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Digitalization of South Ostrobothnian companies

School of Management
Master's Thesis in
Strategic Business Development

Vaasa 2022

VAASAN YLIOPISTO
Johtamisen akateeminen yksikkö
Tekijä: Enni Mäkinen
Tutkielman nimi: Digitalization of South Ostrobothnian companies
Tutkinto: Kauppatieteiden maisteri
Oppiaine: Strategic Business Development
Työn ohjaaja: Annika Tidström
Valmistumisvuosi: 2022 **Sivumäärä:** 68

TIIVISTELMÄ :

Digitalisaatio eli lisääntyvä tietotekniikan hyödyntäminen on ajankohtainen ilmiö, joka vaikuttaa yhteiskuntaamme vahvasti. Digitalisaatio on vaikuttanut etenkin yritysten toimintaan, sillä se tarjoaa uusia ratkaisuja ja liiketoimintamalleja, mutta myös uusia haasteita vastata teknologian nopeaan kehitykseen. Suomalaisissa yrityksissä digitalisaation tasoa voidaan pitää aikaisemman tutkimustiedon perusteella hyvänä, mutta tavoitteita sen kehittämiseen ja parantamiseen on asetettu. Etelä-Pohjanmaan alue on aikaisemman tutkimustiedon perusteella kansallista tasoa alhaisemmalla tasolla digitalisaation hyödyntämisessä, minkä vuoksi aiheen esillä pitäminen ja ajantasaisen tutkimustiedot tuottaminen on tärkeää.

Tutkimuksen tavoitteena on tuottaa ajantasaista tutkimustietoa eteläpohjalaisten yritysten digitalisaatiosta ja lisätä aiheen näkyvyyttä. Tämä tutkimus tarkastelee digitalisaation roolin lisäksi myös digitalisaation mahdollistamaa palveluistumista sekä digitalisaation vaikutusta yritysten toimintaympäristöön, etenkin kilpailuun, verkostoihin sekä arvonluontiin. Palveluistumista lähestytään digitaalisena palveluistumisena, eli digitalisaation nähdään mahdollistavan uusien palveluiden ja palvelumallien luomisen.

Tämä tutkimus on laadullinen eli kvalitatiivinen tutkimus. Tutkimusaineisto kerättiin haastattelemalla kuutta Etelä-Pohjanmaan kauppakamarin valitsemaa vuoden digitaalista yritystä. Haastattelut toteutettiin puolistrukturoituina teemahaastatteluina. Haastatteluun osallistui henkilöitä yrityksistä, joilla oli vahva tietämys yrityksen digitalisaatiosta.

Tutkimuksen löydökset osoittavat, että digitalisaation rooli tutkittavissa yrityksissä on merkittävä, sillä se on tehostanut olemassa olevia, tai mahdollistanut täysin uusia liiketoimintamalleja. Digitalisaatio nähtiin yrityksissä perustavanlaatuisena osana yrityksen toimintaa ja strategisesti merkittävänä tekijänä. Suhtautuminen digitalisaatioon on etenkin johdon puolelta positiivista ja vahvaa. Tutkimus osoitti, että digitalisaatio mahdollistaa yritysten palveluistumisen erilaisilla digitaalisilla työkaluilla ja kanavilla, mutta palveluistumisen rooli nähtiin kasvavan tulevaisuudessa enemmän. Tutkimuksessa kävi ilmi, että yritysten liiketoimintaympäristön kannalta digitalisaatio on vaikuttanut etenkin kilpailuun, mutta ilmiön vaikutukset arvonluontiin tai verkostomalliin nähtiin ainakin vielä vähäisinä.

KEYWORDS: digitalization, digital servitization, business environment, South Ostrobothnia

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Title of the thesis: Digitalization of South Ostrobothnian companies
Degree: Master of Science in Economics and Business Administration
Discipline: Strategic Business Development
Supervisor: Annika Tidström
Year: 2022 **Pages:** 68

ABSTRACT :

Digitalization, the increasing use of information technology, is a topical phenomenon that has a strong impact on our society. Digitalization has had a particular impact on companies, as it offers new solutions and business models, but also new challenges to meet the rapid development of technology. Based on previous research data, the level of digitalization in Finnish companies can be considered good, but goals for its development and improvement have been presented. Based on previous research data, the state of digitalization in region of South Ostrobothnia is below the national level, which is why it is important to provide up-to-date research data on the topic.

The aim of the study is to provide up-to-date research information on the role of digitalization in South Ostrobothnian companies and to increase the visibility of the topic. In addition to the role of digitalization, this study also examines servitization enabled by digitalization and the impact of digitalization on companies' operating environments, especially competition, networks and value creation. Servitization is approached as digital servitization, which means that digitalization is seen as an opportunity to offer new services and service models.

This study is a qualitative study. The research material was collected by interviewing six digital companies of the year selected by the South Ostrobothnia Chamber of Commerce. The interviews were conducted as semi-structured thematic interviews. The interview was attended by people from companies with a strong knowledge of the company's digitalization.

The findings of the study show that the role of digitalization in companies is significant, as it has streamlined existing or enabled entirely new business models. Digitalization is seen as a fundamental part of the company's operations and a strategically important factor. Attitudes towards digitalization are particularly positive and strong on the part of management. The study showed that digitalization enables servitization with different digital tools and channels, but the role of servitization was seen to grow more in the future. From business environment perspective, the study showed that digitalization has impact on competition, but the effects on value creation or the network model were still small.

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1 Introduction

Digitalization has shaped our society and made it more cohesive and integrated than ever before. The change in our society has been so great that it is described as the digital revolution. The flow and the availability of information made possible by digitalization affect how we consume, pay, work, communicate and socialize. Digital revolution has also created new risks and uncertainties, while increasing the responsibility of data collectors and storers and emphasizing the importance of up-to-date legislation (Nesterov, 2020).

As our society has gone through and is still going through the digital transformation, so has businesses. In the manufacturing industry, the fourth industrial revolution, also known as Industry 4.0, refers to the integration of industrial manufacturing into digital technology (Vaidya et al., 2018). From a business perspective, digitalization has made the markets more volatile, which is why companies need to be dynamic and fast to respond to changing demand and competition (Jovanovic et al., 2018). However, digitalization has also made companies more efficient, as it enables companies to gather information about their customers and increase their understanding of how to add value to them. Data allows companies to speed up innovations and increase their likelihood of success (Knudsen et al., 2021).

Digitalization has also enabled the development of servitization. Although the shift to a service-centric model has long been recognized in the market, digitalization has enabled completely new service models and growth opportunities for small and medium-sized companies. (Reim et al., 2019). The perspective, which sees servitization and digitalization as strongly intertwined, is referred to digital servitization (Gebauer et al., 2021). Although digitalization and servitization have a strong mutual effect on each other, the phenomena have developed separately as areas of research and only recently has the link between them been recognized (Martín-Peña et al., 2020). More research on the relationship between phenomena is therefore needed. As the focus of this study is on digitalization, servitization is seen more as a phenomenon made possible by digitalization.

Digitalization can theoretically be seen as a key phenomenon that enables and develop servitization, as digital means change and enable new services and the ways in which services are provided (Martín-Peña et al., 2020).

Digitalization and digital servitization in companies are not possible to study in a vacuum, as companies operate as part of a market and an industry. Therefore, when looking at a company's digitalization, the broader picture, such as the market, competition, value creation processes, and stakeholders, must be considered. A broader review can build a deeper understanding of the drivers, challenges, and state of digitalization. The importance of the operating environment is also emphasized because this study is a regional study and therefore regional factors may also appear. When looking at the operating environment, the focus is also on how digitalization has affected it and possibly changed it.

1.1 Background of the study

Finland has generally been successful in Digibarometer, which compares the level of digitalization in different countries (Pajarinen et al., 2021). However, the position is not self-evident, as the development of technology and with it the pace of digitalization is accelerating rapidly. This puts pressure on ordinary companies, as digital change is ongoing. To obtain up-to-date information on how Finnish companies view digitalization and the role of the phenomenon in companies, more research is needed.

The area of interest in the study is the region of South Ostrobothnia in western Finland. The number of studies on the digitalization of companies in South Ostrobothnia is small. However, existing studies show that the level of digitalization is low in SMEs in the South Ostrobothnia region (Joensuu-Salo et al., 2017). Due to the rapid pace of digitalization, it may be that companies have changed their level of digitalization in recent years, especially as the pandemic has forced many companies to change their operations. For this reason, up-to-date research data is important.

According to the publication of Seinäjoki University of Applied Sciences (Joensuu-Salo et al. 2017), companies in South Ostrobothnia do not have enough understanding of what digitalization means and what the benefits of digitalization are. For this reason, the authors have emphasized the importance of raising awareness of the issue, which can be used to communicate the benefits of digitalization to companies in the region. They suggest that the solution to this is to increase the number of publications and events on digitalization and to raise the awareness on the subject.

Mainly, this study responds to the need to raise awareness of digitalization in companies in South Ostrobothnia. The study examines how companies view digitalization and what future prospects can be expected. This research increases the visibility of the topic and link digitalization as a phenomenon to companies in South Ostrobothnia.

1.2 Aim and research questions

The aim of this study is to investigate and increase the understanding of how digitalization as a phenomenon affects and what role it plays in the operations and business environment of companies in South Ostrobothnia. The research questions are:

What is the role of digitalization in South Ostrobothnian companies?

How has digitalization influenced the servitization of the companies?

How has digitalization influenced the business environment?

The study can be used to raise awareness of the digitalization of companies in South Ostrobothnia by researching success stories. The intention is that the research results would contribute to raising the awareness of companies in the region in the use of digital means.

1.3 The structure of the study

This study consists of five main chapters. The first chapter is an introduction that introduces the reader to the topic and background of the research. The introduction presents and justifies the need for research. The introduction also includes the aim of the research and research questions.

The second chapter discusses the theoretical framework of the study. The theoretical part of the study is based on scientific articles and research, as well as the literature on the topic. Firstly, it focuses on the theory of digitalization from a business perspective, as well as its researched benefits and challenges in business. After that, digital servitization is presented. Lastly, the focus is on the operational environment. The role of the theoretical framework is thus to provide a basis on which case companies are reflected and to look at similarities and differences in order to raise awareness of the digitalization of companies in the region.

Chapter three presents the research methodology. First, the methodology chosen for the study is presented and justified. The data collection method is then presented. This is followed by a presentation of the case companies selected for the study. Finally, the method of data analysis is discussed.

The fourth chapter presents the research findings in the order of the research questions. Thematic approach and quotations have been used to support the analysis in presenting the findings of the studies.

In the final chapter, conclusions and answers the research questions are presented. In addition, managerial implications and the limitations of the research are discussed and opportunities for further research are suggested. The structure of the study is presented visually below (see figure 1).

