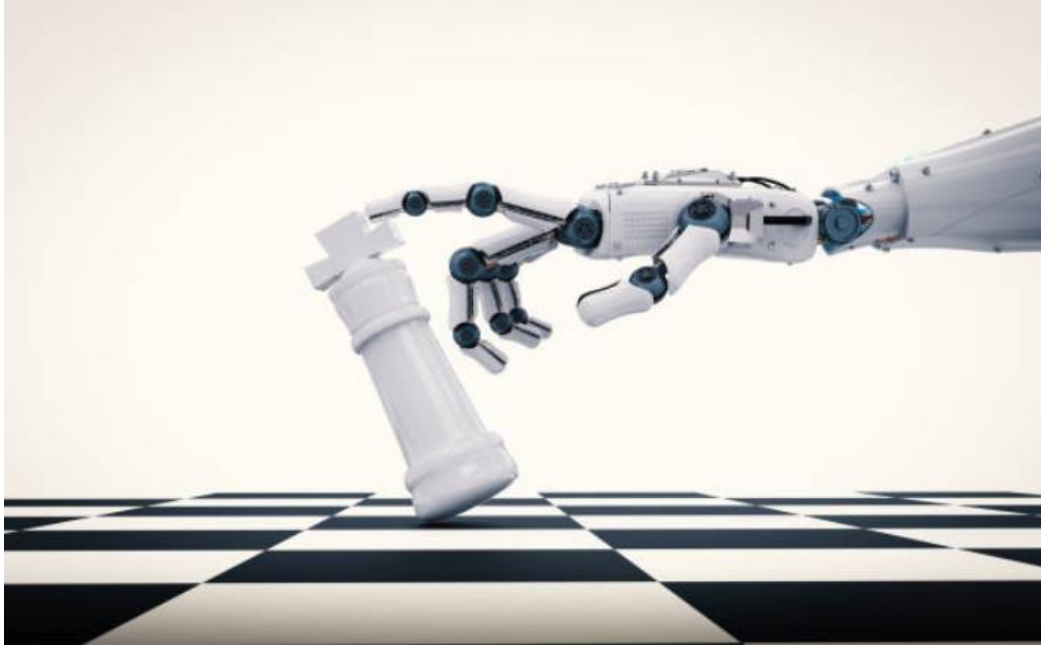




CHALMERS
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Exploring the Impact of Digitalization on Strategy Development

A Study of the Healthcare and Financial Sector in Sweden

Master's thesis in the Supply Chain Management

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Abstract

Digitalization, including for example Industry 4.0, is having a major effect on businesses across all sectors. How to adjust to these continuously changing circumstances, caused and enabled by digitalization, have become prioritized on an executive level. Digital development is rapid, with disruptive forces such as companies entering the market and established actors having trouble keeping up.

This study aims to investigate the impact of digitalization on strategy development. The thesis is based on theory about business networks, strategic development and supply chain management. The network model, Activities-Resources-Actor (ARA)- model, is used as a framework for identifying changes on a network, business relationship, and firm level. In this explorative study, two different sectors were studied: the financial and healthcare sector in Sweden. These sectors were selected based on that they were presumed to be different with regard to their degree of digitalization. The study is mainly built on twelve interviews, six interviews for each sector, including both case companies and industry experts. Based on the findings and analysis, a framework on how to adapt to the occurring changes has been developed.

The findings show that it is possible to notice a correlation between digitalization, contextual and enabled factors, which are influencing each other. Contextual factors include regulations, urgency and competence and are all aspects that have to cohere with the enabled factors, due to digitalization. The enabled factors are technological development, increased information flow and changed substance. Furthermore, these three aspects have in relation to each other, had an influence on the market and various business networks in particular. When investigating the impact of digitalization on the financial and healthcare sector, some common patterns are identified. The patterns found are *new actors*, *increased standardization*, *increased transparency*, *increased collaboration*, and *higher customer expectations*. Based on these patterns, three strategic approaches are suggested as a way to reposition a firm in order to thrive in a changing business environment. The strategic approaches are an *adaptive business approach*, *optimize processes*, and a *data-driven approach*.

Keywords: *Digitalization, Strategy Development, ARA model, Business Relationships, Business Networks, Healthcare Sector, Financial Sector, Supply Chain*

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1 Introduction

This chapter will describe the background of the thesis and why it is of importance. Thereafter, the problem discussion is presented followed by the purpose and research questions. Lastly, the structure of the thesis is presented.

1.1 Background

During the last two hundred years of human civilization, there have been several industrial revolutions. The first industrial revolution came with the development of the steam engine, while the second comprised of the enablement of mass production (Kučera et al., 2018). The third industrial revolution, also called Industry 3.0, is argued to be the start of the digitalization era due to the introduction of computers and automatization (Kučera et al., 2018; Marr, 2018). As a global society we are currently at the beginning of the fourth industrial revolution, Industry 4.0, which is built upon Industry 3.0 and involves communication between computers without human involvement (Marr, 2018). Human involvement may not be necessary due to the use of artificial intelligence, machine learning, internet-of-things (IoT), and other technology developed in the digital era, called Industry 4.0 (Marr, 2018). This fourth industrial revolution is argued to be the most significant so far since it has an impact on all business areas across every industry (Deloitte LLP, 2017). It will transform the design of products and production systems, therefore change the way businesses operate and manufacture (Rüßmann et al, 2015). Related, there have been numerous discussions about digitalization and about the information age at the societal level, see for example at the World Economic Forum (2019), United Nations (2019) and United Nations (2017). Even though this revolution has opened up for many new technologies and thus business opportunities, this may just be the beginning, and far more is to be expected (Deloitte LLP, 2017).

From the start of the 1900's until the 1950's, it was only necessary to improve internal shop floor processes in order to be competitive (Olhager, 2012). From the 1950's and onward the necessity for improvement expanded to the whole supply chain and more complex improvement processes emerged (Olhager, 2012). This continued evolution of the supply chain is very much a reality of today's environment. A supply chain is, as used by Greening & Rutherford (2011), the flow of information, materials, and finance into and out of an organization. This may or may not include the refinement of these flows. A supply network, on the other hand, describes the interconnections of and between supply chains that share common nodes. These networks are built up of business relationships, which in turn are established to accomplish a competitive advantage on the market (Greening & Rutherford, 2011).

Due to digital development, many supply chains and supply networks have been disrupted by new actors changing the structure of the networks through the establishment of new business relationships, which also could lead to termination of other relationships (Greening & Rutherford, 2011). Digitalization has changed and disrupted many industries through the

enablement of new technology (Skog et al., 2018). Having new as well as established businesses utilizing digital innovations has changed many of the traditional ways to operate. Uber, Airbnb, and Spotify are examples of companies that, through digital innovations, disrupted the markets in which they entered. Digitalization has enabled new actors to enter markets that previously have been monitored and controlled by a few established businesses. These new types of actors can be referred to as digital disruptors (Skog et al., 2018). The digital disruptors have led to increased awareness across all industries, where the fear of falling behind or getting disrupted due to digital development have made digitalization a focus area for many CEOs (Haase et al., 2017).

Sweden belongs to the top countries in the world when it comes to digital technology and digital solutions (OECD, 2018). The ability to embrace digital solutions and adapting to digital transformation has been a major driver for the past years' economic growth in Sweden (OECD, 2018). According to a study made by Averstad & Westerberg (2017), 95% of top executives in major Swedish corporations have ranked digitalization as one of their top strategic priorities. Using digitalization as a supportive department in an organization, such as an IT-department, has come to be a part of the core business and an integrated part of daily operations (Averstad & Westerberg, 2017). A study by Anderson et al. (2019) further corroborated the importance of digitalization, over half of their 1200 respondents argued that digitalization will have a significant impact on their industry in the next five years. The study also showed that companies quick to adapt are six times more likely to be digital leaders. Fast companies include those organizations that have a fast decision-making process and move quickly from experimental projects to full-scale transformation (Anderson et al., 2019). Valdez-De-Leon (2018) argues that one company's digital maturity tells what degree the company can leverage digitalization. Digitalization clearly affects all businesses to various degrees, but how to utilize digitalization for a company's advantage mainly depends on the company itself and how it's positioned in relation to other companies. Digitalization is a perfect opportunity for companies to create new business opportunities in and across business sectors, according to Valdez-De-Leon (2018). Though, how to utilize these opportunities depends on the digital maturity of the firm and supply chain partners in question. For a business to open up for opportunities in a new industry requires a mature organization in terms of digitalization. Furthermore, this determines how agile the company is to external changes and thus how fast the firm can adapt to new circumstances (Valdez-De-Leon, 2018).

According to a survey made by Koot and Wesselman (2019), about half of the companies within the financial sector expect their sector to transform radically during the next coming three years, which is above the global average. At the same time, the healthcare sector was located around the global average considering expected sector transformations (Koot and Wesselman, 2019). Gandhi et al. (2016) investigated the degree of digitalization in various industries globally and compared those to each other. Of course, the embracement and utilization of digital technology vary to a high degree within each sector but doing a generalization of a sector can indicate differences among the sectors. The survey showed that many assets across the entire economy have in general turned digitized, and looking at previous development, digital assets doubled during the period from 2001 to 2016. This is a trend

apparent across all sectors but to various degrees. Looking at 20 different sectors, the financial sector is ranked as number four considering digital advancement. Only IT, media and professional service ranked above, the fourth place implies a general forefront position within digitalization. These top sectors are assumed to be digitalized across most functions. Looking at the healthcare sector, it is ranked in the lower part of the table, at 16th place, only having hospitality, construction and agriculture ranked below. These sectors, including healthcare, are often highly localized and in some cases also public companies, which potentially could have led to a general lag in regard to digitalization (Gandhi et al., 2016).

One company that is focusing on the impact of digitalization is KPMG. Due to the increased demand for projects related to digitalization, KPMG has recently established a separate department dedicated to such projects, called DTI (Digital Transformation and Innovation) (KPMG, 2019). One service category offered by KPMG DTI is related to strategic initiatives in relation to digitalization (KPMG, 2019), which indicates interest from KPMG for this study. Furthermore, the fact that demand for consulting services related to digitalization has increased over the past years clearly shows the concern and importance of the subject in general as well. This forms the background to this master thesis, written on behalf of KPMG.

1.2 Problem Discussion

In a report by Bughin et al. (2019), it is mentioned that due to the disruptive economic force that digitalization has become, it is incompatible with traditional economic, strategic, and operating models. Due to the disruptive forces and the potential that digitalization brings to companies and their business networks, it is important to position the business in a way that benefits the most from other actors entering that network, i.e. quickly and proactively adapt to the changing network (Bughin et al., 2019).

Digital disruption is often considered as a sudden breakthrough, but reality shows new solutions often being available for a time before making a significant impact (Reimer et al., 2015). This clearly indicates that the digital solution itself is not enough, but instead how a company utilizes and adjusts to these innovations. Christensen et al. (2015) further discuss this topic through the statement that disruption is not defined due to its success (Christensen et al., 2015). Thus, a disrupter may not succeed due to various reasons but may have brought digital disruption to the market anyway. One important factor for whether the disrupter succeeds or not depends on the strategy in which the entrant has, but also how incumbent businesses react and adapt, thus their strategy development (Christensen et al., 2015). The new entrant is most often the leading actor when it comes to developing and adapting to disruptive technologies (Christensen, 2013). The incumbents are instead trying to catch up to these new technology solutions. Even though established firms are aggressive in their strategy regarding innovative technology, new entrants seem to have an advantage due to their flexibility and focus (Christensen, 2013).

The changes that happen in today's business environment are quick and can be disruptive, mainly due to digitalization. The world has become more competitive, meaning that a complete

business network can be disrupted in a matter of years. An example of this is when Nokia's market value declined in 2007 and went from 95 billion USD in market capitalization to approximately 5.5 billion USD in 2012 (Macrotrends, 2019) correlating with the release and development of smartphones. Although, Kodak is an example of that utilizing digitalization is not enough for achieving success (Jones & Silberzahn, 2016). Kodak was a leading actor in the global film and camera industry and had a market share of 90% in the U.S market in 1976. Being the first to invent the digital camera, the disruption of digital cameras was eventually the reason for being outcompeted. The problem was that they would not acknowledge the real significance of this new innovation, and therefore kept their focus on their current more profitable areas, while having digital cameras as a somewhat side business (Jones & Silberzahn, 2016). The moral of the story is that being first is not enough, instead how a firm adjusts its strategy in consideration of changing circumstances is essential.

In order to investigate the impact of digitalization on strategy development, a holistic view such as a supply chain and network perspective will be applied in order to get a better overview of the business situations and to compare cases of digitalization. A supply chain refers to the financial, material, and information flow to and from the firm (Greening & Rutherford, 2011), where several value-adding actors can be involved from raw material to end-consumer. Supply chain management is then further defined as the process of both planning, implementing, and controlling the operations of the supply chain (Oliver & Webber, 1982). As an additional dimension, the connections between companies and chains can be defined as a network in accordance with Håkansson & Snehota (1995), by viewing relationships as part of a broader network structure rather than isolated entities. Each relationship in the network then reflects a different strategic choice (Håkansson & Snehota (1995). By looking at various companies active in different business networks, the purpose is to obtain a generic yet holistic view of how these networks are affected by digitalization in their strategic work. How strategy emerges, while having an industrial network approach, is a topic that requires further exploration according to Baraldi et al. (2007). By exploring possible best practices for overcoming these challenges will hopefully lead to a framework and model for how businesses can operate strategically based on the impact of digitalization.

1.3 Purpose and Research Questions

The purpose of this thesis is to investigate the impact of digitalization on strategy in Sweden and how to interact with these changes to position the firm more optimally in a business network. Sweden was ranked as number three out of 139 countries in the Networked Readiness Index 2016, which measures the usage and impact of digital technologies (Baller et al., 2016). Both the business and individual usage is among the highest in the world, 2nd, and 4th respectively. At the same time, Sweden is ranked 23rd regarding governmental usage of digital technologies (Baller et al., 2016). Sweden's top rankings within digitalization make it an interesting market to study. Moreover, having a top-four position within individual and business use implies that the Swedish financial sector can be considered to have a forefront position in general. While having the 23rd place in governmental use, makes it interesting to also investigate Swedish healthcare, which is governed by the state. Thus, the two industrial

settings chosen to be part of this study are the financial sector and the healthcare sector in Sweden.

The methodology used is an explorative case study approach. This study will involve two different industrial settings and several case companies in order to audit the impact of digitalization. Moreover, this study will investigate in what way several digital solutions have been affecting how businesses work. Furthermore, looking at the digital maturity in various sectors, as well as specific companies, may make it possible to acknowledge similarities as well as differences among the sectors. The purpose is to use the findings to develop strategic approaches for how a firm can adapt to the impact of digitalization.

The theoretical framework of the thesis is based on the industrial network approach, emphasizing business relationships and business networks of industry. In particular, the ARA model will be used as an underlying framework, which represents actors, resources, and activities. This will facilitate comparisons between the two industrial settings and thereby present similarities and differences. The actors, resources, and activities also affect each other. The ARA model will be further explained in the *Theoretical Background*.

Based on the previous problem discussion, and the purpose of this study, two research questions have been established for this thesis.

- *How has digitalization affected industrial networks at the firm, business relationship, and network-level?*
- *How can a framework be established for supporting companies in their strategy development due to the impact of digitalization?*

1.4 Structure of the Master Thesis

This report will follow with a chapter about *Digitalization*, which will discuss the definition of digitalization, the types of digital solutions as well as its applications and usefulness. A *Theoretical Background* will thereafter be presented with supply chain management principles, network disruptions related to digitalization as well as strategic management theories. The *Method* will explain how the study will be conducted and how results will be gathered in order to be presented in the following chapter, *Empirical Findings*. Thus, conducted interviews are presented in the *Empirical Findings* from actors in the financial and healthcare sector, which are summarized for further analysis. The *Analysis* will present a thorough review of the *Empirical Findings* in relation to the *Theoretical Background*. Then, a *Concluding Discussion* will present and discuss the major takeaways from the results of the study as well as introduce a framework for strategic repositioning. Lastly, *Further Research* based on the implications of the results will be discussed.

2 Digitalization

This chapter will introduce various aspects of digitalization, which are believed to be necessary for upcoming topics of the report. Definitions and differences of concepts related to digitalization will be explained. Furthermore, digital solutions and domains will be elaborated upon, followed by a brief conclusion of the phenomenon called digital disruption.

2.1 Digitalization, Digitization, and Digital Transformation

Digitalization, Digitization, and Digital Transformation are all common expressions, but the definitions can seem unclear and confusing (i-SCOOP, 2017). Digitization is the process of turning analog information into digital format, which is a prerequisite for digital processes (i-SCOOP, 2017; Gartner, 2019b; Salesforce, 2019). Digitalization has instead several definitions and can be used in different contexts. One of them is Gartner (2019a), that defines digitalization as “*the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.*”.

Salesforce (2019) defines digitalization as the process of utilizing digital data, thus digitized data, for facilitating business operations. Digitalization can also, according to i-SCOOP (2017), be used in the context of changing a business area or environment, thus making it more digital. Compared to digitization, it is about using digital technologies in various ways and formats, more than just having digital materials. Furthermore, digitalization can be referred to as the currently ongoing process where whole groups or societal environments turn digital, e.g. digitalization of governments or turning customers digital (i-SCOOP, 2017). According to the Swedish encyclopedia, NE (n.d.), digitalization has historically been referring to the process of turning analog information into digital but has come to also include the general transformation that is occurring in the society, turning it into a digital information society. Based on these various definitions, a concluded and final definition has been established for further use in this report. The final definition is, therefore, concluded as “*The societal transformation going from analog to digital information.*”.

A summary of the definitions from the various sources is presented in *table 2.1*, together with the final definition.

Table 2.1 Definition of the word Digitalization according to different sources

Source	Definition of Digitalization
Gartner	The process of changing the business model due to the utilization of digital technologies.
Salesforce	Utilizing digitized data for facilitating business operations.
i-SCOOP	Turning an area/environment (more) digital.
NE	Going from analog to digital, both regarding information and society overall.
<i>Final Definition</i>	The societal transformation going from analog to digital information.

Digital transformation is also applied in various ways. According to i-SCOOP (2017), digital transformation is about turning something digital, which could be applied to several levels of digital processes. This definition of digital transformation can, therefore, be considered equal to the definition of digitization, but also on turning a business area more digital. Gartner (2019c) on the other hand, defines it as the process of utilizing digital technologies to create a new business model. Salesforce (2019) argue for a similar definition, but also mean that it applies to a change of business model to be able to meet changing business and market requirements. Thus, Salesforce (2019) has a similar definition of digital transformation as to the digitalization definition of Gartner (2019a).

2.2 Digital Solutions

There are different ways to define the types of digital solutions in business networks. Hermann et al. (2015) divide digital technologies into:

- **Cyber-Physical Systems (CPS):** Are the interconnection between the virtual and physical world, which means that physical processes are visualized virtually through feedback loops, and vice versa.
- **Internet of Things (IoT):** IoT is further built upon CPS and means that objects, the CPSs, can interact and communicate with each other.
- **Internet of Services (IoS):** IoS enables suppliers of services to offer their services online and creates a network of suppliers, service offers and potential customers.
- **Smart Factory:** A smart factory facilitates the work for people and/or machines through supporting systems. This is done through the processing of information and the system can, therefore, present the best possible option based on circumstances at hand (Hermann et al., 2015).

Rüßmann et al. (2015) have a wider definition and have instead defined nine technologies that are involved in Industry 4.0. These are digital solutions which they mean are technologies that are transforming businesses and markets. These are:

- **Big data and analytics:** Loads of data and information in which can be utilized for decision making.
- **Augmented Reality (AR):** The interactive technology for supporting decision making in the real world by integration of virtuality. Pioneering technology in this area is the AR-glasses used in warehouses, which based on system information can visualize the best possible choice for the operator to move the objects.
- **Additive manufacturing:** Often defined and referred to as 3D-printing. Its technology can enable the increased demand for “mass customization”, which means that the customer can require attributes to their preference while the business can achieve efficient processes.
- **The Cloud:** Shared platforms of data and information. It is the foundation of machine data and enables data-driven services.

- **Cybersecurity:** Since many digital technologies imply increased connectivity and reliability of systems, it has led to increased awareness for protecting these resources. Cybersecurity is thus the technology for achieving secure communication and interconnections.
- **Internet of Things (IoT):** Connecting physical objects through systems, creating networks of connectivity and information sharing. This, in turn, enables devices to communicate and interact, both in-between as well as to other controlling systems. IoT often leads to more decentralized decision making in which can provide an immediate response.
- **Vertical and horizontal system integration:** Integrating functions, departments and activities through system interconnection will lead to more efficient and autonomous value chains and networks.
- **Simulation:** Technology that enables mirroring of the real world, making it possible for operators to practice and try new ways to operate without risking having an actual negative impact.
- **Autonomous robots:** Robots have been used in industrial settings for a long time, but have lately developed to become more flexible and autonomous, enabling more advanced operations and services for utilization (Rüßmann et al., 2015).

2.3 Digitalization Domains

Averstad & Westerberg (2017) divides an organization's agility into four different domains; strategy, people, processes and technology. Thus, a company's ability to change internally is defined by these areas, and therefore also used for measuring a company's digital maturity, which are:

1. Engaging customers and end-users.
2. Empowering employees.
3. Optimizing operations.
4. Transforming products and services.

Knowing the customers is a prerequisite for being able to adapt to a company's offering to best satisfy the customers' needs. Transforming products and services as well as optimizing operations is regarded as second and third in a priority among the domains. At the same time, using digitalization for empowering employees is considered the lowest priority of the four domains (Averstad & Westerberg, 2017).

Deloitte LLP (2017) recognizes four factors that businesses must consider regarding digitalization and its development. These are:

- Customers and their expectations.
- Automation and its impact on traditional operations.
- The importance of alliances and partnerships.
- The necessity of an efficient cost structure.

Digitalization makes customers more aware of the supply and can easily utilize data to mitigate potential information asymmetry. For businesses, this makes the market more competitive and must be able to more quickly satisfy changing customers needs. The automation opportunities are an important factor for developing businesses to consider and invest in since it can lead to competitive advantage, or a competitive disadvantage if not utilizing available technology that competitors do. Furthermore, the digitalization has led to accelerated globalization as well as increased specialization, which in turn means that strategic alliances have become more important. A broad yet specialized business network has, therefore, come to be a prerequisite for businesses to be able to stay competitive on the market. Lastly, a leaner cost structure is significant since companies must invest in new technology and reinvest for continuous growth (Deloitte LLP, 2017).

2.4 Digital Disruption

Digital disruption is often referred to as radical digital innovations that change the environmental circumstances, often due to an entrant that manages to compete with incumbents due to a digital innovation (Skog et al., 2018). Innovation is defined as new ideas, behavior, and approaches that are established in society (NE, 2019). Research related to digital disruption has had a rise in interest in recent years, mainly due to successful disruptive companies such as Spotify, Uber, and Airbnb. Although, the definition of digital disruption can be considered quite unclear according to Skog et al. (2018). To be able to understand the fundamentals behind digital disruption, a discussion regarding disruption and disruptive innovations will follow.

Looking in the dictionary for the word “disrupt”, it has various meanings; *“to prevent something, especially a system, process, or event, from continuing as usual or as expected”* and *“to change the traditional way that an industry operates, especially in a new and effective way”* (Cambridge online dictionary).

