. Impacting strategy and implementing strategy
5. Impacts on innovation capabilities
6. Impacts on competitiveness and differentiation
7. Impacts on brand value
8. Short- and 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 quotations of the named groups (sub-themes) were copied and pasted into ten separate text files. The headlines of the text files were as described above.

The Third Phase of Analysing Data: Further Thematization

Finally, after a few reading rounds, a text file (a sub-theme), *Transforming business and working culture*, was chosen to provide data for this chapter. This is due to the meanings, which answer the research question discussed in this chapter. All quotations were read through carefully. As a result, three categories were created to highlight the topics based on the meanings of the quotations.

1. Experiential learning through service design supports changing individuals' attitudes
2. Understanding the meaning and benefits of service design support changing individuals' mindsets and creating belief
3. Towards a new organizational paradigm through strategy renewal

Next, a synthesis of the content was made to provide results. These are presented and discussed next.

Results

Experiential Learning Through Service Design Supports Changing Individuals' Attitudes

Here, the first topic, (1) experiential learning through service design supports changing individuals' attitudes, is discussed related to aspects of change for individuals. The data set of this study showed that the process of changing attitudes from a technology-oriented engineering organization towards customer-centricity has not been straightforward. It became clear from the interviews that learning at the level of individuals, and thus, building knowledge and understanding, is required first to

change technology-oriented expert-driven attitudes towards human- and customer-centricity. Such learning experiences have been strongest by being part of human- and customer-centric projects where service design as a methodology has been in use.

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

Leaving the expertise, the fact that you know things, should dare to be left out altogether. Instead, listen. It took me three months before I realised how it happens. (n26)

I've had to put my hat on my hands and be humbler, so there has happened some change in my head to the direction of listening to customers even more. You start thinking differently. You're not just thinking of things from your perspective, but taking the opposite side and you start thinking of the problem first instead of the possible solution. (n42)

These statements show how people have started to understand through experiential learning what human- and customer-centric development means in terms of service design and how it is done. As a result of this, the attitudes of individuals have started to change, which has led to the realization of the transforming effect of service design. This becomes clear also in the interview comments below.

... 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)

Thus, based on the comments above, experiential learning of service design through service design projects has supported stakeholders to learn and understand what it means, how customer-centric work is done, and why it makes sense to develop in such a way. This has resulted in changing the attitudes of individuals, and hence, buy-in and 'pull' of service design within the organization have gotten created. Hence, service design has supported changing attitudes from technology-oriented engineering-based working cultures towards human- and customer-centricity.

Understanding the Meaning and Benefits of Service Design Support Changing Individuals' Mindsets and Creating Belief

Here, the second topic, (2) understanding the meaning and benefits of service design support changing individuals' mindsets and creating belief, is discussed related to aspects of change for individuals. The interviews showed that experiencing and understanding how to do human- and customer-centric development in addition to learning from customers about the customers and productivity issues of the organization have caused shifts in stakeholders' mindsets. As a result of

this, changes in thinking from technology-oriented mindsets towards human- and customer-centricity have started appearing.

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)

The data also showed that project rehearsals and pilots have been in a key role in creating belief in service design as a methodology. Based on the interviews, also the first official service design project has caused transforming experiences among the top management.

(...) 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)

We started with this listening and observation exercise, the service design exercise, then that was powerful and this was transforming our business. (n44)

(Name of a director) turned to the dark side and he became an advocate for service design. When he understood and internalised it (service design), saw and heard things, and how it has great power in all this, he started thinking it must be used as an exporter of the message in a company like this that only believes in the facts and the customer. (n12)

Hence, in addition to changing attitudes, the results showed that understanding the meaning and benefits of service design has caused changes in individuals' mindsets and created belief. Thus, from the perspectives of individuals, first, reserved attitudes towards human- and customer-centricity have started to turn into cooperative ways of behaving and acting through experiential learning of service design. Second, the mindsets have started to evolve from technology-oriented thinking towards human- and customer-centricity through understanding the meaning of service design. Third, understanding the benefits of service design has supported creating belief in service design as a human- and customer-centric development methodology and practice. These presented individual change aspects form preconditions for organizational change aspects since the acts of an organization follow individuals' thinking and acting. Thus, the third and last topic is discussed next in terms of the organizational change aspects.

Towards a New Organizational Paradigm Through Strategy Renewal

The data showed that once the attitudes, mindsets, and beliefs of individuals started altering, service design became a part of the organization's strategy. Hence, a transition towards a human- and customer-centric organizational paradigm started to happen, and hence, behaviours and decision-making started to change.

(...) 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)

It's about the ability to go deeper in understanding the customer needs, and the ability to help the organization to frame this feedback and what it means, in terms of, potential offering, service innovations, process innovations. (n30)

In addition, the interviews showed that the human- and customer-centric ways of thinking and behaving have increased courage in the organization. If before customers were met in the latter phases of product development, they are now involved regularly in the development of services since the beginning of the projects. Continuous inclusion of business-to-business customers in service development has supported the implementation of an outside-in strategy. However, shifting the focus towards human- and customer-centricity has challenged the organization's existing norms and practices.

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)

It has brought a whole new culture. (n27)

Outside-in and co-creation are strongly connected. (n25)

According to the interviews, the organization is now willing to apply service design across the full chain from service development to service delivery and operations as well as utilizing service design in the traditional product business. However, the interviews brought forward that despite the benefits of service design and the strong commitment from the top management, in-house service design has still not achieved a stable base culturally within the organization after four years.