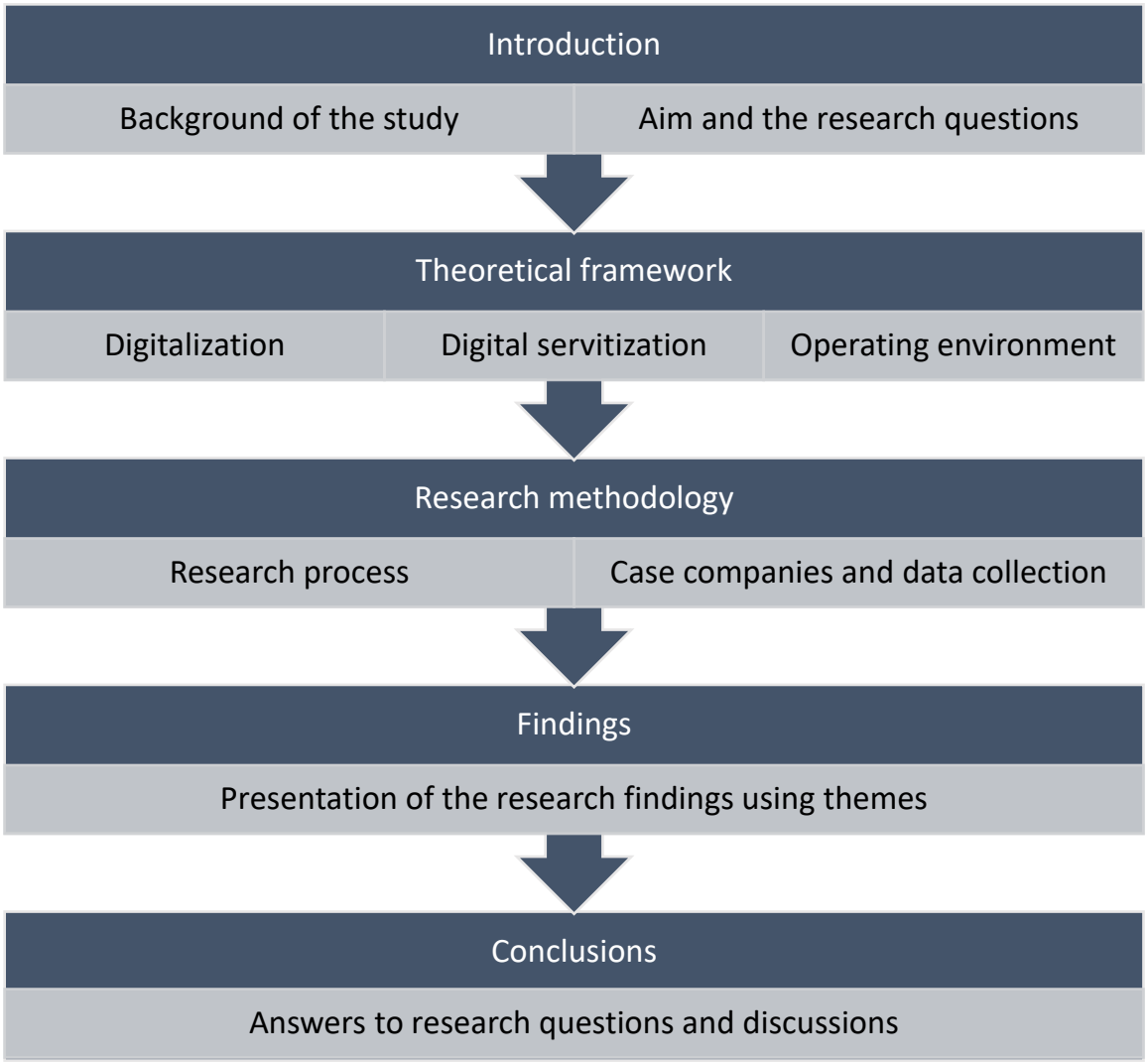

Figure 1 The structure of the study

2 Digitalization

2.1 Digitalization in business

The concept of digitalization is young and there is no generally accepted precise definition of it. However, it generally refers to the spread and exploitation of digital information technology. digitalization as a trend is relatively new, as it has had the greatest impact on both everyday life and business only in the 21st century. The number of academic research and publications on digitalization has been growing rapidly and the number of explanatory studies and publications and the young age of the discipline have made the field of research unstructured and complex (Holand et al. 2019).

Digitalization in business means not only that all old processes and practices are being digitized, but also that it enables the development and reorganization of old ways of working (Parviainen et al., 2017). Companies can be born to be digital, but in most cases, companies must go through a digital transformation journey, which means that companies must change their processes and strategy to be aligned with the digital revolution and the success of this transformation is for the most part, based on how people in the company adapts and commits to the change (Pachory, 2019).

Although digitalization has intensified competition between companies and put pressure on their cost structure and efficiency (Knudsen et al., 2021), it has also made much possible. For example, the digital revolution has brought about entirely new business models and value propositions (Rachinger et al., 2019). New technologies enable digital transformation, but this alone is not enough as the whole business must be reorganized to support digitalization (Truant et al., 2021).

The utilization of digitalization in Finland is measured annually with a Digibarometer (Mattila et al, 2021). The barometer compares 22 countries and ranks them according to

the extent to which digitalization is being exploited. Digibarometer measures three levels of digitalization: conditions, use, and impact in three different sectors: the enterprise level, the citizen level, and the public level. At the company level, Finland was fourth in the comparison in 2021. This is mainly justified by the utilization of cloud services, the advanced level of communication technology and the security of information networks. Compared to 2020, there has also been an improvement in the utilization of big data and in the technical features of websites. The Digibarometer showed that at the company level, Finland ranked 13th in terms of conditions, while in use, Finland was in first place. In terms of business impact, Finland ranked seventh. From this, we can conclude that Finland's conditions for utilizing digitalization do not reduce the utilization rate, but there is room for improvement in the impacts.

According to the Ministry of Economic Affairs and Employment SME Barometer (Larja & Räisänen, 2019), the degree of digitalization in Finnish SMEs is related to the company's growth, the improved situation compared to a year ago, and better expectations for the future. A total of 4,636 SME representatives took part in the barometer. In the barometer, companies were divided into the following categories: non-digital companies 29% used no or at most one tool. 57% of companies used traditional digital tools (home pages, social media, e-commerce, cloud service, online shopping) and at least two tools. 16% of companies use or plan to use modern digital tools. Modern digital tools include artificial intelligence, big data and the industrial internet. According to the barometer, the age of the company had no connection with the degree of digitalization.

In Finland, therefore, companies are usually willing to utilize digital tools. In companies in South Ostrobothnia, the effects are particularly clear. SEAMK's growth survey (Joensuu-Salo & Matalamäki, 2020) examined 273 SMEs in South Ostrobothnia. The companies were divided into three categories according to their growth, the first category being fast-growing companies with an annual increase in turnover of 20%, the second a moderately growing company with an increase in turnover of 5-19% and the last

a company with no annual growth of at least 5%. According to the study, in the comparison of categories, the competence in digitalization is at the highest level in fast-growing companies. In these growth companies, attitudes towards digitalization in product and service development were also more positive. According to the study, digitalization skills had a clear link to growth. Growth companies had more expertise and a desire to utilize digitalization in the development of their operations. According to the study, digitalization also had a direct impact on business success.

The South Ostrobothnia Competence Barometer (Tuuri & Katajavirta, 2021) also shows that the companies in the region have the greatest need to develop their personnel's competence for the next two years in management and supervisory work, as well as in digitalization. According to the Barometer, the greatest need for digital expertise in companies is in digital marketing and applications, customer management systems, and data collection and analysis. Specifically, the areas of digitalization in which respondents wanted to develop staff skills were keeping up with developments, raising awareness of new equipment and software, and general digital skills.

2.1.1 Benefits

Digitalization can have a positive impact on companies from many different perspectives. Especially savings and operational efficiencies are greater in firms with a higher degree of digitalization (Rosin et al., 2020). According to Sjödin et al. (2018) in manufacturing companies, due to digitalization production and processes can be continuously monitored and analyzed to defect and predict weaknesses or quality defects. They also present that process optimization can be used to optimize resources to achieve cost-effectiveness. Digitalization can be seen as an opportunity to streamline operations, increase competitiveness and meet the changing needs of customers (Hallstedt et al., 2020).

Other business areas can also benefit from digitalization. By digitizing data-intensive processes in particular, large cost savings and improved lead times can be achieved, but in

addition, digital tools also enable automatic data collection to further streamline processes (Parviainen et al., 2017).

In addition to streamlining internal processes, digitalization has also changed the company's external activities, especially in marketing and sales. In the age of social media, companies also need to join different social media channels to reach their target audience. Social media can be seen as a valuable resource that also allows small businesses to have broad visibility in larger markets that would not otherwise have been accessible (Bocconcelli et al., 2017). From a communication point of view, digitalization can enhance the company's internal and external communication through various digital channels (Loberg, 2021). In addition to social media and marketing, the possibility of online sales operations has offered companies new ways to do business. E-commerce differs from the traditional sales, especially in that e-shops are available online regardless of location or time. According to Nisar & Prabhakar (2017), e-commerce enables companies to gain competitive advantage, especially because it can lower costs, reach new markets, and balance the competition between small and large operators. They present that e-commerce enables more flexibility and faster responsiveness and allows access to new markets and customer bases that would not otherwise be possible.

Digitalization offers new market opportunities for companies. It can accelerate internationalization, especially for startups, as data can be used to better analyze market developments, which in turn enhances decision-making and strategy creation (Neubert, 2018). Data therefore enables new market opportunities to be exploited. However, it has been studied that the effects of digitalization on company performance are smaller for internationalized companies than for companies operating in the domestic market, therefore the benefits are greater in a familiar market. (Joensuu-Salo, et al., 2018).

A study by Rosin et al. (2020) shows that a high degree of digitalization increases market flexibility, allowing companies that take advantage of digitalization to have a good starting point to respond to rapidly changing market conditions. This is mainly due to the

improved communication with customers and the analysis of customer needs, but also to the fact that digital offerings can be modified faster than physical ones. It has been also studied, that sustainable competitive advantage made possible by digitalization, can also spread from the main market to other markets as well (Knudsen et al. 2021). This can happen especially in markets that are informatively close, where the same data advantages are valuable.

Digital change can strengthen entrepreneurship, as narrower markets, increased competition, and access to new markets can strengthen the motivation of entrepreneurs to innovate and increasingly take advantage of the digital transformation (Galindo-Martín et al., 2019). Digitalization can enable new opportunities, such as building completely new service models for customers. (Parviainen et al., 2017).

2.1.2 Challenges

While the benefits of digitalization have been identified, many companies are struggling to take advantage of it. Digitalization as a phenomenon is widespread and affects almost all companies in some way, but there is no single right solution for its successful utilization (Parviainen et al., 2017). In particular, the fact that value-adding factors are no longer physically visible in the same way can be problematic (Kotorov, 2020). In addition to traditional industries, digital companies are also facing challenges, as they provide digital solutions to other industries and companies, which is why their innovations also have a wider impact on the innovations of other companies (Khin & Ho, 2019).

Technology, especially in manufacturing, can be seen as a phenomenon threatening current jobs and ways of working which can cause resistance to change and negativity towards digitalization (Schneider & Sting, 2020). Digitalization can indeed affect work in such a way that process-specific functions are performed by the machine instead of the human. However, digitalization rarely leads to a reduction in the size of staff or facilities, but many roles in the work that require staff and facilities remain (Rosin et al., 2020).

However, it can be challenging to reorganize the staff especially if the capabilities do not match new tasks.