Disruption is instead defined as; *“an interruption in the usual way that a system, process, or event works”* (Cambridge online dictionary).

Disruption, in the business sense of the word, usually refers to smaller companies with minor resources that manage to enter an established market to challenge incumbent businesses (Christensen et al., 2015). Looking at the theory concerning disruptive innovation, it is defined as *“a very specific process that explains how entrants can successfully compete with incumbents”* (Skog et al., 2018).

Thus, the innovation in which enables a company to compete with competitors in a new market is disruptive innovation. Furthermore, disruptive innovation cannot refer to a product or a service in fixed terms but is rather referred to as a developing process of a product or service for a business (Christensen et al., 2015). The time factor is also a major reason for established actors to oversee new “disrupters” on the market, because their potential breakthrough may take time (Christensen et al., 2015). Concluding that disruption, and innovative disruption are

somewhat difficult to define and sometimes misinterpreted, Skog et al. (2018) discuss the definition of digital disruption and arrive at three characteristic definitions which are:

- It originates from digital innovation and facilitates a competitive position.
- Breaks and modifies established business networks, often through facilitating interactions and reducing the distance between actors.
- Originates by one or several firms but have a systematic effect on value creation.

Furthermore, Skog et al. (2018) conclude a definition of digital disruption and is presented as: *“The rapidly unfolding processes through which digital innovation comes to fundamentally alter historically sustainable logics for value creation and capture by unbundling and recombining linkages among resources or generating new ones”*.

At the same time, Reimer et al. (2015) define digital disruption as follows:

“Digital Disruption refers to advancements in digital technologies that occur at a pace and magnitude that disrupt established ways of creating value within or across markets, social interactions and, more generally, our understanding and thinking.”

Furthermore, digital disruption has an effect at several levels; personally, work-life, businesses, industries and/or societal (Reimer et al., 2015). The concluded definition of digital disruption refers to the quick development of digital technologies which changes and recombines established linkages on several levels.

2.5 Definitions used Related to Digitalization

This chapter has discussed the definition of digitalization, what solutions and technologies that are available, how the digital function defines the digital maturity of a company and in what different ways companies can utilize digitalization.

Digitalization as a phenomenon refers to, and includes, various concepts which need to be defined and further explained. Digitization is the process of turning analog information digital, while digitalization is the same transformation but on a societal level. Though, the definition of digital transformation as a concept is somewhat varied, but seems to directly relate the concept of digitalization, but perhaps a bit more concentrated on the actual process. Furthermore, digitalization has enabled various types of applications of digital solutions, often referred to as Industry 4.0. The type of digital solutions included in this concept varies, but Hermann et al. (2015) divide them into *Cyber-physical systems*, *Internet of things*, *Internet of services* and *Smart factory*. At the same time, Rüßmann et al. (2015) use a wider inclusion and divides them into *Big data and analytics*, *Augmented reality*, *Additive manufacturing*, *The Cloud*, *Cybersecurity*, *Internet of things*, *Vertical and horizontal system integration*, *Simulation* and *Autonomous robots*. Digital solutions, as such presented, can further be utilized for various purposes, and also have various effects. Customers, employees, operations, products, and partnerships are all affected by digitalization, and should also be considered in order to utilize the potential of digital applications. Moreover, an explanation of the phenomena of digital

disruption has been presented, taking ground in the concept of disruption and innovation. Digital disruption thus refers to the quick development of digital technologies which changes and recombines established linkages in a business network.

3 Theoretical Frame of Reference

This chapter will present the Theoretical Background that has been used to develop the Analysis. The Theoretical Background includes business networks and a deeper understanding of the ARA model, introduction of supply chain management principles, digitalization in business networks, and strategic frameworks and perspectives.

3.1 Relationships in Business Networks

According to Håkansson et al. (1993), alliances are being utilized as a strategic tool more and more. These alliances shape the structure of the sectors that they are present in. Håkansson et al. (1993) define a strategic alliance as one or more exchange relationships between two or more firms in an industrial network. A conceptualization of a business network is shown in figure 3.1.

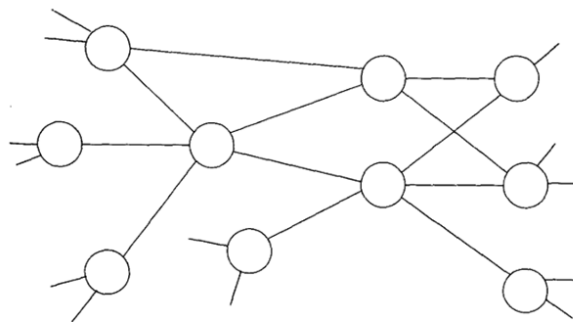


Figure 3.1 Conceptualization of a business network with nodes and links (Håkansson & Snehota, 1995, p.19)

In order to build strategic alliances and gain a competitive advantage, it is therefore required to develop relationships with other actors. Stadtler (2005) mentions integration as a major component of supply chains, where integration refers to the choice of partners, network organization & inter-organizational collaboration, and leadership. Hence, to maintain or improve a position in a sector it is important to increase presence and knowledge of that sector's underlying industrial network and keep developing the relationships and maintain strategic alliances (Håkansson & Snehota, 1995).

3.1.1 Supply Chain Management Principles

Supply chain management is, according to Stadtler (2005), comprised of different components such as the object of the management philosophy, the target group, the objective(s), and the broad means for achieving these objectives. One major objective is to increase competitiveness, which is the reasoning behind developing a supply chain instead of individual companies. A way of increasing the supply chain's competitiveness is to increase customer service (Stadtler, 2005). Customer service can be defined as response time, product variety, product availability, customer experience, time to market, order visibility, returnability, and more (Chopra &

Meindl, 2016). Customer service is also dependent on other areas, which can be explained with the building blocks introduced by Stadtler (2005) in *figure 3.2*.

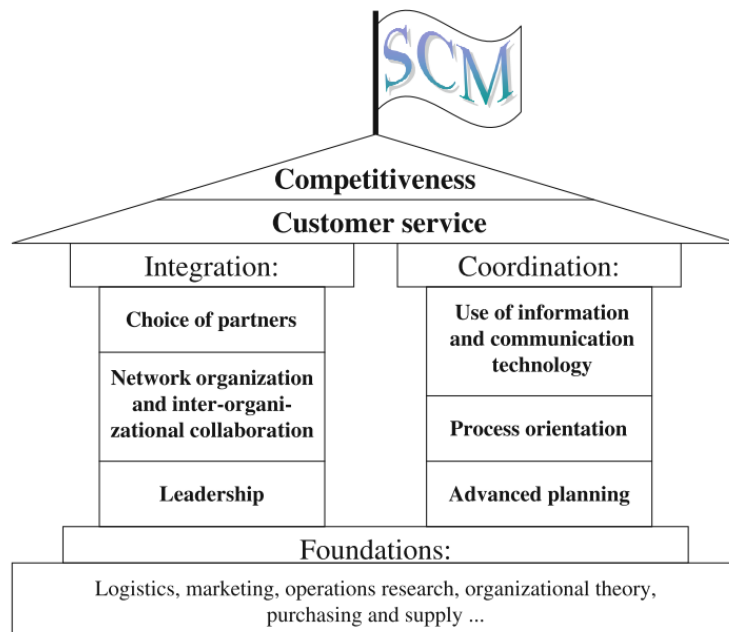


Figure 3.2 The building blocks of supply chain management (Stadtler, 2002, p.10)

The reasoning behind supply chains and the main motivator for operational improvement is the underlying increase in competitiveness. The two main components of increasing a supply chain's competitiveness are thus closer integration (cooperation) and better coordination of the three flows of material, information, and finance. The task of supply chain management is therefore to “...*integrate the organizational units along a supply-chain and coordinating material, information, and financial flows in order to fulfill customer demands with the aim of improving the competitiveness of a supply-chain as a whole.*” (Stadtler, 2005).

According to Greening and Rutherford (2011), the overlapping nature of supply chains can be more accurately described as a network. It is further defined as the connections between supply chains that share common elements. Moreover, businesses form relationships with each other in order to gain a competitive advantage (Greening & Rutherford, 2011). This can be related with the theory explained by Håkansson & Snehota (1995), such that the supply chain, and therefore the supply network, is indeed connected with business networks.

3.1.2 Structural and Process Characteristics in Business Relationships

According to Håkansson & Snehota (1995), there are also some structural characteristics of a business network. These characteristics are primarily continuity, complexity, symmetry, and informality of the network. Continuity is defined as the stability and long-term approach of business transactions, the distinct phases of contracting, delivery, post-delivery assistance and service (Håkansson & Snehota 1995). Continuity is an important characteristic because the average time of a business relationship with main customers and suppliers are ten to twenty years (Hallen, 1986). The complexity of a network can be understood as the number, type and

contact pattern of individuals between two different organizations (Håkansson & Snehota, 1995). These individuals can also have different status, organizational roles, and personal backgrounds. Symmetry has to do with the resources and capabilities, in a business relationship the resources and capabilities tend to be more balanced. Within industrial markets, the buyers sometimes even have more and better resources (human, knowledge, financial, technological) than the suppliers. Informality is argued to be due to the ineffectiveness of formal contracts to deal with uncertainties, conflicts, and crises. The informal relationship is a direct correlation with time, as the relationship is built upon trust. Informality is shown to be common in business relationships (Håkansson & Snehota, 1995).

There are four different process characteristics that are identified by Håkansson & Snehota (1995). These processes were adaptation, cooperation & conflict, social interaction, and routinization. A general prerequisite of the development and existence of a business relationship tends to be mutual adaptation. It is argued that the adaptation is a direct cause of the need to coordinate activities of the individuals and companies in the relationship. This adaptation not only empowers the companies but also constrains them, a commitment has been made into the relationship. Cooperation is a necessity in the relationship in order to solve problems and avoid turning the relationship into a zero-sum game. Conflicts tend to arise from the different benefits that the two parties gain from the relationship. Since the business relationship is made by people, the personal bonds always play an important role in the development and formation of a business relationship. Therefore, social interaction is a pivotal part of business networks. Over time, business relationships tend to be institutionalized and therefore routines emerge in the relationship. These routines serve as a mechanism to maintain the relationship, the routines also tend to be a direct cause of cost (Håkansson & Snehota, 1995).

3.1.3 Interdependencies in Business Relationships

In all sectors, regardless of type, a company will always operate within a texture of interdependencies that affect its development. The interdependencies that are frequently and repeatedly encountered are technology, knowledge, social relations, administrative routines & systems, and legal ties (Håkansson & Snehota, 1995). With the development of a relationship, it is important to avoid potential technical mismatches. Technological adaptations are the most common mutual adaptations in a business relationship. It can be argued that technological development in one organization and its relationships is dependent upon the use of technologies in other companies within the network. This, in turn, constrains the focal company not only by the technologies used by direct relationships but also by third-party relationships. When companies carry out activities, resources are consumed and combined in different ways. This combination of resources requires knowledge on how to combine the resources to achieve the desired results. The combination of resources is achieved when two organizations combine their separate resources, hence knowledge is an interdependence required to create value. The social interactions between two different companies are made by individuals who develop mutual trust and confidence in each other, which in turn reflects the business relationship. The main area of administrative routines is related to the exchange and processing of information.

These routines and systems are in place in order to make coordination possible and hence creates an interdependency in the network. The legal ties within companies and between organizations can be viewed from an ownership perspective (Håkansson & Snehota, 1995).

3.1.4 Substance of Business Relationships

According to Håkansson & Snehota (1995), the network that arises from business relationships is not something of permanence, instead, it is subject to constant change throughout its span. They explain three different identified layers in a business relationship. The three layers are activity links, resource ties, and actor bonds and build up a business relationship, these three layers are also what is considered the substance of a network or business relationship (Håkansson & Snehota, 1995).

Activity links - There can be thousands of activities done by a single company, which creates a coordinated complex activity structure for an individual company. In a business relationship, two companies can become linked in their technical, administrative and commercial activities. These links tend to create a need for coordination between the two parts, which in turn affects both the cost and effectiveness of activities. Activity links are therefore a component of productivity for the companies involved and the network as a whole. Because an individual company has more than one business relationship, the links spread over the whole network means that a single company is also linked with companies that they may not have any direct contact with.

Resource ties - Resources can be of different types such as manpower, equipment, plant, knowledge, image and financial means. Resources are what enable the activities for an individual business. In a business relationship, the different resources of the two companies can be combined in different ways to create new resources and enable new activities.

Actor bonds - When two companies begin to interact, a bond is formed. Depending on the commitment in the relationship, it affects the knowledge of each other. The identity of a company can be perceived differently depending on which actor bonds are in place and how those bonds develop over time. The identity of one company will also be affected by how a bonded company acts, which therefore creates a web of actors that all influence each other's identity.

Thus, activity links, resource ties, and actor bonds can be used to define the nature of a relationship between two companies and consider the network as a whole (Håkansson & Snehota, 1995).

3.1.5 Impact of Business Relationships

A relationship between two businesses evolves when two organizations have a connection in the activity, resource, and actor layer (Håkansson & Snehota, 1995). When these layers are all connected, a unique organizational combination is achieved. This unique combination can be seen as something more than the sum of the two companies' layers. Due to these unique

combinations, the companies can perform activities and utilize resources that they could not do on their own. When a relationship is developed, it not only includes benefits but can also come at a great cost. The relationship can affect performance by having an effect on the activities, resources and the internal actor, i.e. the organization. Relationships are therefore an important component of economic outcome and development of the organization. When a new relationship emerges or is connected to a company, the change in the substance of a relationship could affect the network (Håkansson & Snehota, 1995). Looking at *figure 3.3*, if a change occurs in the relationship between company A and B, it could very well affect the relationships of company C and therefore company C's operational and economic outcomes.

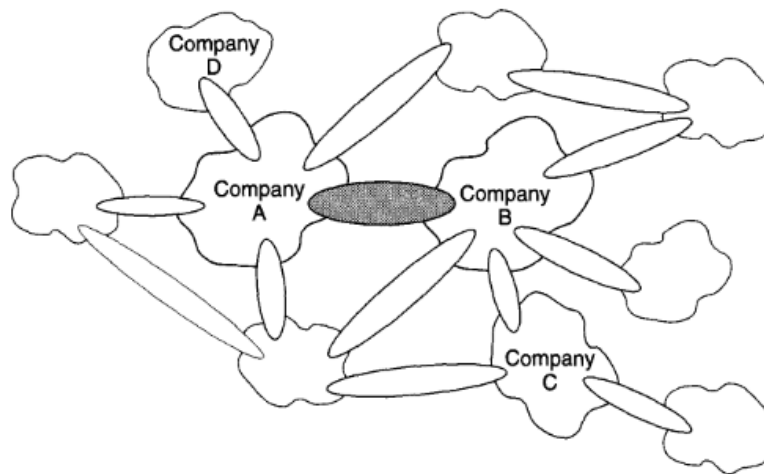


Figure 3.3 - Example of a business network (Håkansson & Snehota, 1995, p.40)

The impact of one company's choices does not only affect one individual company nor a single relationship, the actions of one company can thus impact the network and all its constituents. The network consists of different viewpoints, namely the focal company, the relationship, and the network. This can be further explained with *figure 3.4*. From a network perspective, the different resources of all individual companies and their respective ties make up the resource constellation of the network. In the same way, an activity pattern and a web of actors can become apparent for a network as a whole.

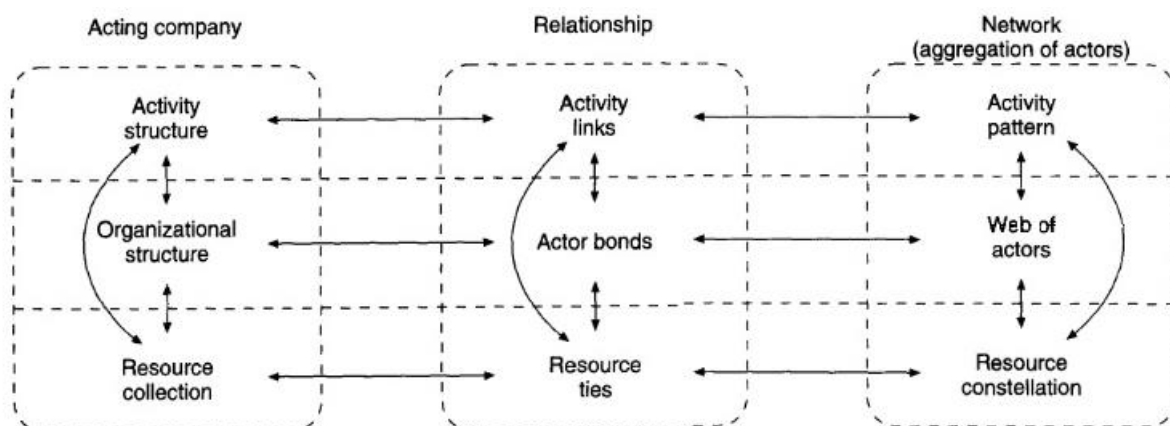


Figure 3.4 The interaction between the different levels and dimensions (Håkansson & Snehota, 1995, p. 43)

These perspectives are all interrelated and affect each other. It shows how one company connects with another company through indirect links and how a complete network may change due to the actions in one relationship. Håkansson & Johansson (1992) developed the ARA model which is a network model based on the three different dimensions; activity links, resource ties, and actor bonds. This model was further expanded upon by Håkansson & Snehota (1995), where a framework was introduced that can be used to further investigate different networks. The main idea behind the network model is the occurrence of interdependencies that in the end creates more value than if each node were to act alone. Using this analytical framework, it should be possible to identify where and what effects could happen as the business relationship evolves, is established, develops or is interrupted (Håkansson & Snehota, 1995). The framework in *figure 3.5* can be used to analyze the effects of change in a relationship and thus be used for identifying the factors that affect the development potential in a certain relationship. The framework can also be utilized to maintain and manage ongoing relationships and opportunities for development.

A change in a relationship has three types of effects according to Håkansson & Snehota (1995), these effects are changing the potential of the relationship (column 2), the cost revenue parameters for involved companies (column 1), and an explosion in the overall network (column 3) which can have different reactions throughout the web of actors. One example of this is that one action such as increased performance of the internal activities of a company (cell 1) may cause other reactions connected with this. A change can, therefore, according to Håkansson & Snehota (1995), cause a number of reactions that may, or may not, be expected for the initiator.

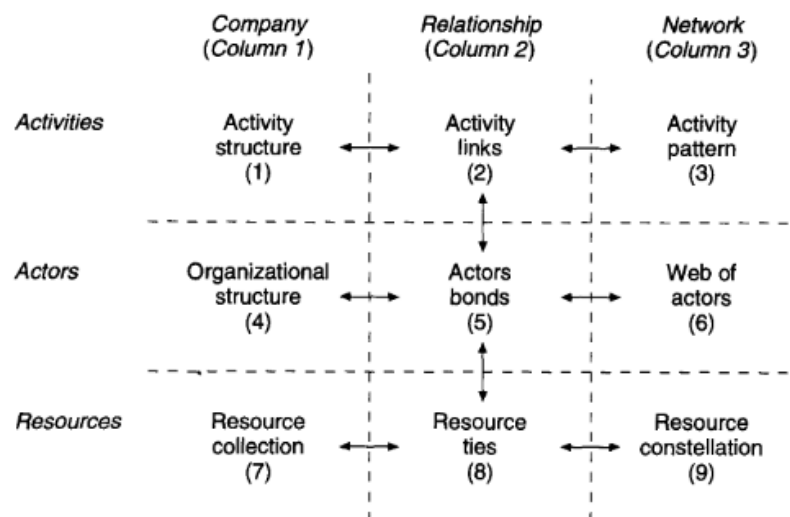


Figure 3.5 Framework used for analysis (Håkansson & Snehota, 1995, p.45)

While a supply chain tends to be more defined, the network model can be used to identify a more conceptual network structure. As previously mentioned, the economical and performance output of a business network, as well as individual companies, is directly related to the nature of the relationships in the network. By analyzing these business relationships, it may be

possible to predict certain outcomes in the network depending on what happens in the different layers and therefore make strategic decisions going forward.

3.2 Digitalization in Business Networks

Technological evolution and development have transformed how businesses operate and created new ways of doing business across many sectors, as argued in the *Introduction*. To further showcase how technological enablement has transformed operational and commercial assumptions, a description will be made regarding how disruptors and actors within a business network may impact the function of a network.

3.2.1 Disruption in Supply Chain Networks

There is a significant difference between supply chain disruption and disturbances in the supply chain, which depends on its effect on the supply chain network (Greening & Rutherford, 2011). A disturbance implies that actors must adapt to new circumstances concerning changes or variations in information or material flows. This means that the structure of the supply chain network stays intact and bonds among actors remain. A disruption, on the other hand, means that bonds and/or nodes within the network disconnect, either temporarily or permanently. Thus, the supply chain network will be restructured and the actors will have to adapt to this, which means that disruption has more impact on the network than a disturbance (Greening & Rutherford, 2011).

The degree of impact from disruptors on a supply network depends on several factors, which according to Greening & Rutherford (2011) are:

- Structure and maturity of the network.
- What roles and capabilities the actors have as well as their motives.
- The social governance of the network, i.e. behavioral norms.

Furthermore, these factors are based on how the network was established in the first place and how it has further developed. In *figure 3.6*, Greening & Rutherford (2011) provide examples of different network structures.

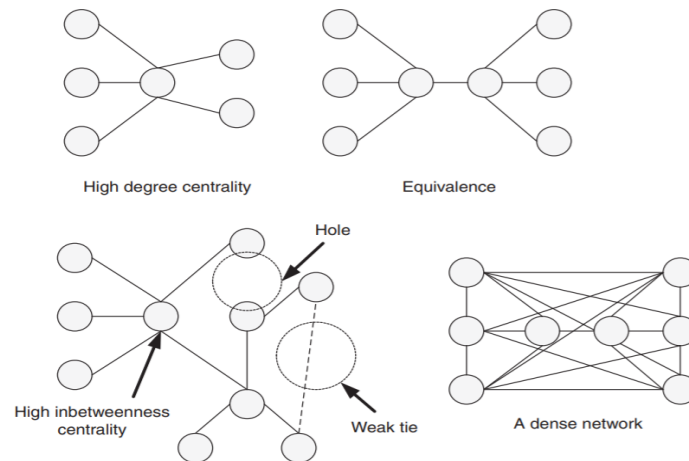


Figure 3.6 Various network structures and their attributes (Greening & Rutherford, 2011, p.115)

Greening & Rutherford (2011) states that the possibilities for new entrants to enter a network depends on its structure and attributes. A spread network is more likely to have weak ties, in which new actors more easily can enter the network and establish new relationships. Comparing that to a dense network, the circumstances at hand makes it harder for external actors to enter the network. Although, an entrant will make a greater impact on involved actors in a network, if managing to enter a dense network compared to a more spread and unstructured network (Greening & Rutherford, 2011).

Digital disruptor intermediaries are companies that change the structure and thus the prerequisites in a market sector (Reimer et al., 2015). These companies enter the market as intermediaries and affect and restructure relationships in established business networks. The way these digital entrants disrupt an industrial sector is divided into eight different categories, according to Reimer et al. (2015):

- **Digital Stores:** Online stores aggregating offers from several suppliers, overtaking the customer experience and putting it online.
- **Content Hubs:** Online media channels, offering context in various ways.
- **Sharing Hubs:** Content created by users considered a substitute for traditional media.
- **Promoters:** A channel presenting all available offers in a transparent way, resulting in suggestions of the best available offerings.
- **Aggregators:** Similar to the Promoters but focus on the comparison of characteristics and metrics instead of price.
- **Discriminators:** Comparisons and reviews of products, created by users.
- **Crowd Sourcers:** Gather customers in digital platforms for suppliers to compete.
- **Matchers:** Reorganize demand and supply, thus changing business relationships.