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)

Hence, in terms of the organizational change aspects, the results show that in-house service design has supported transforming the organizational working culture by becoming part of the organization's strategy. Thus, the organizational paradigm transformation has begun. When human- and customer-centric values were built to be a part of the organization's strategy, the organization started increasingly to develop and innovate in such ways.

Discussion

Our results show that in-house service design has supported an organization's working culture to transform towards human- and customer-centricity through

change aspects for individuals and an organization. These mean changes in individuals regarding attitudes, mindsets, and beliefs, which are preconditions for further organizational changes. This is where experiential learning of individuals is essential in understanding the meaning and benefits of service design as a human- and customer-centric methodology and practice. When understanding of its meaning and benefits exists, changes in an organization can happen in terms of organizational paradigm transformation through strategy renewal affected by human- and customer-centric values.

Let us first discuss the individual aspects of change. Bartunek and Louis (1988) claims that before any organization can change, changes in attitudes, beliefs, and cultures must happen to support transformational changes. This study claims that individuals' attitudes, mindsets, and beliefs must change first to trigger changes in organizations and their working cultures. The results of the study show that changing 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 is due to learning in action and experiential learning, which are powerful contributors since learning happens most efficiently through the inclusion of internal stakeholders and units (Buhring & Liedtka, 2018; Liedtka, 2017; Kolb, 1984; Pinheiro et al., 2012; Stock et al., 2018). This creates commitment and ownership in addition to trust-building (Junginger & Sangiorgi, 2009; Sangiorgi, 2011) among in-house service designers and stakeholders. This, in turn, clears the path for socially sustainable and effective transformation within organizations in terms of human- and customer-centricity.

The results of this study 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 as well from technology-oriented thinking towards 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 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 where the path is cleared for socially sustainable ways of working when developing services and organizations. Such participatory processes support learning and thus, changing beliefs towards human- and customer-centric ways of working. Hence, these results support the views of Andreassen et al. (2016), Junginger (2008), Meurer (2001), and Sangiorgi (2011) 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.

In terms of the organizational aspects of change, Junginger and Sangiorgi (2009) and Sangiorgi (2011) claim that service design impacts in transforming organizations require a long-term commitment and genuine interest of an organization regarding transformative changes and transformation processes. The results of this study show that once the transforming experiences among the top management occur related to attitudes, mindsets, and beliefs, the next step is to consider the organizational paradigm through the organization's strategy and shared values. Thus, a transition towards a human- and customer-centric organizational paradigm is enabled.

Hence, based on the discussion, the findings of this study are in line with Kurtmollaiev et al. (2018) who argue that service design can become more than a practice, and it can grow into a powerful transformative force, which starts changing institutions. 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). We argue that in addition to changes in individuals and organizational paradigms through strategic renewals, norms and practices must also be developed accordingly to get human- and customer-centric working cultures to flourish. When norms at the level of people, processes, and systems are in place as human- and customer-centric standards of behaviour, human- and customer-centric practices and decision-making can start to flourish. Hence, a more complete transition in working cultures can happen.

Overall, the novelty of this study lies in the dimensions related to the individual and organizational change aspects, which in-house service design has supported to get the organization's working culture to transform towards human- and customer-centricity:

1. In-house service design supports changing individuals' attitudes from technology-oriented working cultures towards human- and customer-centricity. Here experiential learning through service design is the key.
2. Understanding the meaning of service design supports changing individuals' mindsets and understanding the benefits of it supports creating belief in service design. 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.
3. Through affecting individuals, in-house service design can initiate the transformation of an organization by becoming part of the organization's strategy, which starts the organizational paradigm transformation. Hence, the organization

can start implementing human- and customer-centric values through outside-in strategies.

Limitations

The following limitations of this study should be acknowledged. The data analysis was performed only by the first author who has a working background within the organization under study. There were no meetings to discuss the codes and findings of the data between the authors. Thus, research bias natural in qualitative research must be considered (Mehra, 2002). In addition, quantification of the content brought forward by the interviewees under the sub-theme of *Transforming business and working culture* 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. In addition, by whom and with what emphasis the content was brought forward were seen as valuable. Themization was done based on the similarities and differences between the topics. The results are based on the most repetitive topics and the topics that were brought forward with strong emphasis. The quotations brought forward in the results have been chosen in such a manner that they represent the content in the best possible way. In addition, the age of the interview participants was not gathered, which might affect the interpretation of the results. Despite the limitations, we believe that the data and data analysis provide a representative overview of the topics discussed in this study.

Future Research

More research would be needed regarding organizational transformation and service design management in terms of support structures, norms, and practices. This 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. Such understanding would be important not only for the manufacturing industry but also for other industries such as the automotive industry and transportation, which are going through significant changes in the Fourth Industrial Revolution, for example, regarding robotics and artificial intelligence. 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 emerging technologies, and organizations are in key positions in doing this.

Conclusion

In-house service design has supported an organization's working culture to transform towards human- and customer-centricity through the change aspects of individuals and an organization. Experiential learning of stakeholders is the key. Once understanding of the meaning and benefits of service design occurs, changes in individuals in terms of attitudes, mindsets, and beliefs can happen. These form the preconditions for change aspects of an organization, which are related to an organizational paradigm transformation through strategy renewal affected by human- and customer-centric values. Hence, according to the results of this study, in-house service design has affected the organization's working culture by initiating changes in individuals who then have initiated changes in an organization. However, we argue that human- and customer-centric organizational paradigms must also be supported by norms and practices accordingly to get human- and customer-centric working cultures to thrive. Once the norms and practices produce human- and customer-centric organization paradigms systematically and accordingly, a more holistic organizational transformation can take place. If this does not happen, the transformation of an organization in terms of human- and customer-centricity will remain incomplete.

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