Although digitalization makes a lot possible, its changes to the operating environment can also disrupt existing traditional ways of operating (Parviainen et al., 2017). Constant change can present challenges, especially in how scarce resources can be allocated to experiment with new structural and strategic solutions (Bouwman et al., 2019). Rapid change and large amounts of different choices in decision-making can also put pressure on management and thus impair the well-being of managers at work (Zeike et al., 2019). Digitalization can also wake resistance in employees as it fundamentally changes the ways of working, which causes uncertainty (Frick et al., 2021). At the organizational level, resistance to digital change is a risk, as it indicates a reluctance to adapt business models to changes in the business environment (Mugge et al., 2020).

A significant factor influencing whether a company succeeds in digitalization or not is digital capabilities and know-how. A company can develop its digital skills, for example through training or by attracting experts to the house, but the company can also outsource or form alliances with stronger technology experts or service providers (Khin & Ho, 2019). However, it has been studied that before technical capabilities and digital innovation, the company's human capabilities and digital collaboration capabilities must be developed (Nasiri et al., 2020). This emphasizes the attitudinal starting point for the successful use of digital means.

With digitalization, companies have had to change their technological structure as it most likely has introduced different systems, platforms, and changed the entire IT architecture (Legner et al., 2017). One of the most difficult tasks in today’s digital environment is to identify which digital means and tools are necessary and for how long, as companies can no longer resort to a status quo where there is no need to change practices (Sacolick, 2019). The shift towards common integrated, trust-based systems can also provoke resistance in companies, especially if the systems are expensive or require information

sharing with partners (Hvolby, & Trienekens, 2010). As technology evolves, development must be agile, continuous waterfall-like development, as in businessess that are constantly changing their operations based on customer and market feedback (Sacolick, 2019)

Investing in digitalization on a smaller scale is likely to lead to revenue growth, but digital paradox occurs when increased investment in digitalization does not lead to corresponding business growth (Gebauer et al., 2020). It is therefore possible that companies' large investments in digitalization will not be reflected in turnover as desired. Kohtamäki et al. (2020) argue that digitalization paradox is due to the challenges that firms face in creating and acquiring the value of digital investment. They argue that digital systems alone are not enough, but digitalization need to be supported with appropriate organizational structure, and that digital capabilities need to be also focused to the micro level of the organization in order for systems to be deployed effectively. They argue that in order to prevent digitalization paradox, companies should take advantage of digital servitization, which can lead to positive return on large investments.

2.2 Digital servitization

Especially in manufacturing companies, value has been created with physical products and goods. However, the demands of customers and the possibility of growth have driven manufacturing companies to focus more on services to support their products and as a result, they either add services to their offerings or combine them with existing products (Pistoni & Songini, 2017). This phenomenom is called servitization. According to Sjödin et al. (2020), servitization is the transformation of processes, offerings, and capabilities in industrial companies and also their associate ecosystems in order to create, deliver and capture service value made possible by digitalization.

The shift from products to services has been identified and studied for decades, yet only in recent years have studies recognized the link between digitalization and servitization (Favoretto et al., 2022). The connection between servitization and digitalization has been

studied, and it has been found that the interaction between these has an impact on a company's financial performance. Kohtamäki et al. (2020) show that in manufacturing companies, the utilization of servitization in addition to digitalization leads to a better financial result. They argue that greater investment in digitalization should be supported by developing service levels, for example through more advanced service offerings, to avoid the paradox of digitalization through servitization. This also works in the other direction. Service companies can also improve their performance through digitalization, as by improving digitalization, servitization can indirectly increase profits and efficiency, reduce costs and strengthen the relationship with customers (Martín-Peña et al., 2020).

There are critical factors that contribute to the success of digital servitization. First, success requires a lot of knowledge and expertise (Tronvoll et al., 2020). In particular, the extensive prior knowledge of technologies, customers, and stakeholders collected by firms has a positive effect on the value creation generated by digital servitization (Paiola et al., 2021). Second, it is almost impossible for a firm to move toward digital servitization alone, but change must occur throughout the network in which the firm is involved (Tronvoll et al., 2020). The importance of networks is emphasized in particular by the fact that cooperation between companies serving digital services is no longer based on a hierarchical system, but rather on a partnership. Finally, firms should take advantage of opportunities for replication economies (Paiola et al., 2021). Data replication and sharing at low cost can create competitive advantages, especially when data sets can be built, enabling the creation of new services and service models (Tronvoll et al., 2020).

Digital tools such as the Internet of Things IoT and cloud services provide a foundation for companies to deploy more advanced services and features, enabling data collection and transfer, storage of large amounts of data, and data processing (Ardolino et al., 2018). Digital servitization allows companies to customize their own service business, for example, to make services more software-centric, enabling high-quality customer interaction by other ways than physical presence (Sklyar et al., 2019)

2.3 The impact of digitalization on the operating environment

2.3.1 Networks

Due to digitalization, companies have moved from a hierarchical model to a network and partnership between different actors, based on responsibility and trust, with an in-depth knowledge and dialogue of customer needs (Tronvoll et al., 2020). The characteristics of networks include that they are managed together without hierarchical power, by developing a goal and the actions that achieve it (Matinheikki et al., 2017).

Collaborative networks always have goals, which can be, for example, cost or risk sharing, increasing agility and innovation, or improving the market position that makes companies benefit from the networks. Businesses can therefore achieve benefits through networks that they cannot achieve on their own. These can include access to new markets without large investments, the opportunity to compete with larger players, and lower costs. The benefits of the network model are since companies are willing to share their own resources, intangible capital, and information with other network players. (Abreu & Camarinha-Matos, 2008).

To create a network that creates value for the benefit of all, it is important that the actors have complementary resources and reasonable similarities, such as a common knowledge base and a similar commitment to the network (Matinheikki et al., 2017). Common values and a similar ideology are also an important enabler and starting point, especially now that companies are actively participating in development of society in addition to or to achieve their business interests (Ritvala, & Salmi, 2010). For example, in platform-based networks involving manufacturers and service providers, networks can benefit all parties, as the data collected by operators can be used proactively to develop products and services, which can reduce maintenance or repair costs at a later stage (Tóth et al., 2022).

The term ecosystem has risen to an increasing role in business collaboration and has many similarities to the network model. However, a business ecosystem is referred to when different network structures form larger groupings or structural entities. According to Wulf & Butel (2017), an ecosystem can be seen as a more open and extensive system, with network structures that can contain smaller entities and information sharing can take place at lower levels. The ecosystem perspective is thus a broader approach to corporate network structures.

2.3.2 Competition

Due to the digital business environment, the nature of competition has also changed. It can be seen in two ways, either that it is more challenging to gain a competitive advantage or that digitalization can provide a more sustainable competitive advantage. Knudsen et al. (2021) suggest that the increased competitive advantage is because digital processes have increased the ability of companies to innovate. They also argue that companies with good adaptability can identify sustainable competitive advantages over competitors. However, sustainable competitive advantage, especially in the rapidly changing environment of the digital age and hyper-competition, can also be seen as unrealistic to achieve, but rather seen as temporary (McGrath, 2013).

However, it has been argued that digitalization leads to different results in different markets and the most important thing is not only to look at the nature of the competitive advantage, but whether the competitive advantage is self-reinforcing. Knudsen et al. (2021) argue that the combined use of a company's big data and network effects provide a self-reinforcing competitive advantage, as the larger the network and the amount of data, the faster it is possible to build an understanding of customers, their preferences, and their changes. They argue that this allows for a faster and more accurate response to the environment and its changes, which in turn strengthens the capacity for rapid innovation and its success. Digitalization and up-to-date data have thus enabled and secured the ability to innovate in an ever-changing competition.

However, the network model can create tensions between companies, as it raises the question of how the information collected is used and exploited and who owns it. In the network, operators can also use information for the benefit of competitors, and there may be competitors in the same network who may face challenges in the relationship between information sharing and competition (Tronvoll et al., 2020). Tension has been found especially in the knowledge sharing of platform-based collaboration, as it raises the question of data ownership (Tóth et al., 2022). This shows that the nature of competition in the digital age is different, as the number of actors and the relationships between them have changed.

2.3.3 Value creation

Digitalization is not only changing the way companies design their products, services, and whole business models but it also effects on the consumer role. According to Hanafizadeh & Kim (2020), consumers are now active part of this process as manufacturing companies shift from mass production to customized products and services to fulfill rapidly changing demand. The amount of digitized information has increased, and thus it has had a strong impact on customer behavior as customers are more aware of different options. Laudien & Pesch (2018) present that the competition in the markets has changed the power relationship towards the customers and because of this, more and more business models are moving towards customer-centricity. It is thus important to identify customer needs and modify the value proposition accordingly.

Digitalization changes the value creation of business models as value is created through the products and services companies provide to customers. By adapting digitalization to business models and utilizing it in more advanced customized or extended offerings, more value can be created (Parida et al., 2019). However, successful companies combine the needs of their customers with their own core business, rather than making easy growth with non-core products or services (Bjorkdahl, 2020). This combination ensures that the competitive advantage is sustainable.

Lenka et al. (2017) have identified the three most important functionalities that enable efficient value creation and value capture. These are data collection, connectivity, and analytics. They argue that these capabilities serve as the basis for value creation, as they increase the resources of suppliers and customers as well as the interaction of processes. They argue that these capabilities increase the depth and scope of interaction, through closer collaboration, and the ability to create added value through services through better customer understanding. This is achieved with real-time data, efficient automated reports, and data transparency.

Digital technologies help SMEs to develop their value creation, especially in industries where the company's brand and customer relationships are important for competition. Matarazzo et al. (2021) show that digitalization enables companies to improve the customer experience, increase information, and improve communications by integrating various distribution and communication channels. According to them, digital tools enable and increase entertainment, informativeness and sociality between the customer and the company in all areas of the consumer path, which adds value to both the customer and the company. This is in line with Grönroos & Voima (2012), as they argue that creating value in use for the customer is an ongoing process that emphasizes the customer's experience and role as a value creator.

2.3.4 Value co-creation

The attention of value co-creation originates from a significant study by Vargo and Lusch (2004) that identified a shift in marketing thinking away from products, toward processes such as services and value creation. The study emphasizes the importance of intangible assets such as skills and knowledge, interactions, and ongoing relationships. This orientation from producer to consumer is called service-dominant logic. Service-dominant logic emphasizes that value is generated between several different actors and the value is always determined by the beneficiary through the perceived value in use (Merz et al., 2018).

The change in value creation is strongly associated with the service-dominant logic. The traditional value creation process has involved the value of products and services being exchanged from producer to consumer in the market, i.e., the market was seen only as a location for value exchange rather than creating value in the market. Co-creation can thus be seen as displacing the exchange process. (Prahalad & Ramaswamy, 2004).