3.2.2 Value Creation in Business Networks

Pagani & Pardo (2017) used the ARA model to analyze the changes provoked by digitalization in a business network. They defined the digital technology and the different systems and tools as a resource in the ARA model. The study aimed to understand how digital technology can

impact relationships in a business network and impact value co-created by actors in today's business environment. The findings are differentiated into the same layers as the ARA model, though centered around digitalization (Pagani & Pardo, 2017).

Activity links - the digital resource is used to optimize already existing activities by supporting easier coordination between them. This coordination can be differentiated in external and internal activities.

Resource ties - the digital resource supports the creation of new activities carried out by already existing actors. The combination of digital resources by one actor with the resources of another actor makes this possible.

Actor bonds - the digital resource supports new bonds between actors. This happens with a new actor creating or taking a position in the network.

According to Pagani & Pardo (2017) there are three types of value creation enabled by digitalization in a network, which are:

- Type 1 - Value is created by the process of rationalization activities.
- Type 2 - Value is created by innovation based on new activities that emerge because of new digital resources.
- Type 3 - Value is created through innovation because new actors are performing new activities.

Pagani & Pardo (2017) identified that the business-to-business segment is considered to be lagging behind the business to consumer segment in regard to digitalization. Furthermore, Pagani & Pardo (2017) emphasize that digitalization should be viewed from the lens of a value network and not only a value-chain.

3.3 Strategy and Organizational Structure

Gadde et al. (2003) argue that strategy is related to how an actor is influenced by external circumstances. A strategy often refers to the aspect of how a firm can be competitive but has come to include a broader definition related to a firm's positioning within a network. Looking at a network perspective, strategic initiatives of a firm are related to how it can affect its position within the network. This is derived from the relationships in which the firm possess with other actors (Gadde et al., 2003).

3.3.1 Strategic Approaches

Baraldi et al. (2007) compare six different strategic approaches developed during different eras. The different schools of thought and their respective view on strategy are:

- **Ansoff:** Strategy relates the firm to its environment. A strategy is formed and developed through the analysis of both internal and external factors. The process of strategy development is done through rational planning where a status report is established first, to thereafter develop different strategic alternatives to overcome the specific obstacle. The alternative considered most optimal is thereafter chosen for implementation.
- **Porter:** An actor achieves a unique position based on strategic differentiation from competitors. An empirical analysis of external and internal factors is made in order to find the most suitable positioning on the market, which implies in what way the firm can obtain or gain a competitive advantage. Porter's approach, therefore, has limited consideration to interdependencies.
- **Barney:** Unique resources enable a sustainable competitive advantage. Thus, strategy development is based on the resources in which the firm possesses and can utilize those for a competitive advantage towards others. This approach focuses on internal capacity and neglects the environment in which the actor operates to a high degree.
- **IMP:** The network position as well as business relationships both enable and hinder the strategy development of a firm. The IMP approach takes ground in interdependencies between actors, which due to adaptations and intersections positions the firm within a business network. This approach can be considered comprehensive since it considers various aspects but is though focusing on externalities.
- **Mintzberg:** Strategy is planned actions meant to adjust for changes. Mintzberg argues that strategy development is both deliberate and emergent. Thus, he encourages learning by doing where it is possible to adjust for changes along the way. It is important to have a plan but also accept that adaptations have to be made along the way.
- **Whittington:** Strategy is formed and developed by the daily practices performed. Whittington means that strategy is built up and developed through activities, which he refers to as micro-management. While analysis is often made on a holistic level, the ability to make an impact for change is managed through practice, thus by activities performed between individuals, groups and complete networks.

Baraldi et al. (2007) conclude that strategy is highly affected by business relationships in which a firm both obtain and detain. This may then change the position of the firm in a business network. Furthermore, they argue that not enough effort has been put into the research of combining the view of strategy development and the network context (Baraldi et al., 2007).

A firm must learn how to differentiate among relationships in order to aim their focus on the most important ones (Baraldi et al., 2007). More than prioritizing, it is also about targeting the right players in regard to the strategic purpose. Furthermore, the people defined as strategists cannot single-handedly change the strategy of a firm, since it is dependent on business relationships in which they do not participate in, at least not alone. Thus, repositioning within

a network context often requires all involved parties to strive for the same objective. Looking at the progression of strategy management, from Ansoff's theories in the 1950's to Whittington's view on strategy developed in the 2000's, the management theory has come to focus more on internal practice (Baraldi et al., 2007).

3.3.2 Strategic Development

According to Gadde et al. (2003), it is important to maintain an appropriate distance to its surroundings, which of course can vary between different actors. Having close relationships means that the firm in question can utilize the resources of other actors, which also applies the other way around. This both means that there is a limit regarding what extent actors should be tangled together, but also concerns the level of interdependence of two actors, which should be equal in its nature. Mutual interdependence is an important aspect of a network perspective as well since a dominator could affect a network's level of innovation and development. One controlling actor will create a hierarchy, which would slow down the development of the network as a whole. Lastly, the level of innovation ability is also influenced by the nature of the network concerning how compact it is.

Many close relationships create a dense network, which limits one firm's ability to change. Thus, in a strategic matter, it is important for a firm to consider the level of involvement in relationships, the degree of interdependence, and how controlling the firm should be from a network perspective. A firm should consider itself as a part of a network, meaning that strategic decisions should be made with its interconnections with external actors in mind (Gadde et al., 2003). Furthermore, Gadde et al. (2003) are in accordance with Håkansson & Snehota (1995), arguing that business networks should be considered with activities, actors, and resources in mind simultaneously.

Many incumbents are not agile enough to manage to be a leader in innovative digital technology since that require them to switch core focus and have the whole organization following (Reimer et al., 2015). Also, betting on a digital technology implies a major risk, a risk that incumbents are not as willing to take compared to market entrants that have not as much to lose. Thus, why disruptive technologies often are driven by newly entered actors are based on agility, focus, and risk-taking (Reimer et al., 2015). Aside from disruptive innovation companies entering business networks, Bankvall et al. (2017) have noticed innovative business models a recent trend. This is related to how suppliers are changing their offerings to a servitization model, where they offer solutions or results, rather than the product itself (Bankvall et al., 2017). As an example, Rolls Royce is considered an early disruptor in this field, where they re-defined their offering as "*power by the hour*" (Smith, 2013). Thus, instead of letting customers pay for the engines, they pay for the service in which the engines provide. The development of digital solutions seems to be a major reason and enabler for the servitization trend (Smith, 2013). Moreover, the servitization model implies an increase of involvement in business relationships, which in turn have an effect on a firm, relationship and network-level (Bankvall et al., 2013).

Aaboen et al. (2013) investigated new ventures, and how their strategic approach varied during their establishment and development in a network. They consider a network as something in which a firm is a part of, regardless of their intention to be, whilst strategy concerns the way the firm operates in regard to others in the network. One strategic change for new ventures is how focus changes from initially being about the product or service, to thereafter shift to the customer perspective, to eventually concern the network and how the firm can position itself in relation to others (Aaboen et al., 2013). As a firm develops and gets established within a network, the importance of the individual versus the business actor changes as well (Freytag & Philipsen, 2019). The individual actor plays an essential role during the start-up phase of a firm, to gradually diminish in favor of the business actor (Freytag & Philipsen, 2019). Moreover, important to consider for new firms strategizing in a network is to find similarities among external actors, sharing knowledge among customers, and further identify potential partners that can mediate continuous development within the network (Aaboen et al., 2013). Strategic direction is a necessity in order to initiate business relationships, but a firm, a new venture, in particular, needs to be able to redirect its strategy since new opportunities and circumstances will follow in relation to others (Aaboen et al., 2013).

3.3.3 Organizing for Digitalization

The impact of digitalization is unavoidable and will continue to affect businesses across all sectors (Valdez-De-Leon, 2018). The ability to adapt to these continuous changes depends on the agility and digital maturity of the firm. Being mature in terms of digitalization means that digitalization is fully integrated into the organization and is embedded in all processes throughout the company (Averstad & Westerberg, 2017). Furthermore, continuous digital development is a presumption for being regarded as a digitally mature organization and thus being able to compete on the market (Valdez-De-Leon, 2018).

Madsen & Hjortegaard (2018) describe one company's digital maturity in regard to the function of the digital department. It describes how an organization should be structured to best manage and implement digital innovations. It is partly dependent on the digital maturity of the firm, which describes to what extent digitalization is integrated into the organization in question. The definition is generic and describes how a digital function can be integrated into the organization in six different ways. This model also describes an organization's digital maturity, since the structure and function of digitalization are related to the approach of developing digital solutions (Madsen & Hjortegaard, 2018). It can be regarded as a further development of the strategic configurations established by Mintzberg (1979), who defined five different types of organizational configurations. He argues that an organization is built up by five parts, called operating core, middle line, strategic apex, technostructure, and support staff. In addition, the culture is an affecting factor in which is referred to as ideology. Moreover, these different parts can be structured in various ways, which affects how an organization operates. The different structures are defined as simple structure, machine bureaucracy, professional bureaucracy, divizionalized form, and adhocracy. These configurations thereby divide businesses into different structures based on their strategic approach (Mintzberg, 1979). Madsen & Hjortegaard (2018) has applied a similar approach but focused on the organizational function of

digitalization. The different approaches are presented in *figure 3.7*, where left to the right describes the digital maturity from the least mature to the most mature organization regarding digitalization (Madsen & Hjortegaard, 2018).

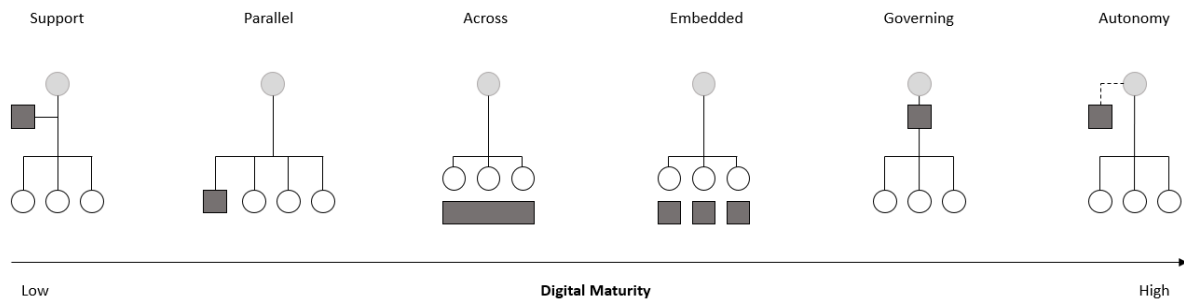


Figure 3.7 An organization's digital function and structure (Based on Madsen & Hjortegaard, 2018)

According to Madsen & Hjortegaard (2018), digital business development can be derived into six different approaches. These approaches are *Support*, *Parallel*, *Across*, *Embedded*, *Governing*, and *Autonomy*. Having digital business development as a supporting function in the organization implies low integration of digital innovation and thus the lowest degree of digital maturity. The governing structure implies that digitalization is a keystone in all business areas and thus is the focus throughout the organization. At the same time, an autonomous digital function can be considered as even more mature than the governing structure, due to its interdependence, acting without regard to (old) established business areas. Thus, this implies high agility and opens up for the organization to explore digital opportunities to the full extent (Madsen & Hjortegaard, 2018).

4 Method

This chapter will describe the methodology used for conducting the thesis, explaining the research approach and the various steps required for gathering empirical evidence. Furthermore, other steps required to finalize the thesis will be explained. Lastly, a critical discussion of the methodology will be presented.

4.1 Research Approach

The research methodology used in this study is of qualitative character, meaning data gathering is performed through analysis of interviews and literature (Patel & Davidsson, 2011). Primary data is gathered through interviews, while secondary data is retrieved from previously conducted studies. Primary data is only used for the *Empirical Findings*, while secondary data is used for both the *Theoretical Background* as well as the *Empirical Findings*. Furthermore, this study is aimed to be explorative, which often is the case of a qualitative research study involving a cross-sectional research approach (Bryman & Bell, 2011).

4.1.1 Explorative Case Study

This study involves two different industrial settings, one within the healthcare sector and one within the financial sector. Four case companies were selected in each sector, where one representative was interviewed at each company, respectively. An additional two experts were interviewed for each sector, acting as third-parties. Bryman & Bell (2011) suggest that a case study should have a specific focus, such as one company, one location or one person. Having several cases included in the study could, therefore, be implied to be a multiple case study, though Bryman & Bell (2011) argue that it depends on the focus of the study. If several cases are included in the study in order to obtain a general understanding of the context in which the unique cases operate, it should be regarded as a cross-sectional case study (Bryman & Bell, 2011). Based on this definition, this project thesis is a case study with a cross-sectional approach. This thesis is utilizing several case companies, as well as unattached experts, in order to obtain a general understanding of the context in which the companies operate, which characterize a cross-sectional case study.

Investigating business networks active in different market sectors provides an opportunity to characterize each sector and compare them with each other. This further leads to an analysis of how each actor has developed their strategy due to changes in the business network as well as how newer digital actors have established themselves on the market. To investigate how the business networks have changed due to the entrance of digital companies, interviews are conducted with business management as well as industry experts. Doing interviews with third parties, i.e. industry experts, mitigates potential biases and also provides a broader picture of the business network as well as the sector in general.

4.2 Illustration of the Approach

The research approach applied for this thesis project is visualized in *figure 4.1*.

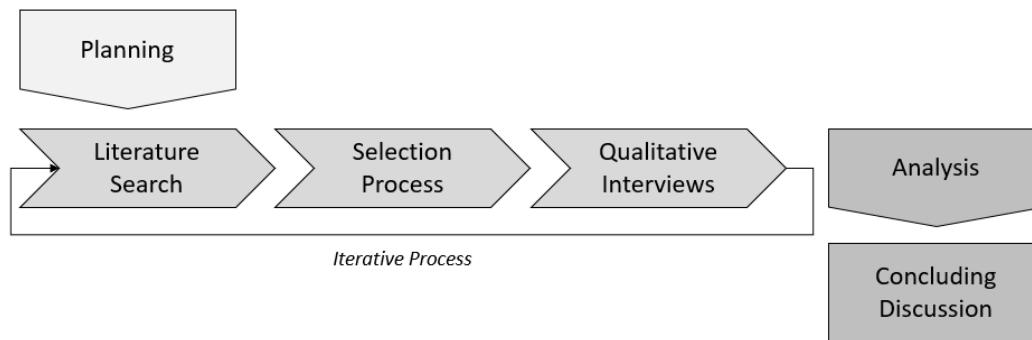


Figure 4.1 Research approach

The methodology approach of this study started with the initial planning phase. The data collection process, including literature search, selection process, and interviews have been an iterative process that eventually led to comprehensive empirical results. Thereafter, the empirical results were analyzed using previously presented frameworks and theory, retrieved during the literature search. Based on the *Analysis* and discussion, a final summary of the key conclusions drawn from the study was made. A comprehensive explanation of each step of the research approach will follow.

4.2.1 Planning Phase of the Project

The planning phase was the initial part of the study and involved several steps to narrow down the scope of the project. The planning phase involved an initial literature search as well as dialog with KPMG, which this thesis was conducted in collaboration with. Initial data research was necessary to conduct in order to learn more about the topic and narrow down the scope of the study. This was done through research involving scientific articles, newspapers, “white papers” from various consulting firms and a continuous dialog with KPMG DTI and Chalmers. The purpose was to identify current trends and investigate previous research, thus providing general knowledge and awareness of previously available studies. Initial research included the term “digitalization” in general, while the scope was continuously narrowed down to also include terms such as “strategy development”, “business network”, “disruption” and other similar terms. Discussions with our mentors both at KPMG and Chalmers, as well as other consultants at KPMG DTI, further provided us with insight about interesting topics to investigate and include in the study.

The aim of the planning phase was to narrow down the scope to set a problem definition, in which involved stakeholders were satisfied with. Although the scope, as well as the problem definition, was not finalized in this stage, instead of upcoming steps had the purpose to further adjust the scope.

4.2.2 Iteration Process

The planning phase also involved the following processes to some extent as well, since the project scope was gradually developed through an iterative process. The iterative process included the literature search, the selection process, and the interviews. Thus, these three process stages of the project were partly made in parallel since the literature had to be adjusted, and expanded upon, depending on the participating actors. For example, the initial plan included three sectors where three actors were planned to be interviewed in each. Although, it appeared to be difficult to find actors willing to participate in one of the selected sectors, which led to a redirection of the scope. Thus, the final selection came to include four different actors in two separate sectors. Moreover, an additional two experts were interviewed for each of the sectors selected.

4.2.3 Literature Search

A literature search was conducted throughout the project due to the ongoing learning process that was occurring, as well as dependent on the selection of interview candidates. Hence, new findings and knowledge led to the requirement of additional information. After the scope was narrowed down to involve digitalization and its impact on business networks and the companies' strategy development, comprehensive research was performed to provide the authors with further knowledge within the area. Search engines such as "Google Scholar", "Chalmers Library" and Gothenburg University's "Supersök", together with articles provided by mentors, were sources used to gather information for the *Theoretical Background*.

To gather information, phrases including terms such as "digitalization", "digital disruption", "digital strategy", "digital development", "strategy development", "business relationships", "network development", "ARA model", "supply chain management", "supply networks", and "impact of digitalization" were used, both separately and in various combinations. As the learning process went forward, the literature search changed to include more specific terms and topics. Furthermore, some research was conducted particularly with the purpose to further learn and understand a concept or term.

4.2.4 Selection Process

The choice of industrial settings was based on the interest of KPMG DTI, as well as the personal interest of the authors. Moreover, ideas were raised from both parties and led into interesting topics, markets and companies to investigate and thus include in the study. These discussions were held with various consultants, as well as the responsible mentors for the project, Ms. Malmström, and Ms. Holmström. Later, continuous meetings were held with the mentors to discuss the progress of the study and support in matters where needed, e.g. reach out to potential interviewees.

The authors believed that the healthcare sector is less developed than other sectors regarding digitalization, mainly due to the high level of governmental control. The financial sector is instead an industry assumed to be ahead of others regarding digital solutions, especially

towards end-consumers. This was believed to be an interesting difference between the two industries, where one is assumed to be in a forefront position, while the other one is assumed to be less digitally developed.

The selection process of case companies, as well as experts, was done partly due to limitations of candidates willing or able to participate in the study, which Bryman & Bell (2007) defines as convenience sampling. Moreover, the snowballing sampling technique discussed by Bryman & Bell (2007) was somewhat used as well. Snowballing sampling is related to convenience sampling and means that selected interviewees further suggest other people to include in the study. This is argued to be an effective approach and suitable for when performing a qualitative study (Bryman & Bell, 2007).

4.3 Selected Case Companies and Interviewees

In order to investigate the development of the business network as well as the internal strategic effect that has occurred as a consequence, it was necessary to include both established actors and somewhat new entrants, in the study. An obvious criterion was to be an actor involved in either the financial or healthcare sector. More than finding potential companies, a complicating factor was to find a person eligible for answering the interview questions, which preferably was an established employee involved in strategic matters. This was a limiting factor and made the search for actors more difficult, thus leading to respondents declining participation.

Even though a list of potential companies was chosen in the beginning, it was continuously amended, mainly based on recommendations from interviewees. Thus, the actors involved in the study were selected based on their ability to participate but also based on recommendations from previous interview objects, in accordance with the snowballing technique discussed by Bryman & Bell (2007). The aim was to involve several actors active in the same business network, having direct or close interconnections. Although, this was difficult to achieve and requests to companies were gradually extended from a business network perspective. Lastly, the number of case companies involved in the study were affected by the factors mentioned above.

The case companies selected for the financial sector, together with information regarding the company and the role of the interviewee, are presented in *table 4.1*.

Table 4.1 Case companies in the Financial sector

Case Company	Established	Type of Business	Role at Company
Skandinaviska Enskilda Banken AB	1972	Universal Bank	Strategy & Digital Analyst
Collector Bank AB	1999	Digital Niche Bank	General Manager Collector Ventures
Revolut Ltd	2015	Mobile Banking - Foreign Exchange	Community Manager
Lendify AB	2014	Peer-to-Peer Lending	Chief Product Officer

The case companies selected for the healthcare sector, together with information regarding the company and the role of the interviewee, are presented in *table 4.2*.

Table 4.2 Case companies in the Healthcare sector

Case Company	Established	Type of Business	Role at Company
Sahlgrenska University Hospital	1997	Healthcare Provider	Chief Medical Informatics Officer
Ascom AB	1987	Telecommunications	Former Nordic Managing Director*
Visiba Group AB	2014	Digital Platforms - Video Conference	Head of Customer Operations
Max Manus AB	2010	Software Solutions - Speech Recognition	Chief Executive Officer Sweden

**Currently Vice President Asia, Africa & Australia*

4.3.1 Other Sources of Data

As a complement to interviews with various companies within the financial and healthcare sector, industry experts were interviewed as well. These experts were selected based on their experience, thus they had comprehensive and varied experience of working with various organizations within the industry. The objective was to let people active in the specific sector discuss their perspective on the sector in relation to digitalization. Therefore, these interviews were naturally conducted after talking to all case companies included in the study.

The experts selected for the financial sector was one corporate finance advisor from KPMG and one management consultant from Accenture, as presented in *table 4.3*.

Table 4.3 Expert actors in the Financial sector

Expert Company	Established	Type of Business	Position
KPMG AB	1987	Corporate Finance	Manager
Accenture AB	2001	Management Consulting	Senior Manager

For the healthcare sector, the selection of interviewees included one management consultant from Company A and one Professor from Chalmers University of Technology, and is presented in table 4.4.

Table 4.4 Expert actors in the Healthcare sector

Expert Company	Established	Type of Business	Position
Chalmers University of Technology	1829	Academia	Professor of Practice in Healthcare Informatics
Company A	200X	Consulting	Executive Position

4.4 Qualitative Interviews

Based on the *Theoretical Background* and established frameworks, further progress involved interviews with several actors that built up to empirical results. *Empirical Findings* were mainly retrieved through interviews, where actors at the selected case companies were the main focus, but input from industry experts was included as an unbiased complement. Moreover, the initial dialog was held with KPMG and besides several meetings with our mentors, one informal interview was conducted with KPMG in order to set the scope of the project. All interviews, except the initial interview with KPMG, were of semi-structured character, which Bryman & Bell (2011), as well as Patel & Davidsson (2011), mean is an interview where questions are formulated but not necessarily asked in a certain order. This means that the structure and exact topics covered during the interviews varied but also enabled the interviewee to cover a wide range of topics as well as topics the interviewee consider most interesting and relevant (Bryman & Bell, 2011).

While Bryman & Bell (2011) consider two interviewers to be redundant for doing business research, the researchers of this study believed it brought value in the interview process. Having two interviewers present meant that one person could focus on discussing the questions and topics brought up, while the other person could solely focus on what the interviewee said and write down bullet points. Furthermore, when compiling the data gathered from the interview, a discussion about the interview could be made to confirm and elaborate regarding interesting topics brought up.