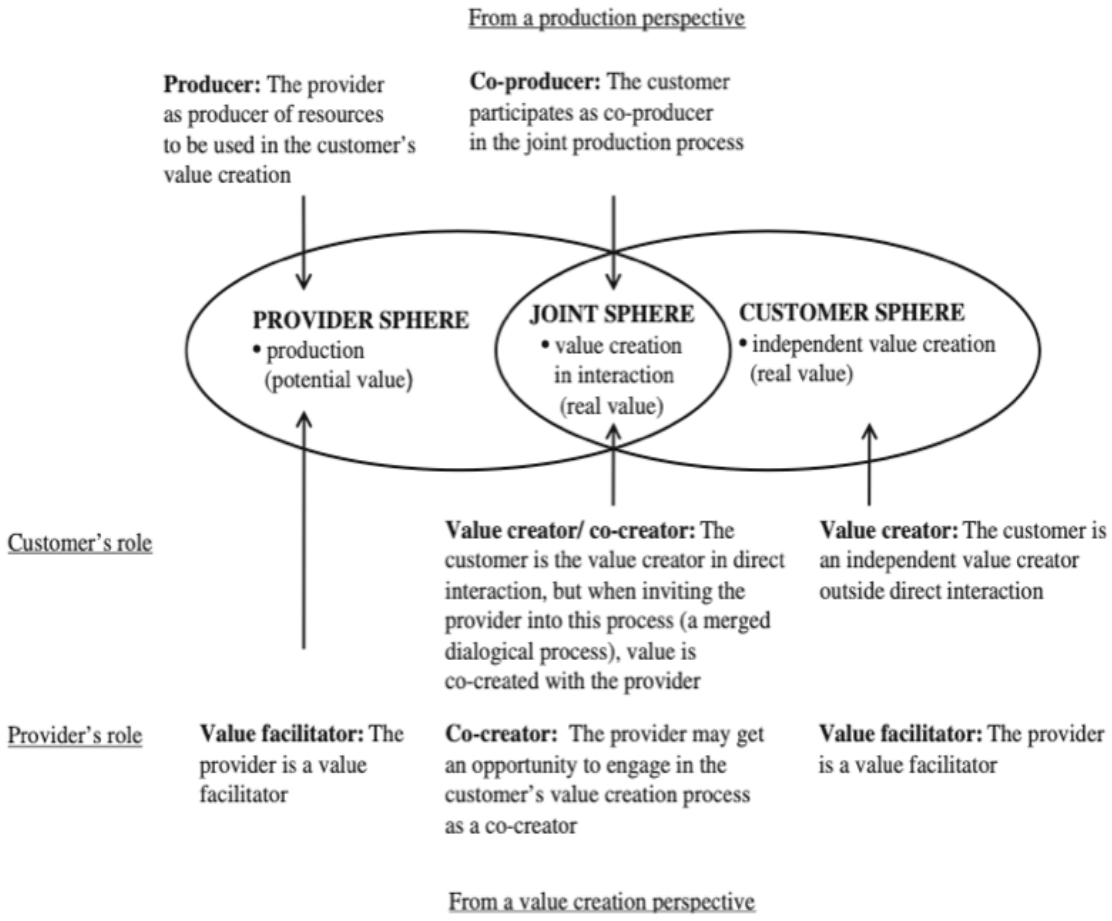

Figure 2 Value creation (Grönroos & Voima, 2012)

According to the study by Grönroos and Voima (2012), joint value creation can only take place in a common value sphere (see figure 2). This is important because based on this, a company cannot create real direct value for customers without direct interaction with the customer. A company alone can only create potential value in use, but that real value

in use is created by the customer. Based on this, they have emphasized the direct interaction between the company and the customer, so that the company can actively influence the creation of the customer's value in use.

Value co-creation requires companies to have a deeper understanding of their customers that can be achieved through interaction. When a company gets information about its customers and what they value, they can get new ideas for design and manufacturing. (Merz et al., 2018). The information that companies collect from their interaction with the customer can be considered strategic capital, as this information allows the company to innovate and create more value according to the needs of the customers (Ramaswamy, 2008). Thus, companies can gain a competitive advantage through co-creation of value. However, the company is not the only one that benefits from shared value creation, as the customer also benefits from being involved in creating value. For example, co-creation of value can bring an external value, such as financial value, or an internal value, such as enjoyment, to the customer, and these values experienced through participation have a positive effect on customer satisfaction as well as customer loyalty (Chen & Wang, 2016).

Especially because of the Internet and social media, the amount of interaction between customers and other actors is increasing, as online content is no longer used passively, but different actors participate in its creation and sharing together, in which case value creation also takes place together with other actors (Edvardsson et al., 2010). In an interactive digital environment, customer data resources and data analysis capabilities are emphasized, as these allow a company to leverage customer information in strategic decisions that can lead to better financial performance and marketing (Varadarajan, 2020).

2.4 Tentative theoretical framework

The background of the study can be summarized in below (see figure 3), which shows the relationships between the research themes. The starting point of the study is that digitalization cannot be viewed only as a single phenomenon but must be extended to

factors that are assumed to be relevant to the digitalization of the companies under study. This study examines servitization made possible by digitalization and the effects of digitalization on competition, the value process, and networks

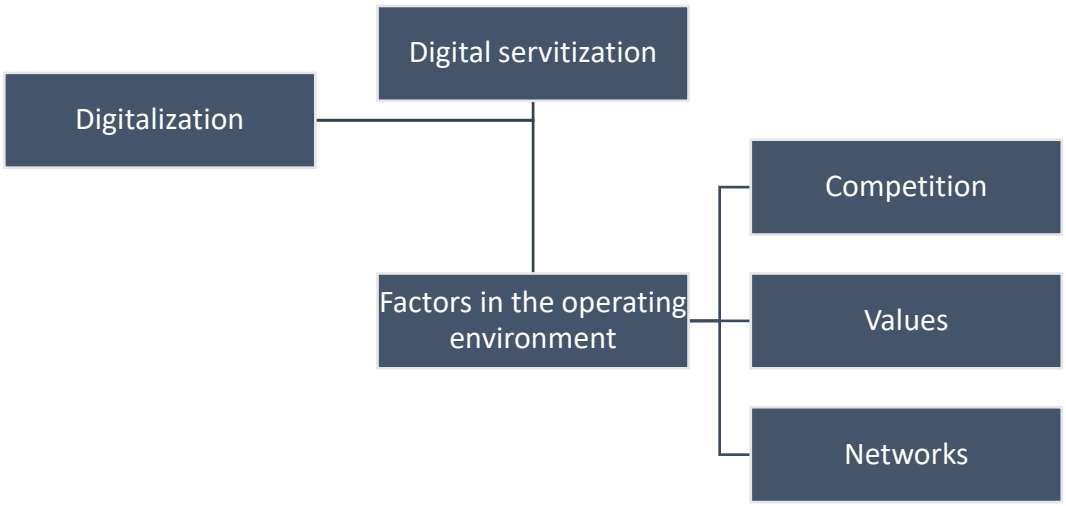

Figure 3 Tentative theoretical framework

3 Research Methodology

3.1 Inductive research approach

Inductive reasoning is used as the research approach of this study. This means that the researcher is interested in the themes, models, and functions found in the empirical data, rather than focusing entirely on pre-defined theoretical frameworks. For this reason, research questions can be formulated or redesigned during the analysis process, and the direction of research can change during the research process. (Eriksson & Kovalainen, 2015).

In inductive reasoning, the main emphasis is on the findings that emerged from the study. However, this does not mean that the existing theory is ignored, but that the theoretical framework is intended to give the researcher a preliminary understanding of the topic. The purpose of the inductive approach is to see different patterns, relationships, similarities, and regularities in the data set that can be used to construct conclusions. (Puusa et al., 2020).

3.2 Qualitative research

This study is a qualitative study. Qualitative and quantitative research differ in that quantitative research focuses on calculation and measurement, while qualitative methods focus on examining evidence to better understand the significance of an issue (Gillham, 2000). Qualitative research is based on the study and examination of subjective experience and vision and focuses on the examination of individual cases and emphasizes the perspectives of the participants (Puusa et al., 2020). Qualitative research emphasizes the role of subjectivity in the research process and aims to examine a small number of naturally occurring cases in detail and to use verbal forms of analysis instead of statistical forms (Hammersley, 2013).

Qualitative research seeks to understand reality through social and cultural meanings. Thus, qualitative research focuses on a holistic understanding of the subject matter, rather than focusing on statistical analysis or hypothesis testing. Qualitative research focuses on the perspectives, experiences and perceptions of the people involved in the research (Eriksson & Kovalainen, 2015).

3.3 Case study research

In a case study, the goal is to learn how a particular individual unique case works. The case may be an individual or a group, such as a company, or the case may be several cases, for example several companies (Gillham, 2010). One of the features of a case study is that it can present difficult-to-understand, complex business problems in a practical way. (Eriksson & Kovalainen, 2015). This study examines several companies, so it is a multiple-case study.

Companies under study are from South Ostrobothnia and were selected as the digital company of the year by the regional chamber of commerce. As the aim of the study is to raise awareness of the digitalization of companies in South Ostrobothnia, it was natural to select companies that are digital and awarded for the utilization of digital means. These companies can therefore be considered as research subjects with knowledge and experience of the research topic.

The winner companies are selected yearly by the ICT- committee of the commerce and proposals for candidates to this committee may be submitted by anyone. The size, industry, or location in South Ostrobothnia does not matter in the selection, but the most important qualities are ideas, realizations, and implementations for leveraging technology and digital means. In the selection process most important things that are considered are especially what digital solutions the company has used to maintain or grow its business or how it has been used to improve or create services or products, either for own use or the use of stakeholders. (South Ostrobothnia Chamber of Commerce, 2022).

According to South Ostrobothnia Chamber of Commerce, the most digital company of the year reward is given to encourage South Ostrobothnia companies to use technology and digital means. Until this day there have been six winners. These are Suomen Lämpöpuu Oy (2015), Jakamo Oy (2016), Finnsat Oy (2017), Minimani Yhtiöt Oy (2018), Emma's and Mama's Oy (2019), Epec Oy (2020) and Lakeuden Etappi Oy (2021). All companies participated in the study, except Suomen Lämpöpuu Oy, which had ceased operations.

3.4 Interviews as research method

Because qualitative research focuses on what happens in ordinary environments, interviews that are close to ordinary discussions are usually used as the data collection method. As a result, the data is often relatively unstructured. The aim of the interview is to discuss issues that are important for the research. The role of the interviewer in the interview situation is to encourage the interviewee to provide details and additional explanations so that the relevant information is revealed. (Hammersley, 2013).

The study seeks evidence for the topic under study, but it should be noted that no single source or piece of evidence is sufficient, and a valid result can be obtained using multiple pieces of evidence. For this reason, it is important to consider not only what the interviewee says, but also how he or she views the topic under study and how he or she reacts to the questions. In addition, other information, such as company documents, can be used to help determine whether they support other evidence (Gillham, 2010).

The research material to this study was collected by interviewing case company representatives in a remote interview. The interviews were conducted as thematic interviews. One of the features of a thematic interview is that it is assumed that the research subject has gone through a certain thing or process (Puusa et al., 2020). In this study, digital companies were selected for research, which suggests that they have experience in digitalization. The purpose of the thematic interview is to deepen the understanding of the

phenomenon and it is especially suitable for the study of the subjective perceptions of the phenomena (Puusa et al., 2020).