Depending on convenience, such as time to dispose and geographical location of the interviewees, interviews were performed both face-to-face and by telephone. Bryman & Bell (2011) argue that face-to-face meetings are more common and appropriate when conducting business research, compared to phone-interviews that are more common for market surveys.

An important factor that is lost when doing interviews by telephone is the ability to make observations. Thus, the interviewers can't notice any gestures or expressions that the interviewee makes, which could affect and have an impact on the interview (Bryman & Bell, 2011). Based on this knowledge, the objective was to conduct as many interviews face-to-face as possible.

Table 4.5 presents compiled information regarding the interviews conducted, including the circumstances at hand. Interviews with both face-to-face and telephone mean that one interviewer was present, while the other one was available by phone.

Table 4.5 Circumstances of interviews performed

Company	Phone/Face-to-face	No. of interviewers	Recorded	Attested
SEB	Telephone	1	No	
Collector	Face-to-face & telephone	2	No	Yes
Revolut	Telephone	1	No	Yes
Lendify	Face-to-face & telephone	2	No	
Accenture	Face-to-face	2	No	
KPMG	Telephone	1	No	
Sahlgrenska	Face-to-face	2	Yes	Yes
Ascom	Face-to-face	1	No	Yes
Visiba Care	Face-to-face	2	Yes	Yes
Max Manus	Face-to-face	1	No	Yes
Chalmers	Face-to-face	1	Yes	Yes
Company A	Telephone	2	No	

All interviews were conducted in Swedish and the questions that were sent in advance to the interviewees were also written in Swedish. The questions were the same for the case companies, both for healthcare and finance. Both the original Swedish version, as well as a translation of the questions for the case companies, are presented in Appendix A. Questions for the third-party experts were somewhat different and are presented in Appendix B.

4.4.1 Initial Interviews with KPMG

Initial communication with KPMG DTI was of informal character where KPMG raised their concerns regarding the topic and their prerequisites for conducting a master thesis at KPMG. According to E. Holmström (personal communication, 30 Sep 2019) at KPMG DTI, the healthcare industry is a market in which KPMG in general, but KPMG DTI in particular, has knowledge of and contacts within. Thus, a known market where an explorative study can contribute with valuable awareness and knowledge for the firm. Additionally, a major driver

for the current Swedish healthcare industry is based on digital initiatives, why it makes it interesting for KPMG DTI. The same goes for the financial sector, where digital transformation is regarded to be the major driver for the current industry in Sweden. KPMG DTI works with major global corporations where many of these are active in the financial and healthcare sector, why a strategic perspective on digitalization is of high interest for KPMG (personal communication, 30 Sep 2019).

4.4.2 Interviews with Case Companies

Interviews were of semi-structured character, which means that the questions were openly formulated to let the interviewee interpret the question on their own and formulate an answer they best see fit (Bryman & Bell, 2011; Patel & Davidsson, 2011). The template used as a questionnaire for the case companies is found in Appendix A. These questions were sent to the interviewees for screening in advance but were not strictly followed during the interview. Thus, the structure of the interviews varied and other questions than the ones from the template could be brought up. Therefore, interview questions could vary to some degree depending on what topics and particular matters the interviewee brought up.

4.4.3 Interviews with Experts

Interviews with third-party experts were of similar character to the ones made with the case companies, meaning that they were semi-structured with openly formulated questions in order to let the interviewees formulate their own answer (Bryman & Bell, 2011; Patel & Davidsson, 2011). The questionnaire used is found in Appendix B. This template was sent to the interviewees in advance in order to let them prepare their answers. Furthermore, as with the interviews conducted with the case companies, the script of questions was not strictly followed but was instead focused on having an open dialog with the opportunity to add questions while the interview took place. Again, this means that the structure and questions could vary between the interviews to some degree.

4.5 Analysis & Concluding Discussion

Following the iterative process of building up *Empirical Findings*, the *Analysis* and *Concluding Discussion* were conducted. The *Analysis* compared the *Theoretical Background*, including usage of selected frameworks, with the *Empirical Findings* gathered through the interviews. The ARA model, presented by Håkansson & Snehota (1995) and further developed by Pagani & Pardi (2017) is used as the main framework in this thesis. The ARA model takes actors, resources, and activities into consideration, whilst looking at a firm, business relationship, and network level. Using this model as a core for conducting the *Analysis*, it further led to a discussion regarding what the results and analysis indicated, what similarities and differences that were occurrent as well as what could be learned from the results. The aim was that a comparison between the sectors, in combination with comprehensive knowledge gathered throughout the study, would provide valuable insights for organizations active in either the financial or healthcare sector. Thus, these insights together with other concluding lessons

learned were presented in the *Concluding Discussion*. The final chapter includes suggestions on areas for further research.

4.6 Reflections on Quality

A qualitative study, especially conducted through interviews, is highly affected by interpretations as well as the researchers' previous knowledge within the area (Bryman & Bell, 2011). Thus, it is more complex to validate a qualitative study than a quantitative one. Although, Bryman & Bell (2011) suggest that factors such as trustworthiness and authenticity are relevant concepts to discuss concerning the research method. To validate this, Bryman & Bell (2011) argue that criteria such as credibility, reliability and analytical generalization should be considered.

4.6.1 Credibility

Credibility concerns to what degree the results can be considered as reliable (Bryman & Bell, 2011). First off, the risk of bias can naturally occur since the interviewees are working for the organization in which are part of the case study. Therefore, negative aspects can potentially be withheld or mitigated when answering interview questions. Personal relationships could affect the perception of another organization active in the same business network. Although, the interviewees were offered the opportunity to be anonymized, which if encouraged, could lead to more ample information. Furthermore, the questions that were going to be asked were sent in advance for the interviewees to be able to think and prepare potential answers.

Moreover, there is a risk for the researchers, the interviewers, to misinterpret the answers provided. To mitigate this impending risk, several measures were taken. First off, both interviewers tried to be present when each interview took place in order to mitigate the possibility of missing or misinterpreting any information. Although, since the interviewees' time was prioritized before the ableness of both researchers being present, this was unfortunately not possible to achieve at all times. Also, the empirical results retrieved from each interview were later sent back to the interviewee for confirmation. Thus, these measures were taken to increase the credibility of the empirical results. Furthermore, since the interviews were conducted in Swedish, it may impede a risk for misinterpretation when translating. Although, measures taken mentioned above were believed to also mitigate this risk to the best extent.

4.6.2 Reliability

Reliability concerns how repeatable the research methodology is (Bryman & Bell, 2011). Meaning what degree the same results would be achieved through the application of the same methodology for the same study performed again. Reliability is a factor that is more common to use for validation of quantitative research but is highly relevant for qualitative research as well (Bryman & Bell, 2011). Since this study includes various actors in the healthcare and financial industry, it is clear that the selected case companies affect the results to a high degree. Repeating the study would most likely include other companies and results regarding strategic

development may be different. Including several companies in the study, has led to a comprehensive view of the specific market in general. Thus, even though internal control may differ depending on what companies are included in the study, the external viewpoint on the general market would probably be somewhat similar. Also, additional interviews with industry experts were meant to support in this matter further, helping create a general and reliable view on the markets and the business networks in question.

4.6.3 Analytical Generalization

Another aspect important to discuss based on the research approach is analytical generalization, or transferability, which is similar to external validity that is the term often used when conducting quantitative research (Bryman & Bell, 2011). Thus, transferability considers the sample of the cases selected, and to what degree the sample can be regarded as representative for a population (Bryman & Bell, 2011). In this case study, the selected organization within each business network are assumed to be somehow representative of how surrounding actors in the sector are operating. Thus, the representative sample is considerably small for enabling reliable and solid conclusions regarding each sector as a whole. Furthermore, Bryman & Bell (2007) argue that using the snowballing sampling technique, as partly performed in this study, implies a risk of not getting a sample that is representative of a population. Therefore, results and conclusions made regarding an entire sector or business network should be regarded as indications. To mitigate the effects of biases and a small sample of organizations, interviews with third parties were conducted as well. Through these experts, with experience from various businesses within the sector in question, a desire for a slightly higher degree of transferability could be achieved.

Furthermore, the ambition with the developed framework is to have it applicable for other sectors besides from the financial and healthcare industry. Including two sectors that are different, both operationally and in consideration to digital development, would provide appropriate circumstances to develop a general strategic framework. Thus, the aim was to develop a strategic framework valid for the financial and healthcare sector, with the ambition to be relevant for other sectors as well. Though, testing this hypothesis would be subject for further research.

5 Empirical Findings

This chapter will present findings gathered from conducted interviews, investigating digitalization in the financial and healthcare sector. The financial sector is presented first, with the healthcare sector following. There will first be a short introduction of each sector as a whole, which is based on secondary data, followed by gathered data from interviews with four selected case companies. Thereafter, statements gathered from interviews with two industry experts will be presented.

5.1 Financial Sector

In Sweden, as well as globally, there are many types of financial systems and financial services available (Sveriges Riksbank, 2016). The financial systems are interconnected in various ways, both with other types of systems as well as in-between each other. This means that the financial system is considered complex, having many intermediaries and interconnections. Moreover, Sweden has got financial institutions meant to support the financial systems for performing activities such as transactions and payment in a secure and reliable way (Sveriges Riksbank, 2016).

The Swedish financial market can be divided into three categories, which are the stock market, the foreign exchange market and the fixed-income market (Sveriges Riksbank, 2016). The stock market enables companies to obtain capital by issuing shares and thus let investors buy and sell these financial instruments. The foreign exchange market is used for actors to buy and sell foreign currency, for various reasons. The fixed-income market involves the issuance of securities, such as bonds and other instruments, which in turn provides the investor return by interest means. There are also different types of financial intermediaries present in the Swedish financial market, enabling actors to perform various types of transactions. These types of intermediaries are divided into four categories (Sveriges Riksbank, 2016), namely:

- Securities companies: acting as market-makers and brokers on the market.
- Investors: insurance companies, pension funds and fund management companies handling the savings of the public.
- Private equity companies: suppliers of risk capital.
- Credit institutions: banks, mortgage institutions, and credit market companies acting as suppliers of credit.

The financial sector has historically been a difficult market to enter, which has been due to the actors' large size and the networks they possessed (PwC, 2019). The networks added a multiplier effect which made it even more difficult for new entrants to achieve any type of foothold in the sector (PwC, 2019). Although, recent trends of the financial industry in the Nordic countries are characterized by the so-called, "fintech companies". These are companies entering the market as a consequence of the digitalization era, utilizing technology to offer digital solutions (Deloitte DTTL, 2017). These new fintech solutions have in many ways disrupted the financial sector and forced established companies to adapt to these new actors

with (often) new available services, on the market. How the entrance of a new fintech company affects the incumbents is highly dependent on its strategic aim, thus the function and purpose of the digital solution(s) in which the fintech company has to offer. These various strategies are divided into three categories; Competition, Co-opetition, and Collaboration (Deloitte DTTL, 2017). These three segments are thereafter broken down further, according to the definition defined by Deloitte DTTL (2017):

- Competition: Lending, blockchain, robo-advisors, foreign exchange, insurance.
- Co-operation: Investment management, payments.
- Collaboration: Personal finance, foreign exchange, cybersecurity and fraud detection.

According to Schueffel (2016), there is not one singular definition of the word fintech. Research regarding the word *fintech* concluded in a definition as follows: “*Fintech is a new financial industry that applies technology to improve financial activities*”.

Although, Schueffel (2016) argues that there is, or at least could be, a difference between “fintech” and “a fintech”, where the latter often refers to a fintech company. Thus, a fintech company considers a single entity operating with financial technology, while fintech refers to the phenomena of financial technology (Schueffel, 2016).

The financial sector is complex, as previously mentioned, and also makes it difficult to clearly define actors to a certain role or function on the market, based on the various definition presented. The focus of this thesis was to study credit institutions, i.e. banks, as well as fintech companies offering alternative services to established banks. Thus, SEB was selected as a well-established bank offering a variety of services, and Collector that is somewhat new on the market and more focused on their product offerings. Considering fintech companies, both Revolut and Lendify are competing against incumbents on the market, in accordance with the definition presented by Deloitte DTTL (2017). Also, further definitions were established based on empirical results retrieved from the interviews. The actors defined themselves as one of three various types, namely traditional banks, niche banks, and fintech companies. SEB considers themselves a traditional bank, Collector as a niche bank, while both Revolut and Lendify considers themselves fintech companies.

5.1.1 SEB

SEB (Skandinaviska Enskilda Banken) can be viewed as a traditional bank, and have a large variety of business segments, but are mainly focused on issuing debt to corporations in combination to providing advisory services. An illustration of SEB and its immediate network is presented in *figure 5.1*.

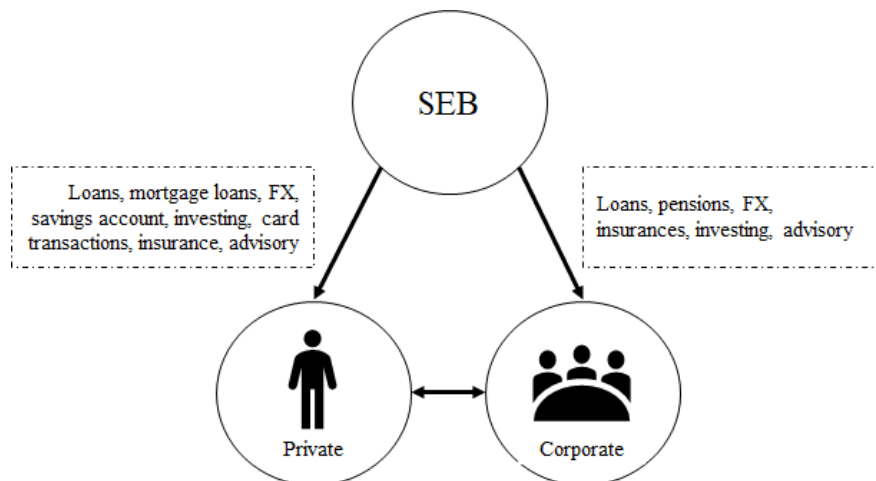


Figure 5.1 SEB's products and services offered to private and corporate customers

The interviewee at SEB explains that all banks from all around the world are evolving rapidly. The main driver of this change is connected to increased demand from customers regarding better and quicker information availability. The requirements from customers are ever-changing, but more is required of a bank today than twenty years ago, mainly due to internationalization and digitalization. Digitalization is the one of the largest changes in the financial sector ever, according to the interviewee. While the competitive landscape is changing, large banks are in a strong position regarding their products and capacity to help large enterprises in an effective manner. At the same time, smaller companies are growing but have trouble gaining ground on the larger financing segment and therefore have to focus on other segments, and thus specialize in a niche segment. As an example, minor Swedish internet-based banks that focus on stock trading for private consumers, are mentioned. Digitalization has led to many new entrants in the financial sector, taking a niche position utilizing digital solutions. These have often been highly specialized which has increased competition considering specific niches. This phenomenon is ongoing and the full effect of it has not been seen yet, we still have not seen, neither the full potential. The next wave of competition, especially related to digitalization, could potentially be when big technology companies enter the financial sector.

In a general sense, the financial sector is undergoing a large transformation and digitalization is the enabler of this change. This may lead to more players in the industry, but it is not easy to compete with large banks, due to a large distribution platform advantage. Although, innovative solutions and increasing development on the market, also mean increased pressure to comply with regulations and maintain reliable and secure operations.

Much of the competition actually takes place in standardization at the time, where digital solutions can be utilized. Another noticed trend is internationalization, which is related to digitalization, but it is yet difficult to predict the full affection of this. The interviewee at SEB believes that smaller fintech companies, in general, can be quicker to adapt in some cases. A large company generally requires time for change to happen while a small company can start from scratch with the flexibility to test different approaches rather quickly.

Internally at SEB, new departments and focus areas have emerged as a response to digitalization. The customers are requiring more data analysis in terms of corporates and macroeconomics than ten years ago, possibly due to information moving quicker and the available digital tools becoming more advanced and capable. This has not only changed SEB's internal structure, but also the importance of suppliers. Software suppliers have become a more integrated part of daily operations. Relationships across the board have become more focused on performance and creating products with proven results.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.1*.

Table 5.1 Analytical comments for SEB

Network	<ul style="list-style-type: none"> - Digital tools becoming more advanced. - New actors that are highly specialized and focused are entering the market at an increasing rate. - Technology giants may enter the sector in the future. - Standardization of information is taking place in the financial sector, which is one area of competition. - Customer expectations are increasing.
Business Relationships	<ul style="list-style-type: none"> - Fintech companies are highly flexible and adaptable. - Consultants and IT suppliers are becoming more important and are more involved in daily operations. - Relationships are becoming more focused on performance and providing measurable and data-driven results.
Firm	<ul style="list-style-type: none"> - Focus shifting to financing larger enterprises instead of consumers and smaller enterprises. - New departments emerging.

5.1.2 Collector

Collector was established in 1999 and is a digital niche bank offering services to both private customers and corporations (Collector, n.d.). Savings account, private loans, credit cards, and financial products are examples of products for private customers. For corporations, Collector offers payment solutions for e-commerce, factoring services, company credits and much more (Collector, n.d.). An illustration of Collector and its immediate network is presented in *figure 5.2*.

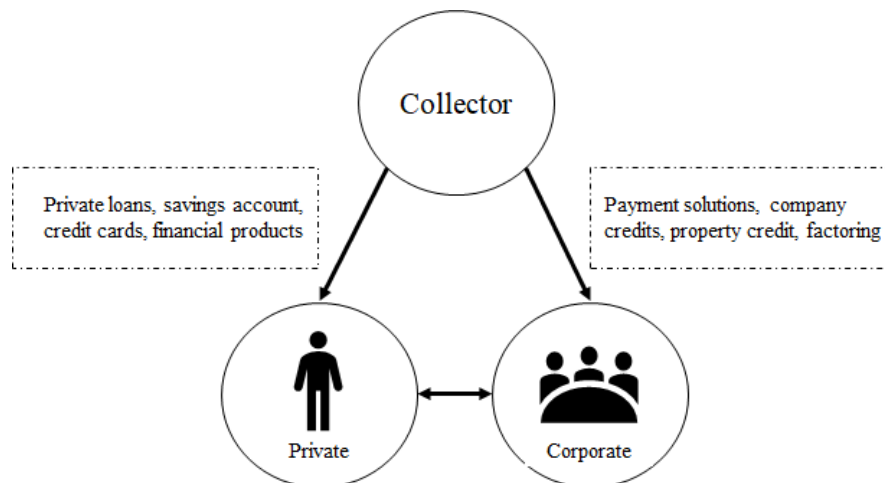


Figure 5.2 Collector's products and services offered to private and corporate customers

The interviewee at Collector argues that they are a niche bank, operating somewhere in-between the traditional banks and the new fintech corporations. In the group in which Collector identifies with, they believe that they have a forefront position in digitalization, but still far from many fintech companies. The interviewee at Collector believes that they managed to become digitalized quickly due to being a younger company than the others in the same actor group. In addition, the conditions were perfect for a transition from analog to digital mediums. Sweden is a great place to start a financing service for both private consumers and businesses due to the high availability and transparency of information.

Digitalization on the consumer side has been evolving rapidly, but it is not until recently that the same change has begun to emerge in the business-to-business segment. The digital development goes hand in hand with increasing standardization. Thus, even though Collector values adaptation in many regards, digital solutions for standardized processes is a way for achieving scalability in a segment where Collector believes they have a competitive advantage. Automated processes have made private loans to a commodity that is easily compared to the consumer. This has also led to emerging of actors such as loan comparison companies.

Digitalization has not been the driver for change, but Collector has instead searched for business areas where they could notice market gaps and see attractive business opportunities. The change towards digitalization came naturally and internally, based on external market opportunities. When factoring and mail order became day-to-day operations for Collector, they noticed that e-commerce had the potential to change how finance is utilized and operated. This led to a natural transition towards digitalization. After the company first started to issue unsecured loans in 2005, they tried out digitized solutions and realized that it worked well. The more they used the digital solutions the better they became, Collector then started to focus on digitalization more in order to develop better solutions.

Due to the fact that Collector does not have a front office, it was a natural transition to become more digital. The company historically operated by phone and postal services, which is not far

off how it operates today by phone, e-mail, and its website. The transition to being more digital was made between 2012 and 2013. Some stakeholders expressed concern with this transition due to possible fraud increase. Although, Collector has seen that fraud has actually decreased due to the digital processes and methods being more secure than the alternatives.

Collector has realized that while they can take on minor businesses as customers, they too have their limitations. With an automated process, this limit can be reduced and lead to profits still being available in smaller customer segments. Another competitive aspect that is influenced by digitalization is the lead time for approving business loans, for example, loans regarding real estate development. According to the interviewee at Collector, a loan of this size may take months for traditional banks to approve, but only takes weeks for Collector.

The interviewee considers Collector as one of the more digital banks. They are also aware of that when they entered the market, they took market shares from the traditional banks. Historically, Collector has had the opportunity to acquire actors that have in turn become competitors. This has made them aware of the threats that can emerge, which in turn has influenced how Collector acts. One action was to initiate a venture capital business in order to be aware of market changes, but also to invest in these upcoming innovative companies. Moving forward, the interviewee believes that the corporate side of lending and financial services will see the same change that the consumer side has been through, mainly related to automatization and standardization. The difficulty will then be to handle outliers.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.2*.

Table 5.2 Analytical comments for Collector

Network	<ul style="list-style-type: none">- Three actor types: traditional, niche, and fintech. Correlates with levels of digitalization, where traditional is low, fintech is high, and niche somewhere in-between.- Newer companies tend to be able to quickly adapt and change.- Sweden is very conducive to standardization due to information availability and market transparency.- Other supporting actors have entered the market, actors such as aggregators.- Increased market transparency.- The business segment is lagging behind the consumer segment in terms of the digitalization level.
Business Relationships	<ul style="list-style-type: none">- Loans have been commoditized due to information and market transparency.- Standardization and automation make unprofitable segments profitable. Outliers are still difficult to handle for digital processes.- Digitalization is seen as more secure in terms of fraud than traditional services and processes.
Firm	<ul style="list-style-type: none">- Digitalization was a natural step for Collector since their processes were easy to digitalize.- Standardization is a way to achieve scalability.- Collector has its own venture capital branch as a way to defuse potential competition.

5.1.3 Revolut

Revolut was started in 2015 by a foreign exchange trader who noticed disruptive forces in other industries, such as the music industry (Spotify). Revolut currently offers payment cards that are connected with a smartphone application, as well as a charge-free foreign exchange due to a peer-to-peer system between its users. Revolut is currently Europe's fastest-growing fintech company with approximately 7 million users and 1700 employees. An illustration of Revolut and its immediate network is presented in *figure 5.3*.