The thematic interview was chosen as a method to obtain answers as spoken by the respondent instead of providing ready-made answer options. The interview can be considered as a semi-structured thematic interview, as all respondents were asked the same questions, but not necessarily in the same order or with the same emphasis (Puusa et al., 2020). The purpose of the interview was to keep the discussion free, as the focus was on how the respondents perceive and react to certain themes. For this reason, the themes and related questions in the interview were predetermined, but in the interview situation, the discussion proceeded freely based on the responses.

3.5 Description of case companies

As the purpose of qualitative research is to provide a theoretical interpretation of the target phenomenon, focusing on experience, feelings, and thoughts of the subjects (Puusa et al., 2020), company representatives with a strong understanding of the digitalization of the case company were selected for interview. These were case entrepreneurs, CEOs, or individuals responsible for company's digitalization. The interviews were conducted via Zoom in February and March 2022 (see table 1).

Company	**Date of the interview**	**Duration of the interview**
Jakamo Oy	25.2.2022	41 minutes
Finnsat Oy	25.2.2022	25 minutes
Minimani Yhtiöt Oy	17.2.2022	39 minutes
Emmas Shop Oy	23.2.2022	40 minutes
Epec Oy	9.3.2022	41 minutes
Lakeuden Etappi Oy	24.2.2022	36 minutes

Table 1 Dates and durations of the interviews

The turnover and number of employees of the companies can be found in the table below (see table 2). The financial numbers are retrieved from Orbis database. The companies are presented in the table and in the subsections in the order in which year the company has won.

Company	Year	Turnover EUR	Employees
Jakamo Oy	2020	643 000	8
Finnsat Oy	2020	3 303 715	10
Minimani Yhtiöt Oy	2020	135 450 491	356
Emmas Shop Oy	2020	919 000	1
Epec Oy	2020	25 012 000	127
Lakeuden Etappi Oy	2020	22 205 426	42

Table 2 Financial data of case companies (Orbis database, 2022)

3.5.1 Jakamo Oy

Jakamo Oy is a technology company founded in Seinäjoki in 2012 that offers a single product, a cloud-based platform service, to manufacturing companies. Jakamo is a network platform for sharing information between companies. (Jakamo, 2022).

Jakamo has been selected as the digital company of the year by the ICT Committee of the South Ostrobothnia Chamber of Commerce in 2016. Based on the interview, the company itself estimates that it has won because all operations are digital and based on digital services. The company's customers are companies in the manufacturing industry, so the need for digitalization does not necessarily rise from the customer's needs, but the value brought by digitalization must be justified to the customers. The company has thus been a pioneer in bringing digitalization to this business area and market.

3.5.2 Finnsat Oy

Finnsat Oy is an import and marketing company for electrotechnical products. The company specializes in antenna and data networking and is the market leader in the field in Finland. Finnsat Oy's product range includes Antenna Products, Fiber Products, Measuring Equipment, AV Equipment and WiFi / WLAN products. The company has been in business for 50 years but was returned to private ownership in 2017. Throughout its history, the company has focused on the transmission of image and sound over various telecommunications networks. (Finnsat, 2022)

Finnsat was chosen as the digital company of the year, especially because it utilizes digital channels and opportunities in communications and marketing (Kohtanen, 2017). An interview with the company revealed that advertising, especially on Google and Facebook, had been strong during the winning year. The online store was already strong at the time and the systems were developed to be secure.

3.5.3 Minimani yhtiöt Oy

Minimani is an independent retail chain founded in Seinäjoki in 1986. Minimani yhtiöt Oy consists of hypermarket units. Minimani's range includes all the commodities needed for daily eating, consumption, well-being, and hobbies at a competitive price. The stores are in Jyväskylä, Kokkola, Lempäälä, Seinäjoki, Vaasa and Rovaniemi. Minimani's administrative and support services are in Seinäjoki. The company also has an online store. (Minimani, 2022).

The decision of the ICT committee was influenced by that Minimani is a smaller company than its competitors but has sought a determined and substantial competitive advantage in digitalization. Minimani has leveraged digital solutions to develop its operations and uses the latest technology to provide its customers with the best possible shopping experience. Especially energy-efficient and environmentally friendly refrigeration systems,

digital displays, shelf edge labels and automatic cash registers in Vaasa store affected the win.

3.5.4 Emma's & Mama's

Emma's and Mama's (Emmas shop Oy) is a retailer registered in 2015 that focuses on gifts and crafts. The company was first a small side job at various craft fairs, but the company grew with the establishment of an online store in 2014. The company also had a stone foot shop in Seinäjoki, but it was closed in 2021. According to the interview, the entrepreneur's main goal was always online shopping, and stone foot sales were not in the original plans. The logistics of the e-commerce are outsourced, but customer service takes place from the Seinäjoki office.

Emma's and Mama's was chosen as the digital company of the year, especially because the company has always used digital tools to develop its operations and shares its teaching, for example, on digital marketing in educational institutions in different areas. It was also awarded because it is a good example of how a small store in South Ostrobothnia can become a nationwide high-turnover growth company. (Sikkilä, 2019).

3.5.5 Epec Oy

Epec Oy is a system supplier company founded in Seinäjoki in 1978. The company focuses on the advanced electronics and programming of work machines and commercial vehicles. Epec has expertise in customized products, control systems, electric vehicle systems and assistance and autonomous systems. Epec has been part of the Ponsse Group since 2004. (Epec, 2022).

Epec Oy has been chosen as the digital company of the year because the company is an innovative, agile, and reliable expert in high technology and has a long lifecycle with its roots in South Ostrobothnia. The decision of the ICT committee has also been influenced by the fact that the company has been working long-term for decades and has become

an international player. The company also employs significantly in the electronics and ICT sector in South Ostrobothnia. (South Ostrobothnia Chamber of Commerce, 2020).

3.5.6 Lakeuden Etappi Oy

Lakeuden Etappi Oy is a waste management company that handles municipal waste management in South Ostrobothnia. The company is responsible for arranging practical waste management in the area of eight ownerships. The company's main tasks include emptying property-specific waste bins and slurry tanks, waste transportation, waste treatment, and waste management information and advice. (Lakeuden Etappi, 2022).

According to a press release from the ICT Committee of the South Ostrobothnia Chamber of Commerce (Hynynen, 2021), Lakeuden Etappi Oy was chosen as the digital company of the year in 2021, especially because the company has introduced a new RE-point and RE-App. RE-point is a new place for waste sorting and recycling in Seinäjoki, which has expanded the possibilities for transactions, as household waste can also be taken to a point outside the opening hours 24/7 as a self-service using the RE-app. The interview revealed that consumers generally handle their waste outside of opening hours, and with the new operating model, up to more than 50% of transactions take place outside opening hours. According to a report from the ICT Committee, this innovation has facilitated sorting and increased the desire to sort waste. In addition, according to the press release, Lakeuden Etappi Oy has also made good use of communication channels and influential markets to spread awareness of the new concept.

3.6 Analysis of research material

Qualitative research seeks to describe and explain what is being researched, thus the research design is more flexible than in a quantitative method. This shows especially in the data analysis phase, as the goal of the analysis is to create categories and themes instead of placing the data in pre-presented categories. (Hammersley, 2013). In this study, thematic design is used to create an overview. Thematic method in analysis means that

the emphasis is on themes and conceptual classes (Eriksson, & Kovalainen, 2015). It is possible to use different and varied techniques in the actual analysis, and there is no standard in how the analysis in a study should be done. (Hirsjärvi, & Hurme, 2008). In this study, data analysis was made possible by recording and transcribing the interviews.

In a case study, the analysis often begins with an analysis of an individual case. The next step in a multi-case study is to perform a cross-case analysis, in which cases are compared and differences and similarities between cases but also in theory are sought (Eriksson, & Kovalainen, 2015). In this study, the analysis already started from the interviews. In the interview phase, the researcher can already make observations if certain things are repeated or if completely different answers occur (Hirsjärvi & Hurme, 2008).

In this study, coding has been used in the analysis of the research material. This means that parts of the data relevant to the study are found, labeled, and organized based on their features (Hyvärinen et al., 2010). In this study, coding was done first by going through the transcribed interviews one by one, generating company-specific codes by highlighting relevant parts of the text. Then, by comparing the codes of different companies, considering the similarities and differences, it was possible to build upper categories that formed the themes. No computer programs were used in the coding process.

4 Findings of the study

4.1 The role of digitalization is multilevel

When looking at the role of digitalization, various themes emerged from the research material. Despite that the companies were different sizes and operated on different industries, there were many similarities. Biggest differences were due to the differences of recourses in larger and smaller companies, as smaller companies had less resources to take advantage of digitalization. Although companies had also different ages, there was no significant difference in how digitalization was exploited. The main difference was mainly that older companies have gone through a digital transformation process during which operations have become more digital, while some younger companies may have emerged to produce only digital offerings. The main themes that emerged are presented in figure 4 below.

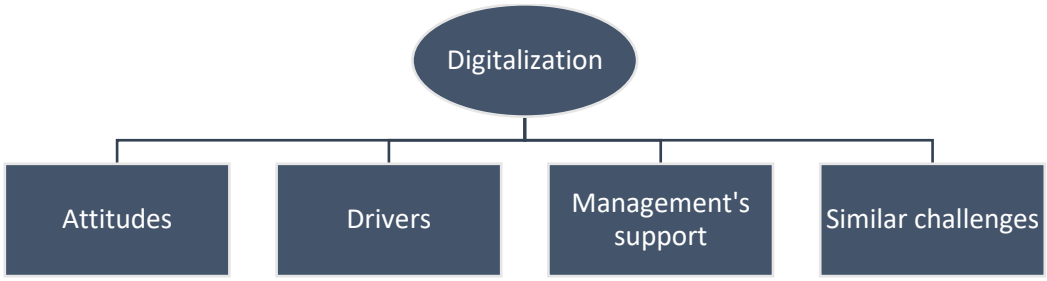

Figure 4 Themes of digitalization

The first theme that emerged both during the interviews and later when reading the transcripts was the attitude of companies towards digitalization. Digitalization was not only seen as an opportunity and a detached phenomenon but was seen as a holistic part of the business and the future of the company. Attitudes towards digitalization were evident in the interviews, as the respondents' reactions and style of talking about digitalization supported the fact that the phenomenon is reflected in all activities in the companies' day to day operations. Companies aim to utilize digitalization in all activities where it is worthwhile to utilize it in terms of benefits and costs.

"The whole activity is based on the fact that we have started to make a digital product that helps to digitize those processes, so it is really visible in everything … it's really part of everything we do."

"It has always been quite clear that all the benefits that digitalization brings will be introduced… everything that can be digitized will be digitized that it is like a starting point assumption that this world will change"

"The team is excited to adopt new and up-to-date ways of working and everyone has a desire to work as efficiently and as smoothly as possible in their internal operations"

The responses indicated that the degree of digitalization will change, as they are living in a transition and, in most cases, in the early stages of the digital journey. When asked about the current state of digitalization, most answers emphasized that the current state is fairly good, but there is still lot to achieve. Discussions focused on the pace of digitalization and continuous learning and development. The level of digitalization was never seen as complete nor there were attempts to achieve the status quo, but the interviewees saw that development is always ongoing.