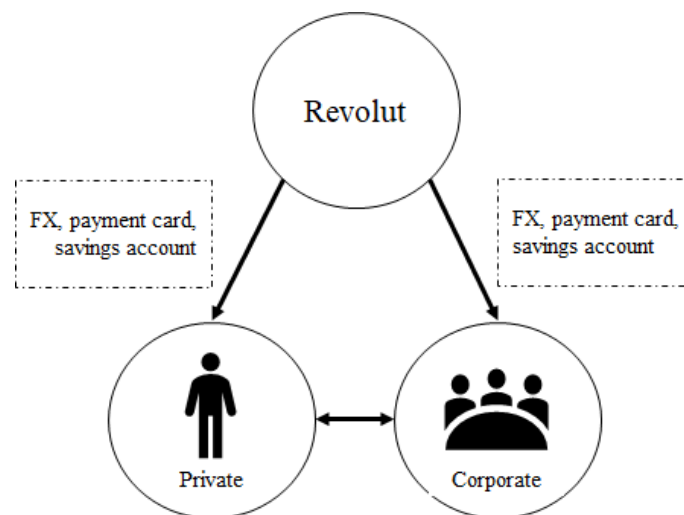


Figure 5.3 Revolut's products and services offered to private and corporate customers

The interviewee mentions that fintech, in general, perform above customer expectations regarding response time and customer experience, which is making a positive impact on how fintech companies are perceived by the market. Banks are having trouble replicating this and are therefore struggling with performing on par with customer expectations due to those expectations increasing. The interviewee argues that competition is appreciated since a larger supply of services and products leads to a more positive attitude towards various fintech solutions. Competitors have thus possibly given a boost to Revolut's growth by showing that fintech can indeed be better than traditional banks at certain activities, such as digital solutions. This can also be shown in how investors are acting, between 2015 and 2018 there was a large surge in investments within fintech companies.

Regarding the future development of the market, the interviewee at Revolut believes that major technology players such as Google, Apple and Amazon might make a move to enter the financial markets. The interviewee also thinks that the financial industry will be divided into three sections, such as the process consisting of big banks' capital flow, the platform that consumers utilize (i.e. Revolut), and products on the platform. The interviewee firmly believes that the customer contact will not be owned by the banks but instead be transferred to other actors.

According to the interviewee, the general consumer trend is a centralization of services, since consumers, in general, appreciate multi-functional tools. Revolut's strategy includes a base

platform that is able to serve as the basis for further functionality and complexity. New features of Revolut have continuously been introduced, such as on-demand insurance policies. Interestingly enough, the end customer has played a central part in how the functionality has been developed since these new features have in some cases been made due to direct customer demand. The current generational shift is showing that customers are becoming more on-demand. Products and services are going towards servitization while the banks are still in the ownership mindset. Customers are more willing to ask for advice from for example chatbots, if they are correctly made, than from a human advisor if that means complete availability at all times. The generational shift introduces a generation that appreciates increased availability as well as simplified and reliable functionality, which some new digital solutions have enabled.

While a lot of resources are used to develop new services and products at Revolut, most resources are put towards marketing and global expansion. In order to secure new talent and expand globally, there is a lot of focus on the internal culture and engaging in culture improvement throughout the company. The engagement with end-consumers has also changed with the growth of the company. Previously they engaged with their customers in a face-to-face setting, which was difficult to maintain as the company grew. Revolut does, however, try to still keep up with many of their consumers by inviting them for workshops and much more.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.3*.

Table 5.3 Analytical comments for Revolut

Network	<ul style="list-style-type: none"> - Technology giants may enter the sector in the future. - Customer expectations are increasing in the sector, due to fintech companies performing above customer expectations.
Business Relationships	<ul style="list-style-type: none"> - View other fintech companies as enablers rather than competition, due to the normalization of fintech in the sector. - Customer relationships are changing with company growth, face-to-face with customers is decreasing due to not being scalable. - Customers are heavily involved in product development. - Customers want to centralize all their applications in order to make things more convenient. - Peer-to-peer service enabled.
Firm	<ul style="list-style-type: none"> - Revolut wants to be the interface between capital flow and product developers, i.e. be the platform. - Resources are utilized for expansion rather than development. The company is growing fast with a continued focus on growth. - Continuous improvement of the internal culture, having full-time employees dedicated to improving the company culture.

5.1.4 Lendify

Lendify was established in 2014 and is a peer-to-peer service for private customers, offering the opportunity for customers to both issue and obtain loans. The product offering includes two separate services for customers, where Lendify acts as the middleman. A customer can either request a loan with prerequisites set by Lendify or be the opposite party by offering liquidity, used for issuing loans, where dividend yield is obtained in return. Furthermore, Lendify has institutional investors as well, which has brought financial resources as well as legitimacy for Lendify. An illustration of Lendify and its immediate network is presented in *figure 5.4*.

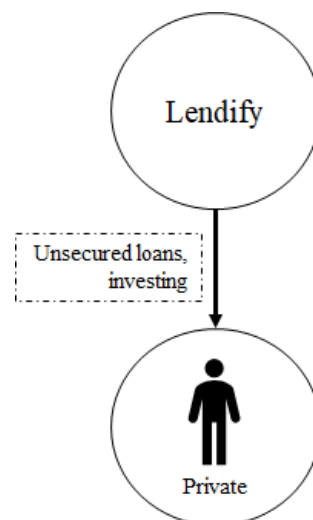


Figure 5.4 Lendify's products and services offered to private customers

The market has historically been dominated by traditional banks, where niche-banks more recently have entered the market to compete with the incumbents. Digitalization has been a major enabler for this progression, but the next step into the digital era is fintech, where Lendify places themselves. Although, the interviewee at Lendify mentions that fintech companies only represent 2% of the current financial market. Fintech will continue to prosper through technological development, but also through gradual acceptance and familiarization from customers. Customer understanding and loyalty is very important in general but is significant for the financial market concerning peer-to-peer lending. Traditionally, one actor has been handling most of a customer's financial matters, and the transparency has been limited for the end-customer. With new entrants utilizing digital solutions and in turn enabling a more competitive landscape, the customer becomes more aware and familiar with digital solutions. New entrants are therefore not necessarily in direct competition, which can be exemplified with the relationship between Lendify and other fintech companies that the interviewee mentioned.

The interviewee at Lendify argues that their obvious competitors on the loan side are traditional banks. Lendify has managed to offer a simpler and at many times more attractive offering, concerning loans, than the traditional banks. On the other side of the business, regarding dividend yield, the interviewee implies that the competitors are more diverse. Besides the traditional banks that can offer a variety of investment opportunities, there are many other actors available for this kind of opportunity. Although, the interviewee also believes they have

managed to somehow fill a market gap since they can offer a new type of investment opportunity.

In general, the interviewee at Lendify believes that many niche banks are growing out of their niche and works with a wide variety of offerings. Lendify wants to continue to prosper within their niche and their next step is hopefully to be able to offer house mortgages. This would be a way of diversifying their product portfolio, but it would also be a major step towards a much bigger market. Yet again, they would keep competing with the traditional banks, but also new entrants wanting to compete on the market with attractive opportunities. The interviewee believes that they have an advantage of being a first-mover as well as possessing innovative technology, in which they develop themselves. Keeping technology development in-house is an important part of Lendify's strategy and doing so enables scalability. Price has become a major driver on the market, in which Lendify due to their scalable business model, have managed to compete with and can continuously offer more attractive prices.

Customer understanding has been an important factor for Lendify since their new type of product can be considered disruptive in the financial market. A new product, which also can be regarded as quite complex, therefore implies a challenge for obtaining customers' trust and understanding. A big part of Lendify's strategy has therefore been marketing. Starting on a small scale, the initial target group was people familiar and active in the stock market, which Lendify assumed could be an attractive customer group. Thereafter, with increased awareness and understanding, marketing has gradually shifted to involve a wider target group. The primary marketing channels that Lendify have utilized is the podcast media since that is a medium where communication can be utilized for delivering a clear and elaborated message to potential customers. As the marketing strategy worked well, the initial and only podcast that was utilized has become several podcast channels as well as some business magazines. Thus, Lendify continuously evaluates its marketing strategy and adjust their communication to reach the desired customer groups. As the business, as well as the customer base, is growing, Lendify are utilizing data more, in order to adjust their marketing and communication towards customers.

Lendify aims for a close and long-term relationship with its customers, and more than direct marketing, Lendify wants to take advantage of word-of-mouth in order to create awareness and trust among current and potential customers. Furthermore, Lendify wants to maintain a long-term relationship in order to be able to offer new products and services in the future. Thus, Lendify are using marketing and data for the handling of current customers as well. Recently, Lendify obtained a reward for having the most satisfied customers in Sweden regarding private loans.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.4*.

Table 5.4 Analytical comments for Lendify

Network	<ul style="list-style-type: none">- Increased technological development increases fintech's viability, due to technology itself and customers' exposure to technological tools.- Digitalization leads to market transparency and information availability, which in turn leads to price pressure and commoditization.- The new actors are specialized while the traditional banks have a large assortment of services and products.- The new actors are decentralizing the customers' service providers, i.e. increasing the number of different service providers utilized.- Identifies three types of actors: traditional banks, niche banks, and fintech companies.
Business Relationships	<ul style="list-style-type: none">- Views competing fintech companies as something positive, it leads to more exposure and in turn normalization of the medium which is a net positive for the fintech actors.- Peer-to-peer service enabled.- Customer loyalty is seen as something very important.
Firm	<ul style="list-style-type: none">- View customer experience as something critical in their business approach.- Developing technology in-house is an advantage since it is easier to scale.- The marketing approach is changing as they grow. The process is very data-driven and with more data, it is easier to make better decisions.

5.1.5 Comments on the Financial Sector

In addition to interviews conducted with the case companies, two interviews were done with experts in the field of finance in order to obtain a third-party view of the sector. Thus, one representative at KPMG and one from Accenture were interviewed and are further presented below.

Financial Expert - KPMG

The interviewee at KPMG mentions the importance of differentiating between the transaction and financing services that banks provide. It is believed that banks will continue to own the financing process because of the capital requirements. However, the transactional component in the financial sector is switching more towards fintech companies. Although, the trend of increased competition is believed to continue across the board. One reason for this trend shift is possibly due to technological enablement and development. The second reason can be seen in "classic macroeconomics" where demand and profit opportunities are driving the innovation and development of the industry. The third reason for a more competitive financial sector is that customer satisfaction has become increasingly important. Previously, consumers were limited in their choice of bank, but a more competitive landscape where customers have become more aware, partly through digital solutions, has put more pressure on banks to

increase customer satisfaction. Thus, digitalization has been a driver for a more competitive market but has also created more transparency and awareness among end-consumers.

One way for established actors to maintain and compete on the market has been through acquisitions of minor innovative companies, to either help them develop further or integrating them completely. This can be a solution for the near future but is perhaps not the best solution for the longer term. The bulk of the banks' business is the financing component whereas the transactional component has been a separate revenue stream. The financing component has always been a difficult area to enter and probably still is, if not even more difficult now due to the regulatory aspects. The banks have previously been leading providers of financial services such as unsecured loans, mortgages, transactions with other countries, etc. Nowadays other actors are starting to enter these specific areas with solutions that are often peer-to-peer based, where Lendify and Revolut are mentioned as examples.

The interviewee believes that the consumer has been further distanced from the banks in terms of relationships due to the emerge of internet banks, where it has come to be rare to have a local banker to meet in person. The loyalty towards traditional banks has therefore disappeared in many ways, and financial services such as loans have instead turned into a commodity. The choice of using a fintech service over a traditional bank has thus been enabled. Due to regulatory pressure, the demand for compliance has increased, thus forcing banks to put a lot of resources towards complying accordingly. New fintech companies do not need to have a large organization, due to scaling differently with growth, and can instead do a lot of things from the ground up. This can open up the possibility to utilize resources on other activities than what a more traditional organization in finance may be required to do. Another emerging web of actors that may be going into the financial sector are the major technology corporations, such as Apple, Google, Amazon, and many others. The big difference between fintech and big technology companies is that big technology companies will probably not innovate when entering the financial sector and will thus not necessarily provide any added financial value compared to the current actors, but instead utilize current processes with new technologies. The interviewee believes that the fintech actors that are more specialized will continue to grow and bring more added value than the larger and traditional actors since these smaller organizations have the possibility to be more flexible than large banks.

Financial Expert - Accenture

Accenture is a global management consulting firm established in 2001, operating in 120 countries, with almost 500 000 employees (Accenture, n.d.). Accenture offers consulting services across many industries concerning strategy, operations, technology, digitalization and much more (Accenture, n.d.).

According to the interviewee at Accenture, digitalization is a way of achieving increased efficiency, which people and organizations always have strived for due to competition. Digitalization has been occurring for many years, both globally and on the Swedish market, and the development is developing gradually. What could be considered a disruptive digital solution from a customer's point of view, could actually have been developed for a long time

among many active actors on the market. Although, it is noticed that digital development has been speeding up in recent years. What is considered an obstacle, or hindrance, for development going forward is related to policies and regulations that the company has to comply with. Regulations have been a steering factor in the development of companies in general, related to new actors taking advantage of digital solutions. The more activities a company within the financial industry perform, the more regulations it has to comply with. Thus, this has led to many new actors with a niched business idea, only having to deal with compliance related to their specific area. A decentralization has occurred as a consequence. This has also been possible due to the fact that the sector has grown as a whole, enabling most of the established actors to maintain a competitive position on the market.

Established actors have an advantage compared to smaller niched organizations that are related to customer behavior, namely, to offer package solutions. Some customers are willing to pay extra for the comfort of having all financial activities in one place. On the other hand, many consumers are willing to spread their financial activities among various actors in order to get the best offering for each type of product or service. Another interesting aspect is that customers' trust is higher for traditional banks than for other organizations operating in the financial market. This both includes smaller actors as well as major corporates entering the market from other sectors.

Digitalization has led to increased transparency, which in turn has led to price pressure in the sector. As a consequence, servitization has become more common in the sector, having actors offering more value-adding activities, beyond the product in question. Although, activities such as lending have become commoditized since the product offering is quite simple, and thus difficult to differentiate. But for the majority of financial product offerings, it is possible to differentiate either by additional services, package solutions or extraordinary user experience. Related to user experience is the fact that customer expectations have increased regarding financial activities. Customer behavior has thus changed as well, perhaps in relation to digital development. Nevertheless, digitalization has enabled a better user experience and has become an important factor for competing in the financial market.

Rules and regulations are an impending threat for financial actors in the future, especially minor actors that currently are not as strictly governed as big and traditional actors. Another aspect is the big technology companies that may enter the market in one way or another. Although, the trust aspect is a concern which may imply that these companies may not overtake the financial sector to any large extent. Instead, they may operate as platform companies, meaning that they would not compete in immediate terms with traditional actors. Furthermore, it is believed that more platform-based solutions will appear and the market will, in general, be based on these types of APIs (Application Programming Interfaces) in a broader sense, which already can be noticed. However, this development will mainly affect similar operating actors which mostly, at least currently, are minor actors. Thus, most threats are apparent for smaller actors, which are referred to as fintech corporations. Threats apparent for larger corporations involve important strategic decisions, for example, related to operating systems. The problem takes ground in the fact that big organizations are complex, involving many actors and different

processes, which in turn leads to slow transformation processes. Changing and integrating systems in such organizations will take time and could imply that the circumstances could drastically change during the transformation process.

A current trend is an expansion of the market where more actors are entering the market, both with new and existing product offerings. This is partly based on the digital development in which enables new types of solutions which were not available before. Moreover, it is related to the market circumstances as a whole, where new companies currently can access funding more easily than before. This has led to many, so-called, fintech companies. The interviewee states that there is not a clear definition of fintech companies and its implications, but that it is related to recent entrants in the financial market, utilizing or offerings some type of digital solution or technology. The opportunistic behavior in today's market has meant that these companies do not have the same requirements and expectations regarding profitability and yield, compared to traditional actors. These new actors are not expected to turn a profit in the near future while they are developing their business and establishing themselves on the market. This is considered a relatively new phenomenon, and one could question how long this trend of indulgence will proceed. Historically, there has been a prerequisite for companies to make a profit and generate yield for their investors, which is still indulgent for established actors.

Looking at future development and opportunities, there will be new upcoming actors taking place on the market. This means that the market will have many new actors, but there will be many companies leaving the market as well. Although, the interviewee believes that the market will grow as a whole, both in terms of market capitalization and the number of actors.

5.2 Healthcare Sector

Larsson (2018) argues that healthcare often refers to the healthcare system, where the system consists of actors such as clinics, hospitals, practitioners, politicians, and officials. Although, this study will not involve actors governing the healthcare sector, but instead actors that are actively working as, or with, healthcare providers. The healthcare sector in this context involves actors providing healthcare, such as hospitals and clinics, suppliers to the healthcare providers, as well as the patients receiving healthcare services.

The Healthcare sector in Sweden is unique compared to other countries (Ekman, 2018). Healthcare in Sweden is governed by 21 counties and 290 municipalities in the country, who are responsible for the healthcare within their specific region. The Swedish government has a holistic responsibility for certain common regulations, knowledge requirements and subsidies (Larsson, 2018; Statens offentliga utredningar, 2016). Swedish healthcare is funded through taxes, grants from the state as well as user fees (Ekman, 2018; Larsson, 2018). The majority of the clinics are directly run by the county, but there are private clinics as well. These private clinics are privately owned but have contracts with the regional authority (Ekman, 2018). As stated by Baller et al. (2016), the Swedish government, and thus the healthcare sector, is considered slow and relatively inert in terms of new digital technology and transformation. Changes and new procurements often have to be administered at several levels in order to be

performed (Statens offentliga utredningar, 2016). Furthermore, it is a people's business where precautions of various kinds are required which means that time-consuming, yet necessary, safety measures have to be made before implementing new solutions (Statens offentliga utredningar, 2016).

The case companies selected in this study are Sahlgrenska University Hospital (SU), which is a major healthcare provider offering various services. Moreover, three different suppliers in the sector were selected, these consist of Ascom, Max Manus, and Visiba Care. Ascom is considered a well-established actor on the market, while Max Manus is an old-established firm yet recently new on the Swedish market. At the same time, Visiba Care is completely new as a company. Moreover, two experts within the field are interviewed in order to contribute to the general view of the sector.

5.2.1 Sahlgrenska University Hospital (SU)

SU (Sahlgrenska University Hospital), which is a hospital in central Gothenburg governed by the Västra Götaland Region, has a department named *center for digital health* which had its inauguration in October 2019. This department was initiated due to the need for resource efficiency in healthcare. Different competencies have been gathered from Sahlgrenska University Hospital to work with digital solutions in healthcare. The organization is different from other organizations within healthcare in that instead of being linear, it does not have one central officer but instead different cross-functional teams with different heads. An illustration of SU and its immediate network is presented in *figure 5.5*.

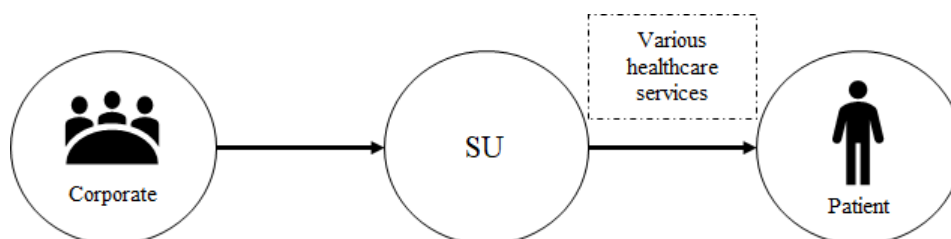


Figure 5.5 Sahlgrenska University Hospital and its immediate network position

According to the interviewee at SU, there is a gap between the resources that the public healthcare sector has and the perceived need. The hope is that this gap can be bridged by new work procedures and/or digital tools and solutions. In the healthcare sector as of today, processes such as pilot projects, tayloristic procedures and PLCA (product life cycle analysis) are utilized. The drivers for these needs and the reason for this gap expanding is mainly due to an aging and more healthy population, which in turn is related to technological and medical enablement of surviving previous deadly outcomes. However, not only is the demand for resources in healthcare increasing, but the expectations of the patient (end-consumer) are also changing, and in a way also increasing. The interviewee at SU believes that this can be related to other sectors influence on the end-consumers expectations, sectors that have made it easier for the patient (end-consumer) to reach and engage in the provided service due to a variety of digital solutions. Healthcare has historically been slow regarding innovative development and change, mainly due to regulatory implications and the unique circumstances in the sector.

One service discussed was 1177, which is a public service for the Swedish population, which works as an online portal for providing information, to renew prescriptions and connect with the right healthcare provider. The plan is to expand this service in order to provide a more effective service to the patient, where the patient also can be helped with self-care regarding minor issues. By having the patient more involved in self-care and in the process itself, the *center of digital health* hopes to reduce the number of hospital visits and thus increase overall efficiency and quality.

In VGR (Västra Götaland Region), which SU is part of, there has been an initiative to start utilizing big data analytics in order to summarize output data from the different systems and therefore make real-time data possible for healthcare providers. To exemplify how digitalization has been applied in the healthcare sector, the interviewee at SU expands on primarily two examples. The first example is e-Psychiatry that has implemented something called “Calm Rooms” in VR. By not needing specific rooms in the hospital for these patients but instead having the patients use VR goggles, it will reduce the resources needed to care for these patients. Another example given was how RPA (Robotic Process Automation) has been utilized for conducting questionnaires and gathering data. Distance monitoring of patients has also become more common, including monitoring IBD (inflammatory bowel disease) for example, which means weighting for patients with heart disease.

Most of the digital solutions are procured on a regional level, where VGR IT (procurement party) cooperates with SU in order to understand the needs. While a lot of procurement is done, some solutions can, and are, developed internally at the *center for digital health*. The interviewee at SU mentioned that innovation only emerges internally when it has already been established and proven externally on the market. Some innovative solutions on the market have been in response to obvious need, for example, the service platforms and applications for meeting a doctor online. This has emerged due to public healthcare not having enough capacity. In other cases, the need has been so obvious that the public provider had to act. This was the case in northern Sweden, where the public is spread over a large geographic area, which created a need for having some type of distance calls between doctors and patients. Thus, the circumstances at hand are driving development.

A major change in healthcare is the use of medical data, i.e. medical informatics. Digitalization is in need of a standardized output data, especially when combining databases since there are different definitions in the datasets currently utilized. There is a need to standardize this, not only on a regional level but also at private hospitals and clinics. Regarding the scarcity of resources available in healthcare, there is a need to increase capacity and automatization. Though, there are some difficulties in terms of regulations due to the sensitive nature of patient data. Other difficulties can be seen in both employees and patients that are unwilling to change their way to operate. The largest changing factor for healthcare in terms of digitalization has been going from paper journals to digital journals, according to the interviewee. There is a lot of focus on having the patient in the center of things. For example, SU tries to involve the patients in the development process of digital solutions. The patient is also expected to become

more involved in their own care moving forward, i.e. not only for developing new processes but also in actual care. While the physical distance may increase, the interviewee says that SU has come closer to the patient due to the inclusion of the patient in developing new processes and tools.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.5*.

Table 5.5 Analytical comments for Sahlgrenska University

Network	<ul style="list-style-type: none"> - Driver for digitalization is to effectivize the sector due to resources being highly strained. Effective utilization of resources is a priority. - Healthcare is lagging behind other sectors in terms of digitalization, therefore it is also influenced by other sectors. - The change in the sector is slow, due to regulations and reluctance to change. - Transformation and innovation in technology are forced due to external market actors entering and creating a competitive environment. - Customer and patient expectations are increasing.
Business Relationships	<ul style="list-style-type: none"> - There is a focus on patients and putting them in the center moving forward, they are expected to help out with more self-care in the future. - There is a need to standardize information.
Firm	<ul style="list-style-type: none"> - <i>Center of digital health</i> is a unique organization in that it has changed its structure from linear to more cross-functional. - Big data has garnered attention and is being utilized by SU.

5.2.2 Ascom

Ascom is a company focused on creating more effective flows of information in healthcare, mainly focusing on wireless on-site communication solutions. Their idea is to bring the correct information to the right person. This is done by connecting different machines in a hospital and connecting everything to a local server, this is also connected with alarms and specialized smartphones in order to bring the right information to the right person. An illustration of Ascom and its immediate network is presented in *figure 5.6*.

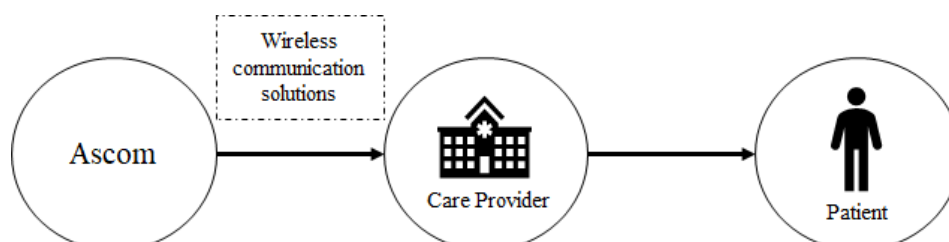


Figure 5.6 Ascom and its immediate network position

A general trend that Ascom has noticed, is that healthcare has become more focused on actual output rather than operating time. Another trend is preventive medicine, especially towards the largest cost drivers. One example of preventive medicine is to focus on pre-diabetics and

helping them before they reach a diabetic stage, this, in turn, reduces the resources needed in the long run. A more general trend that has been noticed is the initiative to try to connect and integrate the different subsystems into one main system, trying to homogenize the patient data. The objective is for a healthcare professional to be able to follow a patient's medical history from cradle to grave. Lastly, a major trend is to treat the patient (end-consumer) with more individualized care and make the complete experience more seamless and better, where the patient is in the center. The driver for this is that when a patient has a positive experience the rate of recovery is usually faster and more stable. Ascom believes that the reasoning behind most of these changes, and the need to connect the different flows, is a lack of resources. By homogenizing the flows, you could potentially get shorter reaction times and higher rates of survival while saving resources.

In order to develop as a company, Ascom looks at the needs of its customers, mainly hospitals, and therefore spends a significant amount of resources on research and development. Most innovation is based on current needs but there are also impressions from other sectors that are looked at. The healthcare sector is generally slower to change than other sectors, possibly due to the handling of patients which sometimes involves critical situations.

Ascom is a global solutions provider, with local branch offices in over twenty countries. In the past few years, there has been a consolidation of the sector where local smaller companies are being bought by global players. These global players are mainly American due to those organizations already being large in their domestic market which in turn makes it easier for them to enter a new market. Usually, those big corporations tend to push out local suppliers. The healthcare sector appreciates a stable and safe solution and thus a larger provider has the resources and capacity available to ensure successful delivery. This has created a dynamic market with more competitive forces at play.

Ascom tends to maintain ongoing communication with their customers. When a problem or certain demand occurs, Ascom will provide a customized solution accordingly. While Ascom used to focus a lot on hardware, there has been a change towards service and software and not only hardware as a solution. The change in focus from hardware to software was due to software enables a recurring business model. With purely hardware-based sales it is difficult to establish a recurring revenue. With a switch to software, it is possible to build a platform that can be further expanded on and thus establish a stable recurring revenue stream. This mindset also enables a closer and deeper connection with customers. The knowledge of the customer's operation becomes better and it is easier to develop optimal solutions for the specific needs of the customer. The need for a recurring business model is partly due to increased price pressure on the market for hardware, which could be a consequence of digitalization's enablement and increased market transparency.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.6*.

Table 5.6 Analytical comments for Ascom

Network	<ul style="list-style-type: none"> - Healthcare in Sweden could utilize resources more effectively. - A trend to work with preventive medicine, especially in the largest cost drivers, for example in diabetes. - Trend to standardize data in order to connect and integrate different sources. - Large global actors are acquiring local suppliers and thus consolidating the market. - Digitalization has enabled market transparency and in turn price pressure, this creates a need for recurring revenue models. - More important with patient experience and individualized care within Healthcare.
Business Relationships	<ul style="list-style-type: none"> - The patient is at the center for a lot of development, especially when it comes to developing the customer experience. - A servitization model creates closer bonds with customers due to the frequency in contact.
Firm	<ul style="list-style-type: none"> - Changing internal focus due to servitization models. - Change in focus to output and actual data-driven performance rather than operating time. - Ascom is becoming closer with its customers in order to continue a deeper development of products and services.

5.2.3 Visiba Care

Visiba Care was founded in 2014. At that time, they had an idea rather than a finished product. A philosophy they are still operating by today. Visiba Care offers an IT-platform for the healthcare sector where they can adjust capabilities and functions according to customers' needs, at least to a high degree, and continuously develop the products from that point on. The foremost used function up to this point has been the video-function, where the customer can reach their patients through video conference. An illustration of Visiba Care and its immediate network is presented in *figure 5.7*.

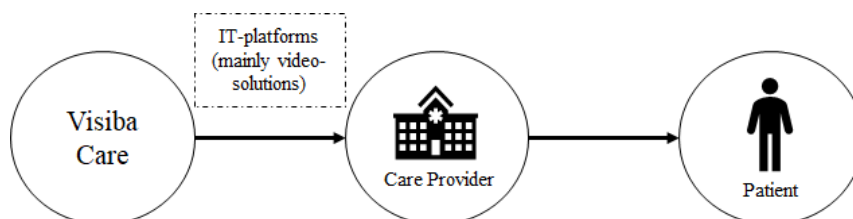


Figure 5.7 Visiba Care in its immediate network position

Visiba Care argues to be a SaaS (Software-as-a-Service) company. They continuously develop their products to fit the needs of their customers, both utilizing data, conducting surveys, and through ongoing communication with customers and other stakeholders. Visiba Care emerged

due to an unfilled demand, where they acknowledged that digital solutions could be utilized for more efficient and convenient healthcare, and video solutions have come to be their main focus due to demand and convenience. The interviewee mentions that laws and regulations in Sweden are obstacles that are slowing down implementation processes, and innovative companies such as Visiba Care have to adjust accordingly. Although, the interviewee adds that it is still very important to maintain strict regulations in the healthcare sector.

According to Visiba Care, the healthcare sector in Sweden is going through major changes related to innovative technology and digitalization but is considered to lag behind other sectors. The financial sector is an example where the healthcare sector can get inspiration from, due to their forefront position in digitalization. The healthcare sector in Sweden is unique in terms of regulations and laws, as well as the competitive landscape. The regional autonomy, which also requires national political support, has led to a variation in agility and means that there is variation in digital and technological maturity among the regions. As an example, the interviewee mentions that a new well-functioning innovation implemented in one Swedish region, requires an average of 17 years to spread among 70% of the total regions. Consequently, agile and innovative actors have managed to enter the market to offer patients alternatives to regional healthcare.

A part of Visiba Care's business approach is to create new business relationships, where they often utilize the non-competitiveness among Swedish regions to cooperate, utilizing knowledge and resources from each other. Since Visiba Care develops and integrates its systems with other actors, this approach is meant to provide a steeper learning curve and thus add value. For these actors, Visiba Care tries to connect non-competing actors to each other, and also host customer and educational events. The interviewee argues that through creating new business relationships, where they act as an intermediate, they are creating more value for all involved actors.

Especially many of the autonomous regions have, through the integration of information and data, started to cooperate to a higher degree in order to find synergies to increase overall efficiency. Furthermore, the interviewee believes this has meant that patients have, and continuously are, getting closer to their healthcare operators. But the interviewee argues that it is difficult to determine since there are many different types of operators, where patient needs vary as well.

The interviewee at Visiba Care believes that digitalization will be a big part of the future development of the healthcare sector, where the patient will be gradually more involved. How the development will take form depends on how the rules and regulations of Swedish healthcare will be governed by politicians. It is a complex industry where handling of personal data has been and still is, an obstacle for quick and agile development. Furthermore, reliability and responsibility will be two important factors to consider for what type of solutions that will be successful. Lastly, the interviewee argues that the healthcare sector is hard to predict, mainly due to the factors mentioned above. As an example, wearables were expected to become a major disruption in the industry a few years back, where individuals would utilize tools to keep

track of their health. Now, a few years later, development has barely progressed in this area, mainly due to regulations and a lack of urgent demand. Thus, the demand will be a significant factor to steer and control the development, as like many other industries. The development of video-solutions for Visiba Care was mainly driven by urgency in some Swedish regions. High cost and patient inconvenience were driving factors, while video-solutions were already being used in other industries, which led to Visiba Care utilizing this opportunity.

The interviewee at Visiba Care argues that a part of their success depends on their strategy, which involves adaptation and flexibility. It means that they have an open and flexible approach towards their customers and their needs, as well as towards future market trends. Rather than trying to predict future demand, they audit the current market to see where and how they can adjust and improve their offer to be attractive to customers. Considering the solution for video-conferences, Visiba Care utilized already existing technology to improve and adapt it to the requirements present in the Swedish healthcare sector. Visiba Care advocates and maintains close collaborations with its customers, both to acknowledge variations in demand but also to be able to integrate other solutions into their system. Other actors, mainly suppliers to regions, are therefore mostly regarded as potential collaborators instead of competitors.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.7*.

Table 5.7 Analytical comments for Visiba Care

Network	<ul style="list-style-type: none"> - The healthcare sector is undergoing digitalization but it is lagging behind other sectors and changing slower. - Standardization of information is something that is happening with regions cooperating a lot more over their borders.
Business Relationships	<ul style="list-style-type: none"> - Product and service development is highly integrated with the customer. - In order for solutions to be successful and manage to enter the market, it is important with reliability and responsibility. - Patients are expected to be more heavily involved in the development process of new technology and processes.
Firm	<ul style="list-style-type: none"> - The establishment of the company was driven by resource strains for the customers and deficient customer experience. - The focus for Visiba Care has always been a servitization model. - Visiba Care's strategy involves being highly adaptive and flexible. - The firm maintains close collaboration with their customers. - Visiba Care has a big part in network development, acting as a mediator for regions and other customers. - The firm focuses a lot more on cooperation than competition when working with those who may be considered natural competitors.

5.2.4 Max Manus

Max Manus was founded in Norway in 1946 but was not established in Sweden until 2010, as Max Manus AB, which is the case company in this study. Max Manus have two differentiated business areas in Norway, which are digital dictation and speech recognition connected to journal systems in healthcare. The Swedish branch is only focused on speech recognition. Max Manus will hereon refer to the Swedish branch only. An illustration of Max Manus and its immediate network is presented in *figure 5.8*.

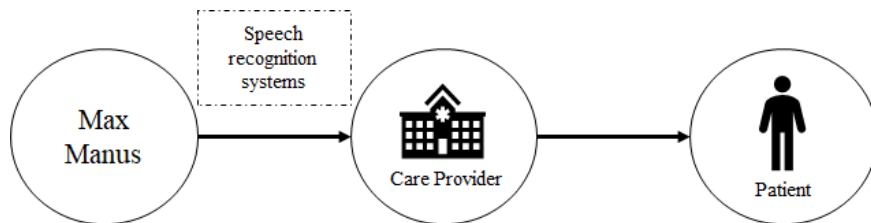


Figure 5.8 Max Manus in its immediate network position

According to the interviewee at Max Manus, there has in general been difficult for IT solutions to take ground in Swedish healthcare and to reach actual results from implemented solutions. The problem has been a misdirected focus. Instead of focusing on the processes and acknowledge where there is most potential for improvement, the focus has been to just turn various processes digitalized or digitized, which was assumed to make them better and more effective. Once implemented, there was not enough focus on utilizing the solution and harvesting the potential gains of quality and effectiveness. There has in general been a neglecting attitude on following up on the progress, i.e. using ROI (return on investment) and relevant KPIs (Key Performance Indicators) as a measurement of digital transformations made. Furthermore, there has not been enough clear responsibility for the transformation processes, including the post-implementation phase, which is essential. Another problem has been the motive for changing processes and implementing digital solutions. Although, a recent trend has been an increased market orientation where the processes are analyzed and digitalization is considered a possible solution, rather than a required transformation.

Furthermore, the interviewee at Max Manus argues that digitalization has gone from being a specific part of IT and/or an IT-department, to become a holistic part of an organization, which also requires an overall approach. The reason for this trend shift has been an increased understanding of the impact on people, putting the operators and patients in focus when implementing transformations. This is an important realization that took a long time to come to terms with, and many actors offering digital products or services have thereafter changed their business approach accordingly. People are in general reluctant to change, according to the interviewee, which has been an obstacle in the sector. When not proceeding fully with the implementation of new solutions, and thus realize actual results, it is even harder to argue for implementing further solutions. Furthermore, the healthcare sector has become prone to servitization, which is partly a consequence of digitalization. From ordering products such as hardware, it is more common today to provide a service or actual result, which the supplier commits to providing.

Moreover, the fact that the Swedish healthcare opened up for privatization in the early 1990s, meant that many new actors could enter the market, many of which today are digital actors. The most remarkable digital change has though been the implementation of digital journals. A trend in which Max Manus is taking advantage of and are trying to develop further through the implementation of dictating journals, using speech recognition technology. An obstacle in which Max Manus faces is the negative attitude towards the implementation of digital solutions in general, but also to dictating journals in particular. This is mainly among senior personnel who have tried the same type of solution several years ago when the technology was not as developed as it is today. Max Manus has also gone from being a hardware provider, to offer a complete solution which is cloud-based and includes training, continuous support and monitoring. This offering is a continuous commitment which means that the customer pays a monthly fee, but also that Max Manus has a responsibility to deliver what is promised and keep up to date with new features. As an example, an AI solution is expected to be implemented in their current system, which is meant to be continuously developed. This type of AI solution is something in which Max Manus believes will be more common and utilized in the future, in various forms.

The interviewee considers Max Manus to be relatively niched in their current market, and even if there are actors operating with somewhat similar solutions, they do not believe they have many direct competitors. The reason for this is mainly due to the unique circumstances of the market and the special requirements, but also that Swedish healthcare is a small market in a global sense. Even though Max Manus would not appreciate direct competitors, they value other digital actors in general. Both due to possibilities for establishing a partnership, or even potential customers, but also that general development of digitalization is important. Due to increased familiarity and understanding with digitalization as a phenomenon, it is driving further digital solutions, implying that it is a driver of itself. The people, both operating within healthcare and the affected end-consumers, have been an obstacle for the development going forward. Therefore, more well-functioning digital solutions available on the market are believed to support other digital businesses in the sector.

Analytical Comment

The following findings were identified from the interview, presented in *table 5.8*.

Table 5.8 Analytical comments for Max Manus

Network	<ul style="list-style-type: none">- Privatization was a major step opening up for companies, e.g. digital actors, to compete and further develop.- Increased market orientation is a trend in the sector, focusing more on ROI and KPIs.- AI is expected to have a big impact on the sector.- Many employees and customers (patients) in the sector are reluctant to change.- Firms are increasingly market-oriented.
Business Relationships	<ul style="list-style-type: none">- Accountability has increased in business relationships, possibly due to measurable results.- Suppliers are expected to deliver actual results to the party making the purchase.- People operating and/or affected by new solutions are highly involved in the implementation process.- The attitude toward competing actors is not necessarily negative due to similar actors normalizing digitalization and thus making a net positive impact on the focal company.- Confirmation of results has had an impact on attitudes towards changes regarding digital solutions.
Firm	<ul style="list-style-type: none">- Max Manus is increasingly working with servitization.- Max Manus has become more market-oriented.- The firm is utilizing new digital solutions to improve their offering.

5.2.5 Comments on the Healthcare Sector

In addition to interviews conducted with the case companies, two interviews were done with experts in the field of healthcare in order to obtain a third-party view of the sector. Thus, one representative at Chalmers University of Technology and one from an anonymized company were interviewed, and are further presented below.

Industry Expert - Chalmers University of Technology

Chalmers is a university that was established in 1829 and is focused on technology and engineering. The university conducts research into a large array of different topics, one of those topics is healthcare informatics, sometimes referred to as eHealth. According to the interviewed expert in eHealth, digitalization has been ongoing since a couple of decades back, but it has recently been redefined as actual systematic transformation and not isolated improved processes. It is not until quite recently where the focus shifted to actually integrate the systems and transforming the sector through digital means. This transformation is what is colloquially known as digitalization.

There is currently an investigation into the “*good and close care*” initiative, meaning healthcare providers closer to the patients, increased specialization and centralization of specialties and treatments, digitalization, and improved outcome of care. Having healthcare providers closer to the patients may not necessarily mean the physical distance, it could instead be that patients stay in their respective homes and are monitored and contacted from distance. The reasoning behind this is to spend resources more efficiently. However, this initiative may lead to more mobile teams that need to transport themselves to the patients, a requirement for this would be highly digital systems running in the background. The interviewee argues that the initiative may not be a net positive calculation due to other aspects such as a need for patients in-care in order to utilize expensive equipment and on top of that the people needing care may also want to be around care providers due to loneliness. Only the future can tell if this may be a net positive or not from a resource perspective.

An issue when trying to pursue digital transformation is the information standard, the current structure in Sweden is decentralized in the sense that not one specific central actor has the decision mandate, but instead different regions do their own procurement of solutions. Regulatory issues are also somewhat constraining digital development, mainly due to how data can be stored and utilized in a legal sense. Issues such as who owns and has the right to this data are prevalent. Digitalization is built on collecting and utilizing stored data, especially in terms of systems that help with decision making.

There are two main drivers for digitalization within healthcare. One driver is the need for effectivization due to strained resources, both monetary and in terms of manpower, due to the fact that healthcare is publicly funded in Sweden. The second driver is the technological environment of today’s environment. The customers (both healthcare providers and patients) are expecting more from their suppliers, such as convenience. Due to healthcare lagging behind other sectors in terms of digitalization, the healthcare sector tries to gain knowledge from how other sectors have solved different issues.

The customers expect a certain level of service from other sectors, the other sectors thus influence customer behavior which can also be seen in the healthcare sector. These expectations can include constant availability, making your own appointments with care providers and more. There is also a need within healthcare to work more efficiently with the current resources, but also to increase the quality of care. The correct information is not always available for the person who needs it. According to the expert, public healthcare providers have a long way to go in order to drive innovation. Most of the technological innovation within healthcare has been implemented first when the market has proven it or if there is a market actor that has entered with a new solution which is then sourced by the healthcare providers. A challenge for innovators is that they develop something that might be a good product but not necessarily developed with care providers in mind, instead of centered around how an engineer might use that product. It is therefore important to have a discussion with potential customers on how they may need to change their organizational structure and work processes to fit a product and also to develop the product in close accordance with the customer, in order to make something that the customer finds easy to utilize. Innovation is not always necessary either, the

interviewee believes development is focused too much at creating completely groundbreaking solutions. Instead, development should shift towards solving more trivial tasks in order to solve the core issue, which is a lack of resources.

The focus has been on developing the technology, but the real challenge is to develop a way for information to integrate with the systems and how that can be applied. Something that is of great importance is open APIs and standardized information, due to Sweden's decentralized healthcare authorities, it has been difficult to arrange one standard for the whole nation. This is starting to change a bit, with more open communication across the board and a realization that resources are highly strained, and current utilization is unsustainable.

While the real challenge is in integrating the systems and working more holistically with digitalization in healthcare, new technology is still being developed. Technological innovation such as AI is a topic of discourse. The problem still arises in that the regulatory authorities are having trouble keeping up with the technological development, this is not necessarily a negative thing but it does hinder utilization and slow down adaptation of currently available technology. Due to AI's need for data, in order to improve, it makes it very difficult to apply in a real scenario. Medical technology needs to be very precise in what it does and has to be approved in a clinical setting before market use.

With an increased level of digitalization, it should also be noted that it may be difficult to find the right competence to make the post-implementation maintenance and utilize the systems in place. This need may increase with more technological solutions. Due to digitalization enabling sourcing from a global market, it also creates the need for adaptation of foreign solutions to the Swedish market and regulatory demands.

Industry Expert – Company A

Company A is a consultancy firm focused on IT. One sector in which Company A is active in is healthcare.

The interviewee argues that the largest change within healthcare in Sweden right now is the procurement of the core systems for healthcare providers, i.e. the digital journal systems. While there is an ambition to use the same program across all different regions, it is challenging to achieve in practice. With the introduction of this modern digital journal system, a lot of support systems will also be changed in the different regions. Administrative, journal and planning systems are all changing and being updated to fit a modern digital suite. There have previously been lots of different suppliers for the different types of systems. Regarding the journal systems, the market may be consolidated to only include a few major providers. The consequence would be that local minor suppliers of these systems are at risk of getting outcompeted. Another consequence will possibly be the need for external competence, such as consultants, to help implement and maintain these systems.

Combining processes is a major challenge for the sector, i.e. connecting and integrating different solutions. Other challenges are the aging population and the difficulty to recruit

employees to the healthcare sector. There are also discussions about moving responsibility to the patients, partly by having distance monitoring and distance video calls. This may be good in some cases but less optimal in other situations, for example for older patients also suffering from loneliness. Regulatory requirements are also increasing, partly from the influence of the European Union. One issue though, is that Sweden may not be equipped to do the required testing of medical products and systems. The suppliers in Sweden might not be ready for this change and products and services currently on the market may be penalized. This may lead to suppliers disappearing due to the inability to handle these regulatory changes.

The ambition of Swedish healthcare is to have the complete patient care flow in a digital environment, an ambition that is shared by all individual regions. Due to hierarchy within different organizations, they tend to not always homogenize their systems in the regions. Sahlgrenska University Hospital, for example, has a lot of self-developed systems. These systems are not always digitalized due to the organization itself not having the right resources to develop new digital systems. As an example of the healthcare industry's low digitalization level, the *fax* was mentioned, which is considered an outdated communication system in many other sectors. The interviewee believes that regions will be influenced by national implementations of, for example, new systems. The private actors may also be incentivized to use the same systems in order to centralize. Although, the first step is the need for an authority in the industry that makes it clear on what needs to be done and follow-up on actual results.

6 Analysis

The Analysis begins with an explanation of the analytical approach used for the thesis. Following is an analysis of the financial and healthcare sector, respectively, in order to analyze the impact of digitalization. Thus, changes in activity links, actor bonds and resource ties on a firm, business relationships, and network level are identified.

6.1 Analytical Approach

The basis of the analysis is the ARA model, introduced by Håkansson & Snehota (1995). With this framework, changes have been identified in different dimensions such as activities, resources, and actors at different levels such as firm, business relationship, and network level, which is related to the first research question of this thesis. Furthermore, the analysis has been conducted with three main pillars of theory; supply chain management, business networks, and strategic development, illustrated in *figure 6.1*. The ambition is to view the impact of digitalization from the combined lens of these three theoretical backgrounds. These theories are all interconnected and, in some ways, overlapping.

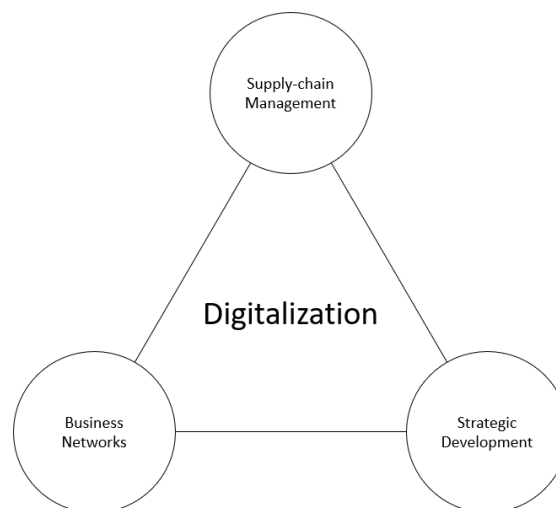


Figure 6.1 Triangulation of theoretical background

The analysis is looking to find an answer to the research questions introduced in the problem discussion. In order to peer review our analytical findings, it is important to define what logic has been used when classifying findings into different levels. The definitions have been used in order to make a distinction of different levels, thus enabling analysis of the impact of digitalization on various levels. In combination with theoretical information previously introduced, the conclusive statements in *table 6.1* have been used.