"We are probably in the transition phase at the moment, we have jumped forward in the last two years and now at the time of the interview we are in a really big transition"

"Well compared to the competitors we are probably at a really high level but then so if you go outside your own small box then there is still a lot to develop then and of course we are working on it"

"We have been working on it, but we are still at the beginning of that path. Yes, digitalization offers opportunities"

"I would say that we are on our way today closer to halfway there but there is still a way to go, and we will probably not get to the perfect situation there."

Concretely, digitalization shows in various information systems used in companies. Each company reports on digital financial management, digital marketing, and process automation. Different ERP systems also emerged in the discussions. In ERP systems, the trend was seen to be shifting towards agile systems with components from different providers that meet the exact needs of companies. Large ERP packages were seen to be old-fashioned and a bit clumsy, especially if they had unnecessary features for companies. Companies preferred to choose parts of the ERP services for their specific needs. However, discussions revealed that the digital systems companies use may become old-dated quickly or may not work as intended or have not been fully implemented. Because digitalization is changing systems, integrations and practices also poses challenges to the functioning and connectivity of different systems. For this reason, the development of information systems is an ongoing task.

> *"It shows in such a way that we have a kilometer-long list of development projects all the time"*

> *"Digitalization shows in that our information systems are improved and developed and updated to serve the needs of our business"*

> *"This is a long-term development all the time, because we have not made a big upheaval at once, but when we notice that some corner is dangling, we start with what we could do there, it is more of a gradual development"*

Of the business models made possible by digitalization, e-commerce is used by many companies. In companies that uses e-commerce, it is either a full-time business model, or part of a business model. Data analytics and tracking were seen as a concrete tool in e-commerce operations. In addition, marketing and various social media tools emerged strongly in the discussions. Online marketing and tracking tools were seen as a cost-effective way to reach target customers. Integration expertise, in other words the ability to integrate operations to different platforms was also seen as a factor in the future that can enable more reach and sales.

“It is easier to boost the e-commerce business than a physical store business ... by reading the kind of analytics that digitalization brings, you can anticipate many things”

“In practice we are running Google, Facebook, Instagram, LinkedIn and YouTube Marketing at the moment, those channels are all in use to advertise and make a well-targeted marketing there and response and actually drive that traffic in and then when we get traffic in, of course we'll be monitoring that we're using analytics”

“I came across the phrase "the cheapest way to do marketing is to make yourself a phenomenon on social media”

Another major theme is drivers for digitalization. These are cost-effectiveness and resource savings, but digitalization was especially seen as a way to meet growth targets. Interviews revealed that digitalization is being used to improve agility and the ability to respond to a changing situation. Digital tools are used to streamline operations to meet customer needs and demand, but also to prevailing competition. The responses showed that companies are not aiming for explosive growth simply because of growth, but for growth that is profitable and sustainable.

“We seek efficiency, automation, and even agility, the whole company has to be agile so we can cope, we have built-in profitable growth, that is, not growth but profitable growth. When there is a highly competitive industry and we are a small player there, then our cost structure has to be low.”

“We need to find ways to meet the challenges effectively and in practice the only way to do that is by increasing automation”

“The inherent development of the company and the fact that we keep up with the technology”

“The industry is such that we must be at the forefront of technology to be at the forefront of providing”

“We have a pretty strong growth strategy, which then also means we need to strengthen digitalization in our own operations”

From a strategic point of view, a separate digital strategy is less often made, but digitalization is usually strongly linked to existing strategies. Digitalization was also considered

a default. Too closely linking a separate digital strategy or digitalization to the strategy was seen as problematic, especially as digitalization is changing at a rapid pace. For this reason, the long-term outlook is difficult to predict. Instead, companies saw digitalization as a starting point, either for all activities or in response to certain specific challenges. Digitalization was seen as a tool for strategic goals.

The third major theme was management support. Several discussions revealed that the introduction of and investment in digitalization has stemmed in particular from the strong will of the management and its commitment to the phenomenon. In some companies, the determined development of digitalization has started precisely after the change of management, by the new management.

> *"It happened at about the same time or with the change of management that the will of the new management certainly affected it"*
>
> *"of course, the company's management especially understands that it (digitalization) is a lifeline"*
>
> *"The administrative and management level has a very strong commitment to digitalization"*
>
> *"The management was very enthusiastic about the subject"*

Although attitudes towards digitalization are generally strongly positive, different perspectives also emerged from the interviews. Especially at the lower levels of companies, the role of digitalization may not be seen in the same way as by management, as business decisions are not made at these levels of the organization. This can lead to a lack of a positive attitude towards the introduction of digital tools, which can lead to inconvenience as policies change. When familiar practices are constantly changing and therefore there is continuous learning, it can be consuming for employees. If the workload increases with digitalization, negativity towards the phenomenon may increase.

“because of the violation of familiar ways of doing things, it certainly causes some kind of discomfort ... if you think about an ordinary person who is used to working in a certain way and changes all the time, then it's actually quite heavy”

“Well at different levels of the organization not everyone may always enjoy the fact that there will be new gadgets, but we try hard that they succeed. Sometimes it does sometimes it doesn’t”

In addition to the high workload presented above, continuous change also affects the organization more broadly. Change emerged as a big theme in the interviews when it came to the challenges of taking advantage of digitalization. In particular, the rapid pace of digitalization has made it difficult for companies to see which digital tools should be invested in and how multiple different development projects should be scheduled effectively. Time and resources - mostly money, also came to the fore. It was also seen as a challenge that companies must be always available. This can be an easy task for larger companies, but from a small business perspective it can be overwhelming.

“Probably the fact that when we don't keep up with the pace of development, we have to be fast and still be such a thin organization, the challenge is to cycle these projects in such a way that we can implement them responsibly and efficiently”

“Well, we are very satisfied from time to time then again a few years go ahead and then the thing is somehow outdated”

“Time and money are the biggest”

“We are on a growth path, so everyone has something to do anyway, pretty much their hands are full, so this requires a little prioritization so that there are suitable people for these projects as if to promote them”

Despite the challenges, when asked if digital tools had met the needs, the response was generally positive. Digital means, either as a target for a specific challenge, or as a general approach to a larger strategic goal, have been successful and have benefited companies in achieving those goals. Interviews revealed that there have been projects that have failed or not fully implemented, but still digital means are generally seen as a way to achieve goals and develop business and growth.

4.2 The potential of servitization has been identified

From the point of view of servitization, companies were aware of the growing demand for services and the change in the market towards a more service-oriented business. The importance of services was naturally emphasized, especially in companies whose activities were based on services, but also in companies operating in physical products and manufacturing, the increased number of services on offer has been identified. Companies recognized that the market is moving towards more flexible offerings, where, for example, ownership is partially replaced by leasing and large, rigid projects are replaced by solutions for a monthly fee. From the point of view of servitization, the following themes emerged (see figure 5).

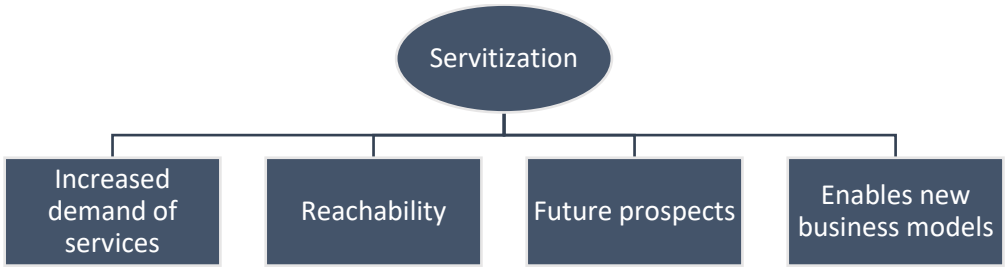

Figure 5 Themes of servitization

Companies are recognizing that the market is more or less shifting towards service and customer focus, regardless of industry. The pressure to increase services comes primarily from customers or the market. Some companies operating in the manufacturing industry emphasized soft offering, which means that their products enable end-user services. The role of services was seen to be emphasized in that fewer companies invest heavily in in-house solutions, but the trend has shifted to buying a particular solution to a particular problem from a service provider, saving the company resources.

> *"The market has shifted from owning to renting, so it can enable a lot of new things for us as well, also in a way that you buy a machine as a service, so you don't have to own it, but rather buy machine hours"*

"In recent years, it has been more the case that companies, rather than spending an awful lot of money and time on a big deal, prefer to buy a finished benefit or service for a monthly fee"

"It has been recognized for a long time that we should get more services, we are still behind on that, but yeah there is some work on that side as well"

"Soft offering is what we are talking about, so it is really important and then it is our role that we are able to make products which then allow it"

The pressure created by customers for faster and better service was highlighted in the interviews. This was seen as putting pressure on companies towards more digital service channels, but it was also seen as a challenge to innovate and create new service models. Companies felt that accessibility should also be improved outside of opening hours. The fact that customers can carry out tasks independently, for example at the cash registers, in apps or on social media, was also raised. Thus, customer patience in terms of service times and smoothness may be lower in the digital environment.

"The customer feels today that the company should be available at all times and that the delay with which you can respond to the customer is really short. Customers also assume that when it comes to digital channels, the company should be immediately available there"

"All the time the customer is given more opportunities to serve themselves, also because that is what customers want ... the pressure does not come from us but from customers"

"For example, we had opening hours on weekdays 11-18, 5 days a week so now that we have the app 24/7 now after half a year of use more than 50% of events happen on Saturday and Sunday which was not possible before"

Servitization as a phenomenon was seen as just beginning or increasing, but its importance was seen to increase in the future. Based on the discussions, the services may offer new types of business models and new revenue streams in the future. Of the new business models, consulting, and advisory services emerged.

At the moment, servitization had been identified, but the service levels were not yet at the level that companies might have seen fit for the market situation. However, it was seen as an opportunity to develop operations, improve competitiveness and even create completely new business models in the future. Based on the discussions, servitization may offer new types of business models and new revenue streams especially by consulting services, and advisory services. Thus, companies seek to utilize their own expertise not only in their own business, but also by selling expertise to others. Digitalization enables these services, especially through various platforms and communication channels.

4.3 Changes in the operating environment are visible

Digitalization has changed the business environment for companies. In the operating environment, the changed nature of competition, the importance of stakeholders, the change in the value process and the importance of the added value received by the customer were emphasized. Themes related to the business environment are presented below in figure 6.