Table 6.1 Definition of analytical logic at different levels

Level	Defined logic and range
Network	General trends and consequences in the sector.
Business Relationship	Changes in interconnections in response to circumstances on a firm or network level.
Firm	A firm's strategic decisions made for internal and external use.

6.2 Analysis of the Financial Sector

From the interviews, it can be argued that the business network consists of three main actors, traditional actors, niched actors, and financial technology actors (i.e. fintech companies). While, for example, a traditional actor such as SEB does have a department working with financial technology, it is not their core business and is instead a response to how the network has become more digitally mature. According to Collector, they view themselves as highly digital compared to direct competitors in their group, i.e. niched actors. Although, they consider themselves less digital, or behind, in terms of digitalization compared to financial technology actors. The financial technology actors view themselves as more digitally developed than both of the other types. These actor types correlate with the different digitalization domains mentioned by Averstad & Westerberg (2017). With financial technology actors being at a high maturity level due to involvement in the four different domains. These four domains consist of engaging customers, empowering employees, optimizing operations, transforming products and services. The niched actors, on the other hand, are mainly involved within the domains of optimizing operations and transforming products and services. The traditional actors are utilizing digitalization to optimize operations, but products and services are transformed mainly as a response to competition. The level of digitalization can thus be shown on a continuum as presented in *figure 6.2*.

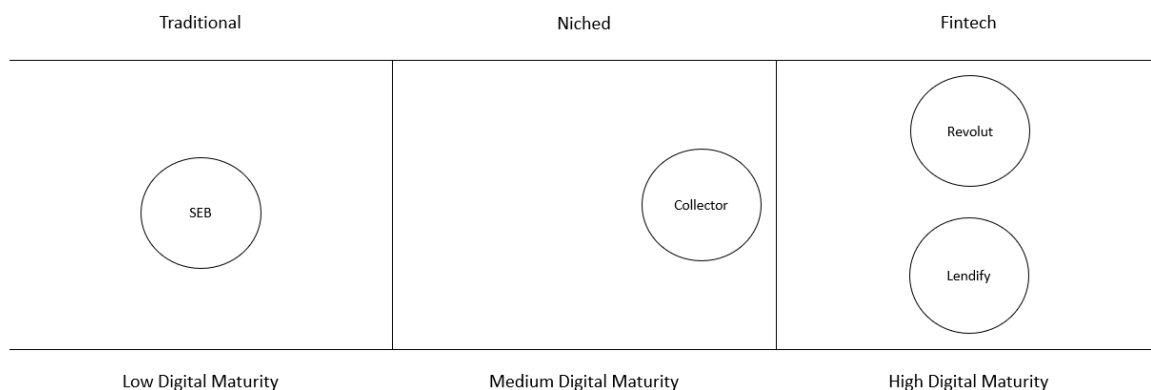


Figure 6.2 Comparable digital maturity



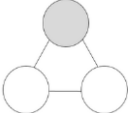
By viewing the different actors in a maturity context related to digitalization, it enables an understanding regarding how to further approach the strategic development and see how digitalization impacts a specific actor. According to the expert at Accenture, digitalization has been ongoing since the introduction of computers, but the discourse on what digitalization is

has changed. The expert argues that digitalization has become synonymous to total firm and relationship transformation, instead of changing specific activities. The actors with high digital maturity are also correlated with those actors that have been introduced to the network in the past years.

It is clear that the financial sector has been affected and transformed due to digitalization, which partly can be noticed by many new actors operating in the sector. Also, while the transformation is something ongoing, it has changed firms' strategic development, how business relationships are approached, and which companies are interconnected.

Identified changes have been structured based on the framework developed by Håkansson & Snehota (1995). This framework can be found in *figure 3.5* introduced in the *Theoretical Background*. The framework shows that the three levels, the firm level, business relationship level, and network level, are highly influenced by each other. Håkansson & Snehota (1995) found that when a new relationship emerges or is connected to a company, the change of substance (activity links, actor bonds, and resource ties) could affect the network. This was corroborated by the interviewees as the new actors introduced to the network changed the network's substance. While technological development enabled new actors to enter the network, there has also been other identified changes within the sector due to digitalization. The changes that have been identified are either a direct or indirect cause of digitalization and are found in *table 6.2*. The analyzed findings will be further discussed on their respective impact on a firm, business relationship, and network level.

Table 6.2 Identified changes in the financial sector

Identified Changes	Firm Level 	Business Relationship Level 	Network Level 
Activity Links	<ul style="list-style-type: none"> • Consolidating activities • Fintech companies considered more adaptable 	<ul style="list-style-type: none"> • Increased automatization • Increased peer-to-peer service 	<ul style="list-style-type: none"> • Increased regulatory pressure • Increased standardization • Increased specialization
Actor Bonds	<ul style="list-style-type: none"> • New departments • A shift in business segments 	<ul style="list-style-type: none"> • Increased collaboration • Less face-to-face between end-consumers and service providers 	<ul style="list-style-type: none"> • Increased customer expectations • New actors • Decentralization
Resource Ties	<ul style="list-style-type: none"> • Investments in financial technology • A more data-driven approach 	<ul style="list-style-type: none"> • Competitors considered enablers 	<ul style="list-style-type: none"> • Commoditization • Increased standardization • Increased market transparency

6.2.1 Impact on the Business Network

The most important impact on the business network has been influenced by new actors entering and challenging the status quo. These new actors are often highly specialized in their core service, or product, and tends to increase the sum of activities available in the network. Within the financial sector, these actors can be described using the different categories introduced by Reimer et al. (2015). With Lendify and Revolut being somewhat in-between *matchers* and *crowd sourcers*, meaning that they both gather customers in digital platforms and reorganize demand and supply thus changing the business relationships in the network. The actors are not inherently different than traditional actors in that they both act as market intermediaries. However, these new digital intermediaries are restructuring relationships in established business networks by changing their activity structure. According to Pagani & Pardo (2017), this change in activity links has an effect of optimizing and coordinating existing activities, which can be confirmed based on the *Empirical Findings* of this study such as Revolut optimizing currency exchange for end-consumers. Due to new actors entering with improved processes and new activities, the customers' activities are becoming more decentralized in general, since they are choosing these new actors for specialized activities. Thus, consumers have generally come to interact with more actors. The customers' expectations are also

increasing due to being introduced to technological developments by the new actors entering the network.

Transparency has increased in the network as a result of digitalization, which in turn has led to commoditization of certain activities, such as loans, mainly as a consequence of no other unique selling proposition but price and the introduction of *promoters*, defined by Greening & Rutherford (2011) as a channel presenting all available offers in a transparent way. Due to high sector growth in general, there have been, and still is, space for new actors to enter and for current actors to continue operations as is. Though, according to interviewees, the high degree of information transparency in Sweden makes the sector especially suited for digitalization because of the possibility to automate certain processes. Pagani & Pardo (2017) further discuss different types of value creation as a consequence of digitalization in a network, which can be noticed through process rationalization, innovation based on new digital resources and new actors performing new activities. This can be corroborated by the *Empirical Findings* where the fintech actors perform new activities, while traditional and niche actors are rationalizing their processes through automation and standardizing information flow.

With increased transparency, process optimization, and new actors in the financial sector, it can be argued that the network is becoming more spread and unstructured, which enables circumstances for increased innovation in the network (Gadde, 2003).

6.2.2 Impact on Business Relationships

Chopra & Meindl (2016) argue that customer service, defined as response time, product variety, product availability, customer experience and time to market, is an important aspect related to competitiveness, which the interviewees generally agree upon. Moreover, the interviewees argue that increased focus on customer experience is based on increased transparency, which especially has enabled more information symmetry, but also an increase in the amount of information available. Thus, customers have become more aware of various offerings available. As a further consequence, delivering a great customer experience has become an important way to compete, beyond the price aspect.

Standardization is something that is driven by digitalization, according to the interviewees. This is argued to be related to digital processes requiring a standardized set of data in order to make any type of analysis automatically. This automatic process, in turn, lessens the social interaction between two actors, which according to Håkansson & Snehota (1995) is a pivotal part of business networks. Standardization and therefore automatization, together with market transparency, which both are a consequence of digitalization, has, in turn, led to the commoditization of certain financial services, such as unsecured loans. Due to the commoditization taking place as a consequence of both market transparency and automatization, the differentiator is, therefore, customer service and the main area of development for a competitive edge. This is further corroborated by Stadtler (2005) that argues that customer service is at the base of becoming more competitive as an organization.

Revolut and Lendify, as defined as fintech companies, mentioned how they view competition as something good that generates a net positive for all financial technology companies, which they argue to be due to normalization of financial technology on the market. While they do not have specific partnerships, it should be noted that the fintech companies know each other on a personal level and have strong actor bonds. This can be further developed into strategic alliances in the future, as personal bonds play an important role in business relationships according to Håkansson & Snehota (1995). These relationships, such as the ones between fintech companies, have already reached a certain level of informality which can be seen as a sign of relationship maturity. With the new actors entering the network, the old actor bonds between traditional actors and end-consumers are becoming weaker. These bonds are becoming weaker due to less face-to-face meetings due to the enablement of automatization and traditional actors having to close down brick and mortar offices in order to utilize their resources in a more optimal way. Increased customer expectations also drive the need to engage these customers more frequently in order to know what they want from the transaction. Collector as a niche bank is due to its venture initiative trying to establish partnerships with new entrants in the financial market. Thus, the venture capital is besides an investment opportunity, also a way to initiate early-on partnerships with fintech companies. Although, this type of approach does not seem to be unique for Collector since SEB works in a similar way, investing in fintech companies in an early stage as a way to access resources through partnerships (SEB, n.d.).

6.2.3 Impact on the Firm Level

From Revolut and Lendify's point of view, their main change in strategy was due to growth and had more to do with customer contact and organizational complexity, rather than changing their approach to the market. They also have the ambition to increase their assortment of products or services, mainly by developing new ideas in direct relation to customer needs.

With new actors entering the network, there has been a response in the traditional constituents where they have had to change their strategy. With new actors entering the network it can be argued that they may create new resources and hence enable traditional constituents to use these new resources which enables new activities (Håkansson & Snehota, 1995). Hence the strategic development by the constituents may not have been possible without new actors entering the network and challenging the status quo. Some interviewees argue that as a response to digitalization, the IT strategy has become integrated with the overall strategy and new departments have thus emerged. Madsen & Hjortegaard (2018) also argue that depending on an organization's digital function and structure, the digital maturity level of an organization can be understood. Hence a response for firms is to develop their organization's digital maturity level with new actors entering the market. Furthermore, the interviewees mentioned that these new departments have required new competence in the firm that may not have been present before. This new requirement is sometimes solved with external support, using consultants or developing closer relations with suppliers. New actors, such as Lendify, instead focus on having the technological development, and therefore also the competence, in-house.

The expert interviewees argue that the smaller the company, the more flexible it can be assumed to be, and can thus be more adaptable toward market changes. All interviewees mentioned that the whole financial market is undergoing major changes due to digitalization, and it could, therefore, be understood that large organizations, such as traditional banks, are lagging behind fintech companies in terms of adapting to a new market environment. The larger organizations in the financial sector are aware of the immediate need to change and are trying to change their strategy in order to accommodate for a more digital market. The larger organizations have historically utilized an IT function across the organization, in accordance with the model presented by Madsen & Hjortegaard (2018), but are moving toward an embedded organization. Fintech companies instead seem to use a governing IT function for the organization.

Strategic development is not an isolated decision but instead influenced by the network and in turn influences the network via the firm's business relationships, which can be further corroborated by Baraldi et al. (2007). Digitalization seems to make the strategic development much more frequent due to the changes in substance throughout the network, i.e. changes in activity links, resource ties, and actor bonds. These changes further increase the need to adapt quickly and therefore continuously develop a firm's strategy, which both Lendify and Revolut are an example of, changing their strategy as they grow. In correlation with the theory presented by Freytag & Philipsen (2019), Lendify and Revolut have changed their strategic approach from focusing on individual actors, to rely more on a generic approach where the business actor plays a major role. The changes in strategy correlate with growth and also with the findings made by Aaboen et al. (2013), where the focus shifts from initially being about the product or service, to the customer perspective, to later concern the network and how the firm can position itself. It can be argued that the current focus of both Lendify and Revolut is the customer perspective, but the network aspect seems to play an essential role as well. SEB and Collector are established actors and thus focused on the network perspective.

The interviewees have all noticed increasing customer expectations across the board, which is related to perceived customer experience and bridging the gap between what the customer expects, and what is achieved. Customer experience is part of customer service (Chopra & Meindl, 2016), which in turn is directly correlated to a supply chain's or an organization's competitiveness (Stadtler, 2005).

6.3 Analysis of the Healthcare Sector

The healthcare sector was enclosed until the early 1990's when the Swedish healthcare opened up for private healthcare providers, as noted by Max Manus. According to Gadde (2003), one controlling actor will create a hierarchy, which slows down the development of the network. In the case of healthcare before privatization, this controlling actor may be viewed as the state. After privatization, there is still a high amount of regulatory pressure and the regional governance can still be considered being somewhat controlling in the network. Furthermore, the customer base was previously limited to the Swedish regions but has now come to include private healthcare providers as well. Thus, the customer base has increased and led to a more attractive market for suppliers. An increase of potential customers is also assumed to imply a


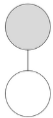
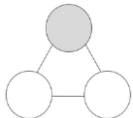
mitigated risk for new actors to enter the market since there are more actors to direct their offer to. Many of these suppliers are new technology providers, such as Visiba Care and Max Manus.

According to the interviewees, the healthcare sector is not as digitally developed as other sectors. The sector changes due to necessity, but the progress is slow because of various obstacles. These obstacles are related to regulators lagging behind, but also due to the nature of healthcare in Sweden. The healthcare sector in Sweden is publicly funded and is, in turn, bureaucratic with many steps to, for example, procure something for a specific region. While the procurement process may be necessary, it does slow down change. Furthermore, Gandhi et al. (2016) corroborate the findings that healthcare is a sector of low digital maturity. Another obstacle that has been mentioned by interviewees frequently is the law regarding patient data and how this data can be used and transferred.

A large part of digitalization is data handling which makes it more difficult to develop tools if the available data is insufficient. The interviewees mentioned an ongoing phenomenon within healthcare, which is that the actors in the sector are overall changing their business model to accommodate for servitization. The change toward an increased level of servitization is in line with findings by Smith (2013), who argues that an increased level of digitalization enables servitization. A consequence of servitization is the increase of business relationship involvement (Bankvall et al., 2013). Even though change is happening, the digital maturity is currently low as previously mentioned. The low level of digital maturity can also be derived from how Rüßmann et al. (2015) defines Industry 4.0. It is only in the last couple of years that the healthcare sector has begun touching upon aspects such as big data & analytics, augmented reality, simulation and other topics within Industry 4.0 (Rüßmann et al., 2015).

Based on the *Empirical Findings*, a summary of changes at different levels could be established. These are changes that have been identified to be either a direct or indirect cause of digitalization and can be found in *table 6.3*. The structure is based on the framework developed by Håkansson & Snehota (1995), found in *figure 3.5*. The identified changes will be further discussed below.

Table 6.3 Identified changes in the healthcare sector

Identified Changes	Firm Level 	Business Relationship Level 	Network Level 
Activity Links	<ul style="list-style-type: none"> Increased market orientation 	<ul style="list-style-type: none"> More activities (between customers and suppliers) Increased servitization 	<ul style="list-style-type: none"> Slow change due to regulations
Actor Bonds	<ul style="list-style-type: none"> Patients & operators in focus Integration of IT-department A more adaptive business approach 	<ul style="list-style-type: none"> Increased collaboration Increased focus on patients & operators 	<ul style="list-style-type: none"> Closer relationships Increased customer expectations New actors
Resource Ties	<ul style="list-style-type: none"> A more data-driven approach 	<ul style="list-style-type: none"> Some resources have transferred to patients 	<ul style="list-style-type: none"> Increased urgency for resource utilization Increased standardization Increased market transparency Integration of IT-systems

6.3.1 Impact on the Business Network

Greening & Rutherford (2011) mention three factors that can influence the degree to how a disruptor may impact a supply network. These three factors are the structure of the network, capabilities and motives of actors, and behavioral norms in the network. Due to healthcare being largely made up of employees with a healthcare background, the norms are highly derived from that segment of the population. The implication of this may indeed give a further understanding of the slow digitalization progress occurring in the network. Healthcare providers are more concerned about the safety of patients than of digital development. Furthermore, healthcare may be considered a dense network in accordance with *figure 3.6*, which may make it more difficult for external actors to enter the network (Greening & Rutherford, 2011). However, if an external actor manages to enter a dense network the impact may be much greater than in a more spread and unstructured network (Greening & Rutherford, 2011). The interviewees also mention that information availability about suppliers is becoming more common, and together with an increased understanding and familiarity of available technology, this has led to increased market transparency.

Different types of interdependencies that can occur in a network are technology, knowledge, social relations, administrative routines & systems, and legal ties (Håkansson & Snehota, 1995). The most common adaptation is of the technological type. It is important to avoid technical mismatches in a business relationship. One organization is dependent upon the use of technologies in other actors within the network (Håkansson & Snehota, 1995). Therefore it can be argued that the technological level of a hospital is what limits its suppliers' development.

Another factor important to consider is that public procurement is an activity that is necessary to do for selling services and/or products to the Swedish regions. This process is considered slow and complex, at least in comparison with deals made with private customers. According to the interviewees, the buyers (the Swedish regions in this case) are experiencing an increased strain on resources. Due to the nature of the public procurement process, it is assumed that increased price pressure may take place on the market. In order to reduce costs, it is lucrative for supplier actors to form stronger bonds and establish partnerships, which makes it possible to achieve stable sales revenue across the network. Håkansson et al. (1993) mention that stronger alliances can be used as a strategic tool, which the findings show is taking place in the healthcare sector. What several actors mention is that the sector has become prone to servitization. This is believed to be related to digital development, which includes increased market transparency and increased competence requirements to keep up with technological advancement. By providing the required competence as an additional service for the customer, a consequence is stronger actor bonds (Håkansson & Shenota, 1995). Closer relationships combined with the buyers' strained resources may lead to increased standardization throughout the network in order to gain a more efficient information flow. Better coordination of the information flow is another component of a supply chain's competitiveness (Stadtler, 2005) and hence something to strive for.

The interviewee at Ascom mentions that there is a current trend of consolidation on the market, i.e. that large actors are acquiring smaller actors, partly as a way to enter new markets. At the same time, the interviewee at SU has a somewhat opposing argument, mentioning that many new digital healthcare providers have entered the market. Also, Visiba Care is a new actor on the market and Max Manus quite recently entered the Swedish market, meaning that there are new actors on the market performing new activities. This partly questions the theory about the market becoming consolidated. Although, it is possible that the market as a whole is consolidating even if new actors are entering the market. At the same time, there seems to be unanimity regarding the consolidation of resources, since all actors seem to work towards the integration of systems and information. As an example, the interviewee at Company A mentions that a recent decision of integrating journaling systems on a national level will lead to consolidation on the market.

6.3.2 Impact on Business Relationships

Increased collaboration and closer relationships between suppliers and customers have emerged as a consequence of digitalization according to some interviewees. Increased collaboration is likely a consequence of increased servitization throughout the network.

Increased collaboration and hence closer integration (cooperation) defines an important component of supply chain competitiveness according to Stadtler (2005). The business relationship tends to have more activities now than before because a lot of activities stemming from the relationships are derived from the service provided by the suppliers. Hence, servitization has a large impact on business relationships within a network, which is further corroborated by Bankvall et al. (2013). Changing toward servitization also affects the nature of the transaction between the supplier and the customer. The transaction becomes more frequent and it is no longer a capital expense for the buyer, but instead a continuous operational expense. As the transaction becomes more frequent, so does the social interaction which is a major interdependence in business relationships and may increase the actor bond (Håkansson & Snehota, 1995). These social interactions are not only due to the actual transaction but also due to increased demand for specialized competence. This specialized competence may not be something that the care providers can afford in-house and therefore, the supplier adds this competence to the service agreement.

Due to standardization of information flows, automatization of data transfer could potentially be enabled, which may lead to automated activities. However, in order to automate data transfer, the two actors have to integrate their information flows which may strengthen the actor bond (Håkansson & Snehota, 1995). Automatization could also be seen as type 1 value creation in accordance with Pagani & Pardo (2017), due to process rationalization between actors.

All interviewees discussed how the patients' expectations of customer service, as defined by Chopra & Meindl (2016), are increasing. This is believed to take ground in other sectors' influence on the patient's mindset. At the same time, due to resource constraints, patients are expected to perform more self-care than previously needed. This, in turn, requires the hospitals to collaborate more with their patients, even if they have a larger physical distance, in order to create patient-centric solutions. Furthermore, this requires some shifts of resources, from the care providers to the patients. This may lead to suppliers becoming more involved with these solutions, which is indicated by the *Empirical Findings*.

6.3.3 Impact on the Firm Level

An interesting phenomenon mentioned from the interviews conducted is that firms have become more market orientation. This is mentioned by the interviewees at Max Manus, Ascom, and SU which all have noticed a shift towards having results in focus. Furthermore, Max Manus and Ascom argued that they have adjusted their strategy due to this, becoming more focused on servitization and doing continuous follow-ups. Even if not directly expressed, Visiba Care has probably been influenced by this phenomenon as well, due to their adaptable business approach. A strategic decision for many actors has therefore been to shift towards servitization, which also can be corroborated by Bankvall et al. (2017). According to Ascom, a reason for servitization has also been price pressure and other relating issues discussed on the business relationship level.

With more data available, it has become easier to track both operators and patients. According to the interviewees, the enablement of data gathering has led to more focus on how actual operators and patients work and interact with each other as well as tools. The strategic focus has then been shifted to accommodate more to the actual needs of customers instead of perceived needs. This can indeed be correlated with what Pagani & Pardo (2017) defines as type 1 value creation, which concerns process rationalization activities.

Throughout most firms, the need to integrate the IT-department across the firm as a whole has become apparent. This includes integrating the digital strategy in the general strategy and putting more emphasis on those working directly with digitalization, such as the chief information officers and others. This can be placed into context with the model presented by Madsen & Hjortegaard (2018) in *figure 3.7*, where healthcare actors are primarily primed to work with a supporting IT function, but has moved toward both a parallel setup and an organization working with IT across the firm. This has partly led to increased understanding and familiarity of digitalization, and have had an impact on strategic decisions. The IT-systems running in the background have essentially transformed into the backbone of many companies and it is becoming more integrated with everyday operations with every single step of development. With data streams available from many different channels, it has become advantageous to utilize more data-driven approaches for strategic decisions.

7 Concluding Discussion

The theoretical background combined with the empirical findings has led to an analysis based on the ARA model, identifying the impact of digitalization. This has enabled the development of a framework regarding how to work strategically in regard to changing circumstances. In order to provide further credibility of its usage, some examples will be discussed and how it relates to continued digitalization within business networks and supply chains.