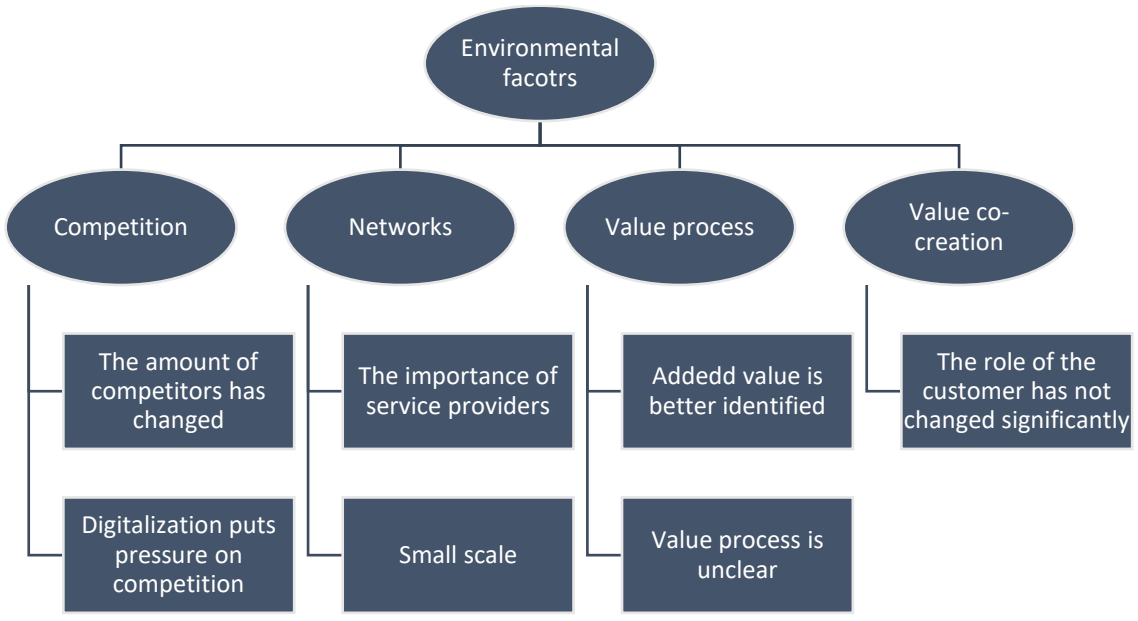

Figure 6 Themes of environmental factors

According to most interviews, digitalization has increased competition. Increased competition is especially evident in the fact that as a company digitalizes, for example through e-commerce, the reach is greater. This means with a wider customer base as well as wider competition. It was also pointed out that companies smaller than the largest players have been able to compete with the big players through digital means. For example, a stone-foot shop alone would not have access to such competition. However, the interviews revealed that the competitors were mainly within Finland and that international competition was not seen as topical, although digitalization has made a lot possible. The Finnish market was still seen as a bubble, but global competition was considered a possible scenario in the future.

> *"Of course, the main role of digitalization is to keep us involved in the competition and it is now, of course, that we have succeeded in the sense that we have really grown and are doing well."*

> *"With digitalization, there have been completely new competitors who had not been able to be classified as competitors in any way before, and then again it has been noticed that those who have not invested so much in digitalization are out of competition."*

> *"In the Finnish market, this is like a tense bubble wherever we are. There hasn't been much competition from abroad yet, but it will probably grow all the time."*

On the other hand, situations where the competitive situation is weaker also emerged. This may be because previous competitors have not kept up with digital means but have fallen out of development and can therefore no longer be considered competitors. On the other hand, there were also situations where the company's offering is so unique that there are no direct competitors. Digital offerings can also even be patented, so there is no competition at all.

> *"If I think my own hometown, those who have not had that online store have dropped out. A stone-foot shop alone cannot be made profitable today."*

Digitalization was seen to increase competitive advantage, especially through cost efficiency and risk reduction. The fact that the data can be analyzed and thus notice things

that were not previously noticed was also highlighted. It was seen as important that Automation or data analytics could be used to replace time-consuming routine work with truly value-producing activities.

From the point of view of business networks, the interviews showed that the number of service providers has increased slightly because there are different systems and tools that are bought from third parties. However, these ready-made solutions do not require a close relationship with the service provider and thus they do not seem to be included in the network or ecosystem. These actors were rather seen as strategic partners. From a network perspective, communication between companies and stakeholders became especially important. This is especially evident in the fact that most of the company's processes, such as orders, deliveries, and logistics, are mainly based on automation.

> *"We are like service providers but then they are practically pretty much like service products that are paid for with a credit card. That they do not require communication."*
>
> *"Our communication and transactions as between companies today take place quite digitally in every way that all information, orders and deliveries and all changes move today through a common system or between systems that information"*
>
> *"Maybe it's like networking towards customers, so through that we also collaborate where one of the motivating factors is our customer and there is at least a strong"*
>
> *"The Finnish market is so small that in such a way it is possible to follow each other and find solutions, yes, there are such common things as there are probably certain trends."*
>
> *"We have joint system projects where we work closely with customers and enable digitalization for end customers. Also in our supply chain, right from the suppliers, we strive to take our supplier choices, for example, in a way that takes these issues more into account."*

Although more networks were identified, companies did not yet talk about ecosystems. This is partly because the foreign stakeholders and partners of many companies were

still far behind in taking advantage of digitalization. This meant that supply chains were not integrated with each other, but that communication and cooperation still took place by traditional means. Ecosystems, if any, were seen as very small-scale.

In some cases, service and system providers were seen as an addition to the digital capabilities within the company. Interviews showed that companies have been successful in recruiting and there have been no major challenges in finding talent. However, there was a clear view in companies that external service providers are used to support in-house work. In particular, the use of external providers makes it possible to ensure up-to-date development without the company's resources being used for extensive development and learning.

> *"Today, the key systems are so embedded in the company's operations that service providers, of course, play a key role in developing the service, so they are as strategic partners as possible, because these things cannot be done without significant large systems."*

> *"if we talk about information systems, this cloud strategy is strong. We use, even if we have our own team of expertise here, strongly partners then both because the need is growing here as information system develop and therefore partner network and will certainly grow more"*

The role of customers has not changed significantly based on the interviews. However, a significant aspect from the customer's point of view is the accessibility made possible by digitalization. This was especially evident in the fact that customers have many channels to reach the company, such as social media, websites, and apps. The ability of customers to reach the company regardless of time or location was seen as creating added value for customers and a competitive advantage for the company. This was especially evident in companies whose customers needed help using a device or product or in the event of a failure.

> *"Of course, then in these other figures it is the speed of data transfer and that when it comes in digital form it can be controlled in such a way that the speeds in response to it are shortened and customers get a response or response to it quickly."*

> *"We have developed such channels of communication that where in a way everyone has access, and everyone sees it and it is so transparent"*
>
> *"Increasingly, devices that I would have ever thought of are being plugged into the net. Nowadays, when everything is connected online and can always be controlled remotely, it is possible to help the customer anywhere"*
>
> *"We provide a digital platform that supports good new practices that allows our customers to create value with one of their suppliers."*

Questions about the value process were the most challenging questions in the interview. The question was seen as difficult, and no in-depth answers could be gathered about the value process. The value process was either not thought enough in the companies or it was difficult to put the value process into words. This was reflected in the fact that the interviewees could not give a direct answer to the question. However, when talking about the value process, the biggest highlight was how to create added value for customers through digitalization. This is especially possible because the available accurate data on customers has increased. Although the added value experienced by the customer and the consideration of customer needs were emphasized when talking about value, the role of the customer was not seen to have changed and joint value creation was not seen to take place actively.

> *"Of course, it is clear that the better we know what the added value to the customer is, the better"*
>
> *"Through our mobile app, we see where customers come from, what time they do business with us, how long it takes and how it can be developed according to their real needs."*

However, it emerged that few companies do in-depth analysis of their customers. For example, the best measure of product sales was still seen as the cash register, which showed which products are most in demand. Digitalization was seen as a tool to ensure that the value proposition is delivered rather than the customer being involved in shared

value creation. Qualitative data on customers obtained through discussion and interaction was not seen as important, especially in companies whose main activity was related to the sale of products.

> *"It has given us perhaps better tools to make sure that we are actually able to deliver on our promises, that in principle it is as if the role of the customer has not changed in itself."*

Qualitative data from customers became important, especially in companies that were more service-oriented. On the other hand, there were situations where there was close communication with customers, but there was less quantitative and numerical data, which in turn negatively affected data analytics.

> *"There is a lot of conversation with customers all the time and there is a lot of discussion with potential new customers, so maybe it can be quite qualitative the information we get from it and it is often forgotten by some other companies, but then to supplement it would be good to certainly also have more quantitative direct analytic information"*

Thus, value creation can to some extent be considered as joint value creation with customers, as companies seek to increase their competitive advantage by adding value to customers. How value is created depends a lot on the company and who their customers are. However, what the interviewees had in common was that the prevailing trends and customer needs were more listened to maintain a good competitive position in the market. The creation of added value was therefore perhaps even seen as a necessity to succeed in the digital world and in a competition where no one can gain a long-term competitive advantage due to constant change.

5 Conclusions

5.1 The role of digitalization in South Ostrobothnian companies

The first research question was “What is the role of digitalization in South Ostrobothnian companies?”.

Based on the findings, the role of digitalization is significant regardless of the size, age or industry of the company, although larger companies had better starting points and resources for the wider use of digitalization. This is in line with the Economy's SME Barometer (2019), which also showed that the age of the company did not play a role in the level of digitalization. This indicates that older companies have been successful in digital transformation, i.e., companies have succeeded in changing their processes and strategies to be aligned with the digital revolution (Pachory, 2019).

The role of digitalization was particularly emphasized in that it was seen as part of all activities, strongly linked to the company's strategy, rather than being treated as a separate entity or activity. The role of digitalization was also evident in the strong will of management to a comprehensive digital transformation. This is important because digitalization requires structural change at the entire organizational level to succeed (Truant et al., 2021). Despite the strong will of management, some companies also recognized that at a lower organizational level, the ongoing change brought about by digitalization can produce inconvenience. Resistance to change towards digitalization is important to identify because it poses a risk to a company’s adaptation to a changing environment (Mugge et al., 2020) and causes uncertainty in employees (Frick et al., 2021). However, based on the interviews, the discomfort was focused on the change in work, and not on digitalization as a phenomenon, which was generally viewed positively.

Digitalization in the companies under study was strongly linked to the company’s growth and growth goals. Digitalization can achieve cost-effectiveness as well as operational ef-

ficiency (Rosin et al., 2020) and this was also evident in the data. Automation in particular was seen to increase efficiency and reduce resource use. All of these factors were linked to the company's growth, as companies almost always saw the role of digitalization as a means to achieve profitable and sustainable growth. This is in line with SEAMK's growth survey (2020), which states that digitalization has a direct link to a company's growth and success, but also that growth companies are more willing to take advantage of digitalization.

The role of digitalization was particularly emphasized in the fact that companies have either created their entire operations on a digital basis or created completely new business models through digitalization. This is particularly evident in e-commerce, as e-commerce has enabled companies to serve a larger customer base cost-effectively than would be possible in traditional ways. The benefits of e-commerce, i.e., cost-effectiveness, a wider market, and the opportunity to compete with players of different sizes (Nisar & Prabhakar, 2017) were confirmed in the interviews. Another business model that digitalization has fundamentally changed was marketing and its communications. All companies said they use social media in marketing, as marketing behind artificial intelligence was seen as cost-effective and consuming fewer resources. Social media offers greater market visibility (Bocconcelli et al., 2017) which can attract more customers. Especially in small businesses, visibility on social media was seen as a good marketing tool. However, the interviews revealed that instead of wide visibility, it is even more important to find the right channels to reach the company's target customers.

Keeping up with the pace of digital change requires a lot from companies. Specifically, it was reflected in many development projects, different systems, and systems development. Companies have had to change their entire IT architecture due to digitalization (Legner et al. 2017), but based on interviews, the challenge is especially that due to the rapid pace of digitalization, systems may become obsolete or no longer serve corporate goals. The development of digitalization and digital systems and tools was seen as a long-term process that will never end. Companies have internalized the waterfall model in

technology development and understood the importance of agility from the perspective of up-to-date technologies (Sacolick, 2019), but based on interviews, the phenomenon poses a challenge especially in prioritization, resource utilization, and project sequencing. As there is no right way to use digitalization (Parviainen et al., 2017), companies have to spend a lot of time and know-how to design and implement it. This highlights the need to take the time to leverage a company's human capabilities and digital collaboration capabilities before leveraging technological capabilities (Nasiri et al., 2020). However, based on the data, companies did not have any challenges in acquiring human capital and know-how, thus the starting point for agility are good.

The role of digitalization in companies was seen as significant, but at the same time it was recognized that digitalization as a journey is only at the beginning and its role will be increasingly emphasized in the future. This was shown in the interviews in that when discussing the level of digitalization of a company, the level and quality of utilization of digital tools and means was seen to only increase in the future.

5.2 Digitalization as enabler of servitization

The second research question was "How has digitalization influenced the servitization of the companies?"

Companies recognized servitization as a phenomenon and the increased importance of services in business. The companies whose activities were based on the digital service naturally represented those whose activities and service offerings have been made possible by digitalization, as without the digital platform it would be impossible to provide the service. In companies focusing on products and manufacturing, servitization was seen as a phenomenon that may be more relevant in the future. Companies seem to be waiting for the market to change more. The reason for this was seen to be that other actors were not yet at the same level of digitalization. This was evident from the fact that, for example, machine rental was seen to increase in the future compared to ownership. The fact that manufacturing companies are increasingly beginning to enable end-user

digital services also emerged. This supports the suggestion that it is impossible for firms to initiate digital servitization alone but requires change from the entire network in which the firm is involved (Tronvoll et al., 2020).

Servitization was considered to enable new business models in the future. The trend has been identified but has not yet been fully embraced, but to a greater extent, pressure from customers is also leading companies to increase the range of services they offer. Companies have recognized that customers have a growing need to communicate with a company through different channels, at different times than traditionally. Thus, a trend towards service-dominant logic in the market can be observed (Vargo & Lusch, 2004). In most cases, this customer need has led to the use of different digital communication channels and changes in service times, for example through self-service channels. Based on the interviews, the companies were ready to develop their services in the future even with new business models, such as adding consulting or instruction services or data services to their offering. Data replication and sharing, which enables new services and service models and thus a competitive advantage (Tronvoll et al. 2020), has thus been identified and will be emphasized in the future.

The fact that the service models discussed in the interview are mainly made possible by digitalization, and the fact that servitization is still relatively low but has been identified, suggests that digitalization has enabled completely new services or service models and future prospects for companies. This reinforces the view that digitalization can be seen as enabler of servitization (Martín-Peña et al., 2020).

5.3 The impact of digitalization on business environment

The last research question was “How has digitalization influenced the business environment?”

From a competition perspective, digitalization has played a role in the business environment. It has either increased or decreased competition. This supports the suggestion

that digitalization leads to different results in different markets (Knudsen et al., 2021). According to the interviews, the intensification of competition is due to the fact that digitalization has led to an increase in the number of companies' competitors, as it has allowed players of different sizes to enter the same market, regardless of location. In particular, the possibility of e-commerce (Nisar & Prabhakar, 2017) and the effective identification of change in market development made possible by digitalization (Neubert, 2018) allow for competition between actors of different sizes. The reduced amount of competition, in turn, was mainly since digitalization has provided either a unique competitive advantage that competitors are not at the same level, or that players previously considered to be competitors have not kept pace with digitalization and dropped out of competition. While this competitive advantage can be seen as sustainable, the rapid pace of digitalization and hyper-competition can quickly destabilize the competitive position (McGrath, 2013).

Although digitalization has been shown to enable internationalization and international growth (Neubert, 2018), target companies did not report increased international competition or a change in internationalization. The Finnish market was still seen as a bubble, partly because the rest of the world may not yet be at the same level of digitalization. This contributes to the suggestion that digitalisation enables better results primarily in familiar markets (Joensuu-Salo et al., 2018).

From a network perspective, companies reported little change in the operating environment. The network effects focused on the slightly increased number of systems and service providers, but otherwise stakeholders and partners have remained unchanged. Thus, a change to a network-like partnership instead of a hierarchical system (Tronvoll et al., 2020) was not reported. In particular, supply chains were not described as so integrated that one could speak of a network. This was partly since other players in the network were not at the same level in digitalization as in Finland. If supply chains, information systems and systems were integrated, the role or number of stakeholders has not been

seen to change significantly as solutions with a monthly fee require very little communication.

Although it has been recognized that the role of customers in value creation has increased with digitalization (Hanafizadeh & Kim, 2020), the phenomenon showed little in the interviews. Companies saw the role of the customer remaining the same and there were no direct answers to the value question. Mostly companies continued to focus on exchange value. This indicates that the value creation process has not been thoroughly considered in most cases. The exception to this was cases where the company is leading the digitalization of the industry, in which case the value proposition had to be explained to the customer. The fact that value-producing factors are no longer physically visible has been identified as one of the challenges of digitalization (Kotorov, 2020).

However, the interviews highlighted that companies aim to provide information on what adds value to the customer through digitalization, although in-depth customer analysis was less frequently performed. This supports the fact that digitalization enables better communication with the customer and thus enables information and sociality between the customer and the company in all areas of the consumer path, which adds value to the customer and the company (Matarazzo et al, 2021). It is noteworthy that communication with the customer and the resulting business changes reflect the co-creation of value (Prahalad & Ramaswamy, 2004). As for Grönroos and Voima's (2013) proposal for a common value sphere, the companies' responses were not entirely in line with the fact that real value would only be created by the customer.

5.4 Summary

The aim of this study was to investigate the role of digitalization in South Ostrobothnian companies and to examine what affects does the phenomenon have on servitization and the operating environment of the companies. The study responded to the need to raise awareness of the digitalization of companies in the region.

The study had key findings. First, the role of digitalization in South Ostrobothnian companies can be considered significant, as it has enabled new and supported existing business models. Digitalization had a positive effect on the growth and efficiency of companies and was generally viewed positively, especially by management. Digitalization was seen as a lifeline and all activities were viewed from the perspective of digitalization. This finding is in line with the researcher's initial assumption, as the target companies were rewarded for successfully exploiting digitalization. However, the researcher was surprised at how strongly digitalization was approached and how fundamental it was to the companies.

Another significant finding was related to digital servitization. The assumption based on the theory was that servitization would be more visible in the company's operations, especially as an increased number of services and a product-service combination. Its importance and trend were identified in companies, but at least not yet fully responded to, especially in product and manufacturing companies. Increasing the quantity and quality of services was seen as something that is still being developed or as something that will happen in the future. The importance of servitization can therefore only be seen to be emphasized more clearly in the future, as there is pressure from customers for increasing services.

The third main finding is the change in the operating environment. Digitalization had a significant impact on competition, but from a network perspective the phenomenon was not yet fully visible. Significant finding was also the views on the value process and value co-creation. Although the needs of customers were considered and the communication with customers has developed, value co-creation was still not fully identified. Although similarities with value co-creation were found in the data, companies' in-depth understanding of value co-creation often remained a perfunctory, as the customer's role in the value process was not identified to have changed. This indicates that in-depth reflection on the change in the value process is not currently taking place but that companies still rely on traditional exchange value.

5.4.1 Managerial implications

To keep up with the development of digitalization and technology, companies must constantly develop their digital capabilities and agility. Companies should also pay attention to digital servitization and consider, how increased demand for services will be reflected in the company's operations in both short-term and long-term. However, investment in digitalization and digital services needs to be carefully considered and in line with the company strategy to avoid the introduction of unnecessary digital systems and tools and to avoid the digitalization paradox.

Although the network perspective may not yet be relevant, companies should prepare for the digitalization of stakeholders and other actors and thus for the new opportunities offered by business networks. Companies should consider what their contribution and value to the network is and what network qualities they themselves seek to benefit from.

Companies should pay more attention to the value process, especially now when more data can be collected from customers and the interaction with customers is easier and more efficient through various digital channels. With an emphasis on value co-creation, companies should consider whether traditional exchange value is still justified in their operations or whether value should be created more together with the customer.

5.4.2 Limitations

There are limitations to this study. Firstly, the companies participating in the study were examples of digital companies that have been awarded for their ability to leverage digitalization in their operations. Thus, the study cannot be generalized to the entire region of South Ostrobothnia, as companies in the region may vary in terms of the the level of digitalization.

Secondly, in most of the interviews, the interviewee was alone representing the company, which can lead to narrow views. Although the interviewees were experts in the company's digitalization, the amount of data remained somewhat limited. The study thus provides a deeper understanding of the phenomenon in companies in the region than generalizations.

Third, there is a longitudinal limitation. As the study showed, the target companies are only at the beginning of their digital journey and thus the research data can quickly become outdated, in which case new research data is needed. Research data may not be up to date for long, as digitalization is evolving rapidly. However, this study may be used as a benchmark for new results in the future.

5.4.3 Suggestions for future research

Based on the study, the companies' in-depth understanding of value co-creation was limited, although it was somewhat evident from the data and similarities emerged. This area remained small in this study. Based on the theoretical part of the study, the importance of shared value creation is increasingly emphasized in today's business. For this reason, the aspect of value creation in the digitalization of companies would be another research topic of interest.

In addition, the network perspective of this study was limited, as it was not identified by companies as a relevant. The impacts of business networks should also be further explored because according to this study, The effects of the network model are not yet visible, but the situation may change as markets and stakeholders continue to adapt to and develop digitalization.

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Appendices

Appendix 1. Interview questions in English

1. Tell me a bit about your company
2. Your company has won the most digital company of the year recognition. Can you tell me a little bit about the background for that year and the factors that you think supported your win?
3. How does your company view digitalization? Is it seen as a positive, neutral or negative thing? What kind of feelings does the phenomenon evoke in your company? How is the attitude reflected in practice?
4. What digital tools do you use and how do you leverage digital tools in your business? Describe the current level of digitalization in your company.
5. Where did the spark come from to take advantage of digital means? What were the drivers and needs those digital tools in particular sought to address?
6. What has been your biggest challenges in digitalization?
7. Tell me about your company's strategy. How strongly is digitalization linked to it? Do you have a separate digital strategy?
8. Have the digital tools you use met your expectations and needs?
9. Has digitalization had an impact on your company's external operating environment and competition? Has the role of other actors changed in relation to the company?
10. Has digitalization affected your closest stakeholders and working with them?
11. Has your company's value process changed with digitalization, or have digital means rather supported an existing value process? Which actors are involved in the value process? Has the role of the customer in the value process changed and how would you describe it?
12. Has digitalisation created new business models or has it supported existing business models?
13. How would you describe the role of digitalisation in the balance between products and services? Is the operation become more service-oriented? How do you view servitization as a phenomenon and do you feel that it has an impact on your business now or in the future?
14. What kind of dreams or expectations do you have for the use of digital means now and in the future? How do you view the future in terms of digitalisation?