7.1 Interdependencies amongst Levels

When viewing a network from the perspective of the ARA model, it is not only the dimensions of activities, resources, and actors that need to be considered. Another consideration is the different levels, namely the network, business relationships, and firm level. The impact on different levels do not tend to be isolated in either level nor dimension, and does influence each other. *Figure 7.1* visualizes a simplified model of this.

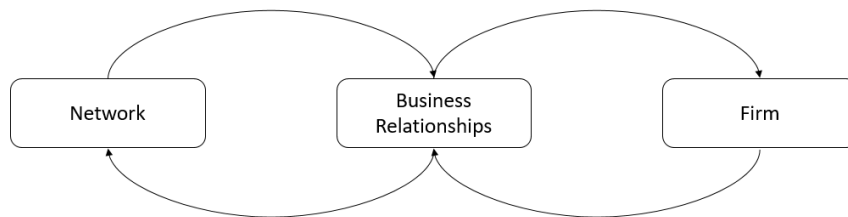


Figure 7.1 Interrelation between the different levels

From the *Analysis*, it is noted that one single impact affects more than only one level, either directly or indirectly, which is in accordance with Håkansson & Snehota (1995). This is important due to the cascading effect that one change can have throughout the network and therefore on specific strategic decisions. A market trend will have an effect on individual firms, as will a certain firm's strategy affect a network. The network is linked together by the relationships and the relationships are individual firms working together either by activity links, resource ties, or actor bonds, in different supply chains and organizational structures.

7.2 Digital Maturity in Sectors

There were both similarities and differences found between the financial and healthcare sector and it can be theorized that this is related to the digital maturity of the sectors. As can be noted from the *Analysis*, the financial sector as a whole has a high digital maturity level, while healthcare has a low digital maturity level. Comparing digital development in healthcare, with the financial sector, it can be concluded that the financial sector is generally ahead of the healthcare sector, which also was indicated by Gandhi et al. (2016). Though important to note is the undefined overlap between the two sectors, meaning that there are healthcare actors being highly digitalized, as well as financial companies lagging digitally. In addition, the sectors are using different types of digital solutions where the development of these solutions varies as well. To exemplify, AR and additive manufacturing, as defined by Rüßmann et al. (2015), are

areas where the healthcare sector has an advantage compared to the financial sector, due to appliance and urgency. Thus, *figure 7.2* is a generic illustration of how digital mature the sectors are in comparison.

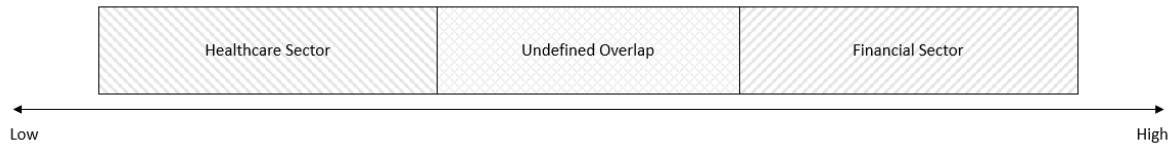


Figure 7.2 Comparison of digitalization level

The difference in digital maturity between the sectors led to an interesting observation during the interviews. Being in a forefront position within the financial sector, using digital solutions was considered conventional for the interviewees operating in the financial sector. These conversations were instead directed more towards how digitalization could be utilized and how an actor could adjust to digital development. The actors in the healthcare sector discussed these aspects as well, but they were more focused on what types of digital solutions that could be applied in the sector, implying that digitalization was not considered as conventional and given as in the financial sector. While some of the aspects such as servitization, which is a trend in healthcare but a standard in the financial sector, may be explained by the digital maturity, there are also other aspects to take into consideration. Healthcare is a unique sector in the sense that a lot of procurement is done publicly, and the sector is mainly funded by the Swedish state. This will inevitably change how the network operates and will reflect how a company can interact in the network. Other considerations include regulatory authorities, which is a contextual factor to consider both in healthcare and finance. Considering strategy, it is important to understand the context of the sector and how this affects the firm.

7.3 Continuous Digitalization

Based on the impact in which digitalization has had on the healthcare and financial sector, established in the *Analysis* and related to the first research question, it is possible to look at the strategic approaches in which a firm can take, which relates to the second research question. The aim for the second research question is to establish a framework that is valid for both sectors, with the ambition to be useful in other settings and industries at large. There are common patterns that have been identified, using the model developed by Håkansson & Snehota (1995). Although, a common ground has to be established which includes factors related to digitalization. These are, besides from digitalization, also contextual and enabled factors. These factors can be considered secondary findings in this study, meaning that they were not focus but rather findings revealed during the course of the study. These three aspects, digitalization, contextual and enabled factors, are intercorrelated, as seen in *figure 7.3*. It implies that digitalization has led to the enablement of various factors, but in coherence with contextual factors. The context includes aspects that are necessary to consider in order to drive digital development, but contextual factors also have to change in order to handle and correlate

with digital solutions. At last, enabled factors driven by digitalization have to cohere with the contextual factors.

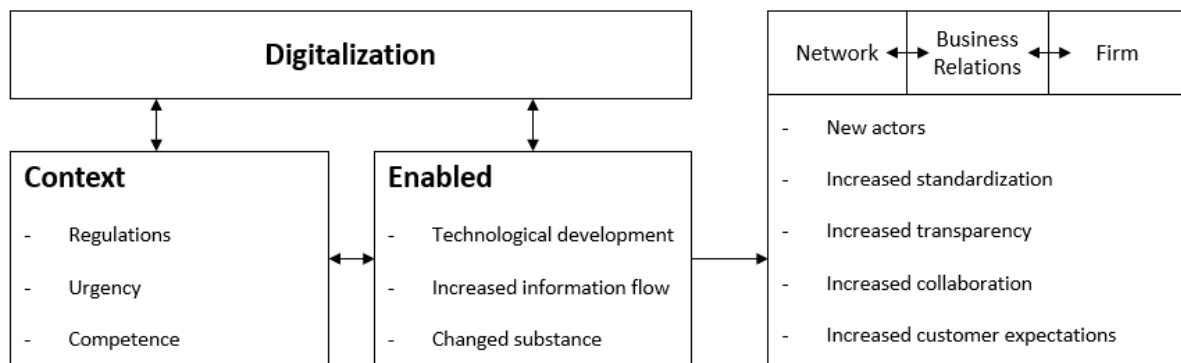


Figure 7.3 Component one, of the framework for strategic repositioning

Contextual factors include *regulations*, *urgency* and *competence* and are all aspects that have to cohere with the enabled factors, due to digitalization. The enabled factors are *technological development*, *increased information flow* and *changed substance*. It is argued that digitalization combined with the contextual aspect enables these factors to occur, however, the enabled factors also influence digitalization and the contextual perspective. As an example, digitalization enables an increased flow of information, but regulations regarding what information can be shared among what actors are a limiting factor. On the other hand, regulations have to be adjusted due to enabled factors combined with digitalization. Another example is urgency, which has appeared to be an important factor concerning technological development, which is enabled by digitalization but limited in regard to competence. The changed substance regards the substance of a network as defined by Håkansson & Snehota (1995), i.e. the activities, resources, and actors in the network.

The *Analysis* presented different impacts in the healthcare and financial sector, respectively, due to digitalization. Moreover, based on the enabled factors, there are several common patterns that can be recognized in relation to activity links, actor bonds, and resource ties. Based on the *Analysis*, these patterns are recognized both in the healthcare and financial sector and may thus be assumed to be prevalent due to digitalization. The patterns have an impact on a network, business relationship, and firm level, but the identified patterns were chosen based on identified changes in a network and business relationship level. The firm level was left out due to the definition presented in the *Analysis*, which is *a firm's strategic decisions made for internal and external use*. The recognized patterns were therefore based on a higher aggregation level and did not include aspects on an organizational level. The identified patterns are *new actors*, *increased standardization*, *increased transparency*, *increased collaboration*, and *higher customer expectations*.

7.4 Strategic Repositioning

The recognized patterns, in turn, change the circumstances for a firm operating in the network which has to adapt its strategy. A firm's strategy takes ground in its positioning, i.e. how a

firm is building and developing its business relationships, in accordance with Aaboen et al. (2013), Gadde et al. (2003), Håkansson & Snehota (1995), and the IMP approach defined by Baraldi et al. (2007). Concluding various effects using the ARA model, developed by Håkansson & Snehota (1995), a strategic framework is developed suggesting three approaches for (re-)positioning in a business network. The suggested strategies to optimally reposition an organization in the network are to *optimize processes*, have an *adaptive business approach*, as well as a *data-driven approach*, presented in figure 7.4. These strategies are thus related to activity links, actor bonds, and resource ties, respectively.

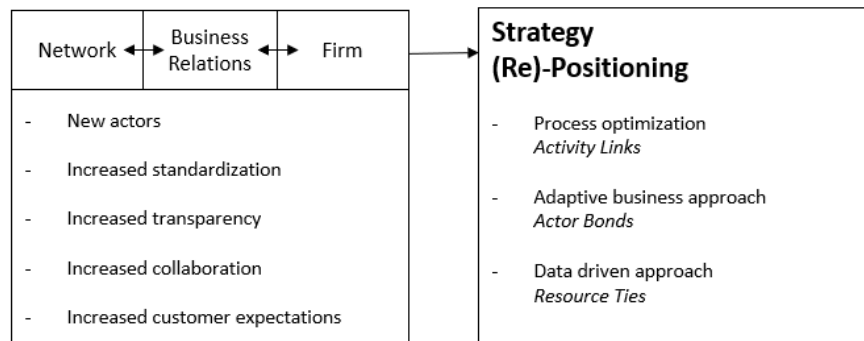


Figure 7.4 Component two of the framework for strategic repositioning

7.4.1 Process Optimization

Another important strategic criterion is to optimize processes, both internally and externally, which digital tools can enable. This partly relates to the enablement to standardize and automate processes, which digitalization is facilitating. This can also be noticed from the *Empirical Findings*. Though, there seems to be a difference between the sectors regarding their development phase for standardized and automated processes. It seems to be an ongoing trend for many years in the financial sector, where organizations have business segments relying on a high degree of standardization and automatization. At the same time, the healthcare sector is not as technologically developed but considers increased standardization and automatization as essential for more effective resource utilization. This can, in turn, be seen as a way to increase an organization's customer service, and thus competitiveness, in accordance with the definition by Chopra & Meindl (2016).

An example of process optimization is platform-based solutions, with Visiba Care, Max Manus, Revolut and Lendify using this type of solution as their core business model. These platforms, in turn, partly rely on information being standardized and having automated processes. Processes can thereafter be optimized further, utilizing resources in a new or different way. Platform-based solutions enable scalability in a way that was not achievable before, which both can be noticed as an important component in the healthcare and financial sector.

7.4.2 Adaptive Business Approach

Based on the *Theoretical Background*, the *Empirical Findings* and the following *Analysis*, it is concluded that it is important for a firm to have an adaptive business approach. Digitalization implies increased development pace and more frequent change of circumstances, which a firm must be able to adjust for. Having an adaptive business approach was also seen on a firm level from the *Empirical Findings*, especially for new entrants on the market. Being adaptable is related to another phenomenon seen as a trend, namely servitization, which is both mentioned in the *Empirical Findings* as well as by Bankvall et al. (2017) and Smith (2013). The servitization model means that suppliers are more involved in customer's activities, leading to higher interdependence and thus creating closer relationships (Bankvall et al., 2017). In turn, this means that the suppliers are more aware of customer needs and other changing market circumstances. Being adaptable is thus a prerequisite to be able to handle fluctuations in the network. Although, Gadde et al. (2003) argue that there is a limit for how close a relationship should be, which also relates to adaptability. It is important to take advantage of certain partnerships, while others should be kept at a certain distance. This balance also fluctuates, which concerns the ability to adapt. An example of this can be seen in the *Empirical Findings* where larger companies are investing as a way to establish new business relationships, thus taking advantage of the resources of minor actors. Another example is the larger organizations establishing new departments, or hiring consultants, as a way to keep up with the digital development.

The importance of relationships is mentioned by Stadtler (2002) as inter-organizational collaboration being one building block of success. However, the degree of collaboration, in order to succeed, could be dependent on circumstances. It is important to be adaptable and recognize an optimal degree of collaboration when the circumstances change. Madsen & Hjortegaard (2018) argue for the importance of having an organizational structure adjusted for digitalization, which in turn relates to various organizational structures presented by Mintzberg (1979). The structure of a firm and how it works with digitalization internally has to be adjusted to the surrounding circumstances, which changes continuously. Thus, a firm has to adapt appropriately to what Madsen & Hjortegaard (2018) refer to as digital maturity, where the organizational structure should relate to the digital maturity of a business network.

7.4.3 Data-driven Approach

A data-driven approach is important to embrace as a way to strategize and thus reposition a firm within a business network. Using data is naturally enabled through digitalization, but it is important that data is utilized in the right way, i.e. using a data-driven approach. Having a data-driven approach means that decisions are based on, and performance measured on relevant data. Increased market orientation is seen in the healthcare sector, and somewhat also mentioned in the financial sector. Although, it is important to use relevant KPIs, meaning that data considered important for the firm or process in question, must be identified and further followed up. The shifting trend towards servitization and result-based solutions is assumed to be related to firms having a more data-driven approach, which also is corroborated by Bankvall et al. (2017) and Smith (2013). If using a data-driven approach while having a close relationship

with the firm's customers, it is possible to adopt the product offering to a higher degree. This meaning that the firm can offer better customer service, which is further corroborated by Chopra & Meindl (2016) as an important factor for a successful organization. Notably, a data-driven approach is important for both a buyer and a seller. Buyers should procure result-based products and services, thus meaning that the buyer will get what is promised. At the same time, the seller should utilize data in order to improve and redirect their offering. It is thus a favorable approach to use for potential customers as well, for example in marketing purposes. Lendify, and partly Revolut as well, mentioned that their marketing strategy is developed by utilizing data. When these companies grow, they also collect more data which can be further utilized in order to strategically reposition themselves.

7.5 Final Conclusion: Framework

Based on the *Theoretical Background*, the *Empirical Findings*, the *Analysis*, as well as a *Concluding Discussion*, a framework has been developed. This framework relates to the second research question of this thesis, namely; “*how can a framework be established for supporting companies in their strategy development due to the impact of digitalization?*”. The framework considers digitalization in relation to contextual and enabled factors (secondary findings), leading into identified common patterns (empirical findings) and, in turn, strategic approaches (recommendation). The final framework is thus presented in *figure 7.5*.

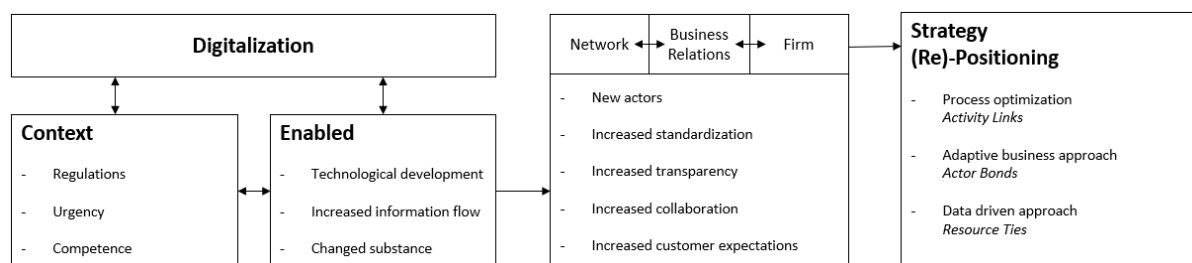


Figure 7.5 Framework for strategic repositioning (Available in Appendix C)

The linkage of digitalization, context and enabled factors creates a continuous evolvement of digitalization, which further feeds development. This, in turn, changes the context which further influences digitalization and the enabled factors. By understanding the changes that occur, it is essential to strategically reposition an organization when changes in substance happen. Further, evidence from two varied sectors provided information on the different impacts that digitalization can bring, such as *new actors*, *increased standardization*, *increased transparency*, *increased collaboration*, and *increased customer expectations*. These aspects, and thus digitalization, have an impact on the network, business relationship, and firm level. To reposition an organization in relation to a changing network, three strategic approaches have been suggested, which are *process optimization* (activity links), an *adaptive business approach* (actor bonds), and a *data-driven approach* (resource ties).

8 Further Research

A general framework has been developed in this study, but its appliance should be tested in a more profound manner to increase its validity. A deeper comparison of the sectors included in this study could prove useful in determining if, and how, digital development is spread from one network to another. Finding these intermediaries may be used for speeding up digitalization for the actors that are far behind in development. Furthermore, including other sectors than the financial and healthcare sector could be of interest, since the developed framework could be applied and tested for those sectors as well. As previously mentioned, the aim of this study was to develop a framework valid for the financial and healthcare sector, with the desire to be applied for other sectors as well. In order to test this hypothesis, and develop the framework further, other sectors have to be included. Since both studied sectors in this study are service-oriented, it would be interesting to investigate manufacturing or fast-moving consumer goods as a sector.

Another area interesting for research is to develop a work process for the suggested strategic approaches. Since this study concluded three approaches for a firm to embrace in order to handle and utilize the impacts from digitalization in relation to other firms, the next natural step would be to develop a process for how a firm should pursue and develop these characteristics. Thus, it would be an extension of the developed framework and could lead to a more precise approach for companies to embrace.

The contextual factors are one area of further research since it would be of interest to define these factors and corroborate these using more data. Since these contextual factors were not focus of this study, and thus considered secondary findings, further research could lead to elaboration or increased precision of these factors. Thus, the contextual factors can, if possible, be considered separately to investigate what has the most influence on both the enabled factors and digitalization. Understand how the contextual factors are affected and influenced, it might make it possible to speed up change in network substance in relation to digitalization.

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Appendix A

Interview Template for Case Companies

Original template (Swedish)

- ❖ Kan du börja med att berätta lite om företaget generellt och om din tid här?
- ❖ Hur ser ni på marknaden generellt? Både nu och de senaste åren? Finns det några tydliga trender?
- ❖ Kan ni se några digitaliseringstrender som skett inom marknaden i stort?
 - Hur har det påverkat er?
 - Hur har ni hanterat detta och hur arbetar ni proaktivt kring nya digitala lösningar?
- ❖ Har det kommit in och/eller försvunnit några aktörer? I så fall, vad är det för typ av företag och lösningar? Hur har detta påverkat ert företag?
- ❖ Hur har era resurser använts tidigare och hur används de nu?
- ❖ Har ni förändrat ert sätt att arbeta? Har ni börjat/sluta göra några typer av aktiviteter? Varför?
- ❖ Hur ser era relationer ut nu och hur har de utvecklats fram till nu (t.ex. mot kund, slutkonsument, leverantörer mm)?
- ❖ Hur ser ni på framtiden? Vilka stora förändringar förväntar ni er (kopplat till nya aktiviteter, resurser och aktörer)?

Translated version

- ❖ Could you start by telling us about the company and your time at the company?
- ❖ What are your thoughts on the market in general? Both the current market as well recent development until this point? Are there any trends?
- ❖ Have you noticed any digital trends that have had an effect on the market?
 - How has this affected you?
 - How have you handled this and how do you work proactively regarding new digital solutions?
- ❖ Has there been any actors entering or exiting the market? In that case, what kind of businesses? How has this affected your company?
- ❖ How have your resources been used previously and how are they used today?
- ❖ Have your company changed your way of working? Have you started or stopped doing any type of activity? Why?
- ❖ How do you view your business relationships and how they have developed until this point (e.g. towards customers, end-consumers, suppliers, etc.)?
- ❖ What is your thought regarding the future? What major changes would you expect, primarily considering digitalization (in regards to activities, resources, **an** and actors)?

Appendix B

Interview Template for Industry Experts

Original version (Swedish)

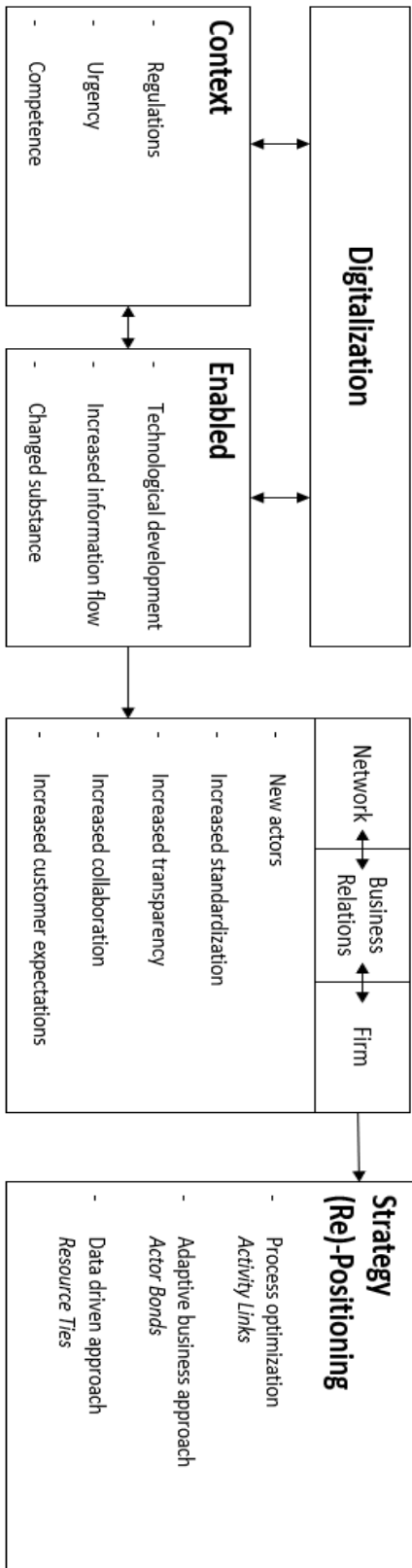
- ❖ Hur har digitaliseringen utvecklats i sektorn de senaste tio till tjugo åren?
 - Finns det några specifika typer av lösningar som etablerats?
 - Har du noterat några andra tydliga trender?
 - Hur ser du på marknaden i stort och den fortsatta utvecklingen?
- ❖ Vilka aktörer har fått mer inflytande på marknaden de senaste åren och vilka aktörer har förlorat inflytande på marknaden?
 - Vilka typer av aktörer har tillkommit och försvunnit?
- ❖ Vilka problem kan dyka upp för företag på marknaden i dagsläget och hur har dessa problem förändrats över åren?
- ❖ Hur har företagets aktiviteter förändrats med den teknologiska utvecklingen som skett?
- ❖ Vilka orosmoment tror du företag har för framtiden?
 - Hur tror du företag arbetar proaktivt mot detta?

Translated version

- ❖ How has digital development been in the sector for the last ten to twenty years?
 - Are there any specific types of solutions that have taken ground?
 - Have you noticed any other trends?
 - How do you view the market and continued development?
- ❖ Which actors have gained influence on the market for the last couple of years and which actors have lost influence?
 - What type of actors have appeared, and which have disappeared?
- ❖ Which challenges are companies facing today and how have these challenges changed throughout the years?
- ❖ How has different activities conducted by companies changed with the technological development that has happened?
- ❖ What threats do you believe companies are facing in the future?
 - How do you think they are working proactively to mitigate these?

Appendix C

Framework for Strategic Repositioning





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